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Construction of Test Instrument in School-based Assessment (SBA) on Sign Language Listening Test for Deaf Candidates

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Abstract

This study is intended to develop a test instrument in testing sign language listening in School-based Assessment (SBA) and to test the effect of using the tests on deaf students. The purpose of this study is also to obtain validity and reliability of the test instrument known as Sign Language Listening Test for Deaf Candidate (IPULDPC). IPULDPC contains six elements namely instrument type, task, task form, item type, presentation mode and scoring method. This study involves the construction phase, the validity and reliability testing phase. It also examines the effect of IPULDPC usage on deaf students. The construction phase is to obtain data through questionnaires to special education teachers to determine the key elements in IPULDPC. The second phase is to obtain value of validity through interviews and written responses from a group of experts/specialists. In measuring the IPULDPC reliability, 40 special education teachers from Perak and Selangor were selected as the study respondents. Five students with hearing disabilities were selected as study samples to assess the effect of using IPULDPC. The results show that instruments of IPULDPC have a good overall content validity of .89 while reliability of the overall IPULDPC is .968. The findings show that the use of IPULDPC effectively measures the test element of communication using sign language compared to the visual test. This study implicates that it can directly develop knowledge in special education in particular assessment instrument among deaf students.

Keywords: School-Based Assessment, Sign Language, Deaf Students, Special Education.

Introduction

The government's aspiration to provide standard education to hearing-impaired students like any normal students has been realized through the Primary School Standard Curriculum for Special Education (PSSC SE) and the Secondary School Standard Curriculum (SSSC) for Hearing Difficulties. The PSSC SE was designed in line with the National Education Philosophy based on the principles of integrated approach, holistic individual development, educational opportunities and quality of education that are equal for all students and lifelong education. SSSC for Hearing Impaired are

holistic, and are always relevant to generate balanced human capital that are capable to overcome current and future challenges which is in line with the second core of Education Development Master Plan (EDMP).

In meeting individual needs on education among special learners, PSSC SE and SSSC Hearing Problems are flexible and coincide with the Education Act 1996, Chapter 8 Special Education, Section 41, Subsection (1) (B) of the Education (Special Education) Regulations 1997, which states: " In implementing a special education curriculum, teachers can modify the methods or techniques of teaching or learning, time for activities and organizational arrangements, subjects and teaching aids to achieve the goals of special education". KSSRPK and KSSM Hearing Problems are created to ensure that classroom learning can be applied in everyday life. The curriculum also provides optimum quality education to help all students to become balanced, independent and successful individuals in life.

In accordance with the major need of communication medium for hearing-impaired students, a new subject was introduced namely the Communication Sign Language (CSL). The Standard CSL curriculum was formulated in line with the implementation of Primary School Standard Curriculum (PSSC) in 2011 with emphasis given on content standards and learning standards. All the skills that are incorporated in the curriculum should be known and practiced within capacity of hearing-impaired students. Content standards and learning standards are based on knowledge, basic skills and values in communication learning spans. The Communication Sign Language course was formulated with emphasis given on mastery of communication among hearing-impaired students which includes aspects of pre-sign skills, visual skills and creative sign language skills. The goal for construction of the Primary School Standard Curriculum for Special Education (PSSC SE) Hearing Problems for the Communication Sign Language (CSL) course aims at equipping hearing-impaired learners to master language skills, for the need to communicate, learn and acquire new knowledge and information. The Standard Sign Language Curriculum will be the core vehicle in teaching and learning processes as mode of communication for all subjects.

Study Background

In the globalization era that constantly demands for knowledge shift and acquisition, education becomes the key element in making changes. Accordingly, a precise plan has been realized in the Malaysian Education Blueprint to fulfill Malaysia aspiration as a high-status nation. This plan covers action plan and major initiative of the overall transformation on education system in Malaysia (Ministry of Education, 2013). This plan is expected to transform the education landscape in Malaysia. The curriculum transformation and assessment system have been carried out to ensure that achievement in realizing learning and assessment goals meets the standard of international benchmark. The new Primary School Standard Curriculum (PSSC) has replaced the existing curriculum in 2011 and the Secondary School Standard Curriculum (SSSC) has began its implementation in 2017. Moreover, the Malaysia Examination Board (MEB) has also played its role to move towards a more holistic assessment by implementing the School-Based Assessment (SBA) format. The SBA is a form of evaluation involving all candidates who follow the standard curriculum and public examinations. It also involves students with special needs who are following standard curriculum like any normal mainstream students.

The English Assessment Communication Test for Form 3 candidates with special needs under hearing impairment category has been carried out beginning 2016. The communication test is an alternative provided to meet the special needs of the students. The assessment covers Sign-based Test/ Speaking and Listening / Hearing Test (Examination Board Release No. 7 of 2016). This alternative is a form of assessment adaptation. Assessment adaptation is one of the strategies that are often used to develop standard inclusive assessment for students with disabilities (Lazarus, Thurlow, Lail, Eisbraun, & Kato, 2006). The test format used in the communication test is similar to mainstream Malay language oral test. Some adaptations have been made on medium of test delivery. This test is carried out in the form of sign-based video to replace sound or audio recording format. One of the contents contained in IEDA (1997) is Assistive Technology Device and Assistive Technology Service. The Assistive Technology Device is any acquired, modified, or adapted item, instrument, product or system used to enhance, maintain, or improve the capacity of a disabled child. The Assistive Technology Service refers to any services that directly assist disabled children in the selection, procurement, or use of technology. In this study, the use of technology is needed as a tool for assessment implementation among special students with hearing disabilities.

Lee (2008) in his study accorded that technology encompasses various areas in life and it plays such a significant role in daily life of students with special needs. The presence of technology and media strongly help to accommodate students with special needs. With reference to media and technology used in PT3 in the form of sign-based video, the media indirectly reduces the gap of group's inability and provides opportunity to assess their potential and capabilities. With the use of technology and media through customization, students with hearing impairment can sit for the assessment like any normal students in the mainstream. For important test or assessment exercised on a large scale, the same and equal assessment content is necessary in measuring students' achievement (No Child Left Behind Act, 2002). In the implementation of public assessments or assessments involving students with disabilities, additional consideration should be made including their capability or ability to access content of the assessment (IDEA, 1997).

According to a study by Cawthon et al., (2006 & 2007), the adaptation provided to students with hearing loss is the same as other categories of disabled students which is additional time, supplied with dictionary and glossary or isolation of the test venue. In another study by Cawthon (2009), he further stated that the purpose of assessment adaptation is to help illiterate students or students with reading difficulty to obtain content information of the questions given. However, there are other additional specific customizations on language aspect for students with hearing impairment including having an interpreter to translate test instructions, reading quotes, or test items, whether using sign language, sign-based system, or using loud reading approach; and allowing students to respond using sign language and translating answers in English by interpreter. The presence of an interpreter or the use of sign language can improve students' understanding of questions given to them.

The implementation of Form 3 assessment for hearing impaired students for Bahasa Melayu paper in 2016 is the same as Form 3 Assessment (PT3) for mainstream students. The difference is in Oral Test for Malay and English Language. For the hearing impaired students, they took the first test which is Speaking Test but were converted to Sign-based Communication Test and the second is the

Hearing Test but was converted to Visual Test. Students will be given several themes to discuss, view the videos provided to them and answer questions based on the videos shown.

Problem Statement

The Individuals with Disabilities Education Act (IDEA) ensures that all disabled children are entitled to free public education to meet their unique needs and provide them with opportunities to further their studies, gain employment and live independently. Prior to the establishment of IDEA, more than 4 million disabled children have been denied appropriate access to public education. Many children are not allowed into public schools, while others are placed in isolated or ordinary classes without adequate support for their special needs (Katsiyannis, Yell, Bradley, 2001; US Department of Education, 2010). The Act also stipulates that education and services for children with disabilities should be provided in least restrictive environment, and if appropriate, these special children learn together with other normal students in a normal mainstream learning setting (IEA, 1997).

Assessment is one of the important aspects in learning. It aims to measure the level of understanding and mastery of a student in learning. Through the Language Learning in Children Who Are Deaf and Hard of Hearing (2002), in the "Assessment of Language" chapter, the writers have outlined four characteristics of language assessment namely grammar test, vocabulary test, oral-language test and pragmatic skills test. According to Elliott (1987), deaf community language culture, American Sign Language (ASL) is far from ready to be translated according to proper English grammar and syntax. This matter also illustrates the same problem with the sign language assessment in Malaysia. Jamilah (2012) addressed that low proficiency in Malay language influences low skill and dominance among students with hearing impairment. There are also several weaknesses in the component to assess the sign language among the hearing disabled students such as number of signs that represent limited words.

Tucker (1985, p.200) also addressed that Curriculum-based Assessment refers to any procedure that directly assesses students' performance. The purpose is to evaluate students' skills in the form of criteria references to the lessons learned in a particular curriculum. Curriculum-based Assessment is an assessment carried out to evaluate potential students with hearing loss. It is conducted using the same format like student assessment in the mainstream. Some adjustments have been made like the addition of time, the moderated question paper and the presence of translator during examination or assessment. However, the content and format of assessment used are just the same as in the mainstream. The change of curriculum from the conventional Integrated School Curriculum to the current Standard School Curriculum has been made to upgrade the education system in Malaysia. In keeping with the current curriculum, evaluation and assessment enhancement are also taking place to meet the international examination standard. The evolution of national education system requires a paradigm shift among teachers. Drastic changes need to be made by teachers to adopt new education system. They need to change the way they think and practice (Zaidatun & Lim, 2010). For every educational plan, teachers play a very important role and they must fully understand the implementation of the new system (Hasnida, Baharim & Afian, 2012; Sanitah & Norsiwati, 2012). The readiness of teachers in understanding this assessment method will help in conducting assessments that are more effective.

Through the data set out in the Malaysian Education Blueprint, the comparison of results between TIMSS 2011 assessment (Form 2 pupils involved in TIMSS was tested in 2010) and PMR 2011 (Form 3) for the same school set indicates a mismatch in the aspect of excellent definition. As a result, for PMR 2011, 32% of students achieved excellent grades (grade A) in Mathematics compared to only 2% in TIMSS 2011 that reached the "High" level (Exhibit 3-18) (Ministry of Education, 2013). Among the factors contributing to this incompatibility are due to different assessment formats in which TIMSS focuses on high level thinking skills testing while public examinations in Malaysia are more focused on aspects of knowledge testing. Hearing-impaired children are often perceived as experiencing late development in linguistic, cognitive and social emotions (Anderson, 2011). There are various types of sign language practiced among hearing disabled community in Malaysia such as Sign Language Malaysia (SLM), Malay Language Code (MLC), American Sign Language (ASL), Sign Exact English (SEE) and several others used as communication medium. Children with hearing impairments are said to have problems with development of language acquisition in grammar and vocabulary (Marschark, Saere, Convertino, Mayer, Wauters, and Sarchet, 2009) and conversations (Tobey, Geers, and Brenner, 1993). In addition, hearing loss is also said to have significant impact on reading progress (Mayer & Leigh, 2010).

There are several factors that affect literacy skills especially in language comprehension of hearing-impaired students. Based on Mayer's (2007) study, what is important in early education of children with hearing disabilities is that they can learn to read and write. Failure to read well will become worse due to absence of effective teaching strategies and lacks of opportunities in learning which resulted to long-term effects on the students. This situation is more obvious for hearing impaired individuals because of their difficulty in gaining access to literacy-related languages (Gargiulo & Kilgo, 2000). According to Mayer (2007), based on conclusion of the study stated that oral is still lacking and requires relevant evaluation method especially test using visual signs.

With reference to studies by Davies & Wavering (1999) and Chaleff & Toranzo (2000), they noted that the test format suitable for hearing impaired students has been practiced by most developed and developing countries. This accommodation gives positive impact on achievement of students with hearing problems in the examination. Goh & Teh (1993) and Abdullah (1994) argued that, Sign Language Malaysia (SLM) is the main medium used by students with hearing disabilities in Malaysia. The tests contained in an examination system can be carried out in written tests, practical tests, oral tests, hearing tests and computerized tests. The exam can only assess the cognitive domain or mental abilities of a student. Two other domains of affective and psychomotor are found to be less suitable to be assessed using the test method (Adimin, 2006). Tuah (2007) has suggested the need for development of a different assessment system compared to the examination system. This view reinforces the need for a dedicated assessment system for candidates with special needs (Hanafi Yassin, 2009). Assessment should consider the individual development and growth aspects that need to be assessed; on means and methods of assessment, of the person or agency that may be involved in the assessment. The use of various elements such as motion, sound, color, graphics and colorful light on the screen can directly capture students' interest and attention. This element is important in the process of teaching and learning as well as determining form of assessments to be carried out (Losinin et al., 2010). Beginning in 2016, candidates with hearing and speech disabilities should perform oral hearing test and oral speech test that were adapted in Sign Language (Circular, LPM

2016: KPMSPP.100-1 / 7/2 (38)). The Malaysia Examination Board (MEB) has introduced the PT3 Communication Test in Bahasa Melayu (BM) and English (BI) for Candidates with Special Needs (CSN) Hearing Impairment which was implemented beginning from 2016. Nevertheless, teachers and schools have yet to set a test in preparation for the Malay Language Communication Test and PT3 Malay Language Test. Therefore, a comprehensive study should be carried out to determine test instrument for PT3 Sign Language Oral-Hearing Test meant for hearing disabled candidates.

Objectives

The purpose of this study is to develop assessment on PT3 Sign Language Oral-Hearing Test in terms of its main element content, validity and reliability of the test assessment intended for the PT3 hearing impaired candidates.

Literature Review

According to Dewey and Herrick (1996), assessment is more meaningful if students and teachers utilize it for the purpose of achievement, interest and ability to plan new learning. Additionally, assessment is used for some categories of student performance and helps students to increase their level of development. The assessment used by teacher is to give students the opportunity to demonstrate their strengths. The assessment is also meant for teacher to identify weaknesses of the students for future improvement. It also helps the students to form more positive behaviours. The School Based Assessment (SBA) is based on the National Education Philosophy and the Education Act 1996 to assess the cognitive, psycho-motor, affective aspects in developing holistic human capital (Exam Institute, 2014).

Children with hearing difficulties have limited vocabulary and grammar because they have difficulty to hear and speak clearly. The grammar used by students who are experiencing hearing difficulties is not properly organized since they hardly understood the word meaning and have very minimum vocabulary compared to normal students. According to psycho-linguistic experts, language knowledge can be obtained in two ways, through language acquisition and learning. The first language knowledge process is assisted by natural language acquisition tools inherent in the minds of children since their birth in the world (Zulkifli, 2011). Language acquisition is derived from words uttered by people around. Therefore, hearing impaired students are unable to learn loads of vocabularies thus causing them to perform poorly in academic especially in Bahasa Melayu subject.

According to Chaisanit & Suksakulchai (2014), communication and speech of individuals with impaired hearing is difficult not only because they could not hear the pronunciation of others, but they also face difficulty and have low quality in speech. Hearing impaired individuals need special education to ensure that they can communicate based on their rights to education, facilities and technology. In 2008, the Gallaudet Research Institute found 53% of hearing-impaired students using speech as the main mode of communication, 35% using signals and speech and 11% using only signals. (Lederberg et al., 2014).

Reading and writing skills that are part of language skills are regarded as foundation for an effective teaching and learning processes in various disciplines in school (Rasid, 2011). The researchers are of the view that if reading and writing literacy skills are not acquired and mastered, risk for the students to fail in the school system will also increase (Whitehurst & Lonigan, 2001). This situation goes hand

in hand and becomes more obvious for hearing impaired individuals because of their difficulty getting access to literacy-related languages (Gargiulo & Kilgo, 2000) Taylor, Smiley & Richard (2009) also supported the above findings. If students are having problems with verbal communication, especially Malay language, they will find it difficult to communicate any information that they want to deliver. They also face problems in understanding the information communicated by others. While education for hearing-impaired people is the oldest special education field in America (Moore, 2001) hearing impaired children have been taught to read and write since Laurent Clerc and Thomas Gallaudet opened their first school was in America in 1817 (Stewart & Clarke, 2003), but since the 17th century, academic achievement of hearing-impaired students is still at a very poor level (Traxler, 2000).

Han Nanasah (2013) noted that deafness and loss of hearing are disabilities that affect millions of people. So far, hearing aid (ABD) and cochlear implant surgery are the only way to overcome these disabilities. It louder the sound but does nothing more than that. With the use of ABD and cochlear implant surgery, their communication and speech problems however could not be fully recovered. If they are taught to speak, they have a better potential in life as they can listen to the use of ABD or cochlea surgery and can communicate using speech with other people not only within the hearing impaired community. The findings of previous study show that deaf and hearing disabled students are categorized as special students (El-Zraigat & Smadi, 2012). In Malaysia, students are categorized as people with hearing disabilities despite varying degrees of hearing loss. Contrary to other countries, especially the Western countries have categorized deaf as people who are deaf when facing severe and chronic hearing loss. While hearing impaired students refer to students who have mild and moderate hearing loss. Additionally, hearing impaired students require special services offered by recognized and skillful teachers to meet their unique need (El-Zraigat & Smadi, 2012).

According to Abdullah & Che Rabiaah (2014) with reference to the national education system, oral communication is the core of academic excellence and is more focused on transformation of various knowledge and skills. Oral communication is the core and foundation of education that aims at human growth and development as intended in the National Education Philosophy. Hearing impaired students should be taught speech lesson due to impact it has on learning. This opinion is supported by Mohd Huzairi et al., (2010) that stated hearing impaired students can be taught to speak using amplifiers through the speech training component i.e. articulation, lip reading and auditory training. PT3 Oral Exam is divided into two tests. First is the Speaking Test and second is the Hearing Test. The PT3 Oral Exam meant for mainstream candidates was introduced four years ago in 2014. The test format was set by the Ministry of Education Malaysia and Malaysia Examination Board. The Assessment Senior Assistant will submit the PT3 Oral Test Assessment instrument 30 minutes before the Oral Test takes place and submit the scoring guide to the Assessor after PT3 Oral Testing is conducted. This task requires students to respond individually or in groups in oral form. PT3 candidates will be given some themes related to current issues and students are required to answer oral questions. Candidates will present their ideas and important contents to get good marks. The score for the communication test is 30 marks. The test aims to observe student's knowledge of current issues and to train their speaking skills. This test is also to see the confidence level of a student in speaking task. The designated time is 10 to 30 minutes. Scoring marks will be assessed by the teacher. There are two assessors involved in the Sign-based Communication Test known as appraiser 1 and appraiser 2 (Examinations Board, 2016). For listening test, the candidates are required to listen

to the audio recordings provided by the Examination Board and provide answers on the paper in writing. Candidates will listen to some quotations in the audio and are required to select the most appropriate answer based on the audio they are listening to. Each quote will be repeated twice. Students will complete this hearing test for 30 minutes. Score for this test is 20 marks. Scoring is given according to language skills and information application skills (Examinations Board, 2016). The assessors responsible for taking the students during the test are their respective Malay Language teachers. The questions are given in the form of multiple choice answers.

For PT3 Oral-Listening Test intended for hearing-impaired candidates has been adapted to sign-based communication test for listening test and visual test for oral test purpose that are divided into two tests (MEB, 2016). The first test is the Sign-based Communication Test and the second is the Visual Test. Oral tests for hearing-impaired students were introduced in 2016. The test format was carried out by mainstream students. The Assessment Senior Assistant will submit the PT3 Oral Test assessment instrument before the Oral Test takes place and submit the scoring guide to the appraiser once the PT3 Oral Test is completed. The sign-based communication test requires students to respond individually or in groups in oral form. Students will be given some themes related to current issues and they are required to answer orally. Students will present their ideas and important contents to obtain good marks. The score for the communication test is 30 marks. This test aims to observe the candidate's knowledge of current issues and to train their speaking skill as well. This test is also to see student's confidence level in speaking task. The designated time is 10 to 30 minutes. Scoring marks will be assessed by the teacher. There are two Appraisers in the Sign Communication Test who are appraiser 1 and appraiser 2 (Examinations Board, 2016). While the visual test requires the student to view video recording provided by the Examinations Board and they have to answer questions given in writing. They will be shown with some types of excerpts in the video and are required to choose the most appropriate answer based on the video presented. Each quote will be repeated twice. Students will answer the test for 30 minutes. Score for this test is 20 marks. Scoring is given according to language skills and information application skills (Examinations Board, 2016). The assessors responsible for taking students during the test are their respective Malay Language teachers. The questions are given in the form of multiple-choice answers.

Methodology

This study is a design and development research. The first phase of the study was conducted using descriptive research method (quantitative survey) which was aimed at reviewing the elements of IPULDCP content that would be developed. It was also intended to review the suitability of IPULDCP as an instrument measuring oral hearing test to non-hearing special education learners. The second phase involves validation of experts and reliability of teachers who teach Bahasa Melayu subject in PPKI. A total of 48 people involved in identifying title and elements of IPULDCP content and 32 PPKI teachers who teach Bahasa Melayu are also used as the study samples to measure the reliability of IPULDCP software. The purpose is to ensure the usability of the software. The experts will be chosen by the researchers in purposive manner as expert panel for software validity in the study. The six experts involved in the study are experts in the field of Malay Language and Special Education.

Research Finding

Based on initial analysis in determining the key aspects in the construction of oral hearing instruments for deaf candidates is described in Table I. The findings show that prioritization in the construction of an oral test instrument with Item has the highest element of 88.7 and s.d = 11.359; followed by Scoring Method with mean value of = 60.9 and s.d = 7.37; Task aspect with mean value of 39.39; s.d = 4.95; Presentation Mode aspect with mean value of = 38.43; s.d = 4.20; Task Form aspect with mean value of = 37.04; s.d = 4.64 and Item Type with mean value of = 22.56; s.d = 2.29.

Table I Overall Mean for Test Form

Instrument Aspect	N=48	
	Mean	Standard Deviation
Item Type	22.56	2.29
Task Form	37.04	4.64
Task	39.39	4.95
Delivery Mode	38.43	4.20
Item	88.77	11.35
Scoring Method	60.93	7.37

The descriptive study aims to test content validity of the Oral Hearing Test Assessment Instrument for Deaf Candidate (IPULDCP) carried out by special education teachers of hearing-impaired programs. The study involves six lecturers and specialists in special education for hearing disabled students. The facial validity and content validity by six analysts of the Cohen Kappa Index were used to determine the degree of agreement of the analysis unit on the theme studied (Zamri and Noriah 2003). The six qualitative analysts service to determine the Cohen Kappa Index are conducted by distributing forms containing the key elements contained in the Oral Hearing Test. Qualitative analysis to determine the Cohen Index and the value of agreement (Cohen Kappa Index) collected from the forms distributed to the experts. Agreement values are calculated based on the following formula;

$$K = \frac{fa - fc}{N - fc}$$

where K – Kappa coefficient value

fa – agreement frequency

fc – frequency of 50 percent expectation of agreement

N – the number of units tested for agreement

As a result of the expert assessment, the validity value of Oral Hearing Test Assessment Instrument for Deaf Candidate (IPULDCP) as shown on Table II below.

Table II Validity value of Oral Hearing Test Assessment Instrument for Deaf Candidate

Element/ Expert							
Expert	P1	P2	P3	P4	P5	P6	alpha
IT	0.97	0.67	0.90	0.65	0.71	0.71	0.89
TF	0.98	0.64	0.87	0.66	0.73	0.72	0.89
T	0.90	0.67	0.84	0.61	0.60	0.60	0.82
I	0.97	0.72	0.90	0.72	0.80	0.74	0.94
PM	0.97	0.84	0.92	0.64	0.61	0.70	0.91
SM	0.84	0.92	0.71	0.76	0.71	0.76	0.91
Total	0.93	0.74	0.85	0.67	0.69	0.70	0.89
Overall	0.76						

IT; item type, TF; Task Form, T;Task; I; item, DM;presentation mode, SM; scoring method.

Findings on Table II indicate that the average for all elements is at a high level of 0.89. To view in detail, range for a good score is between 0.82 to 0.89. The finding suggests that the panel of experts has agreed to state the elements contained in the Assessment Instrument of Oral Hearing Test for Deaf Candidate (IPULDCP) have been developed in conjunction with the content. The elements also conform to the oral examination test objective for hearing impaired students. Nevertheless, some elements related to items are given special attention with a value of 0.94. From the average aspect of the overall validity according to the expert gives the validity at the level of 0.76. It is concluded that items have high validity value as suggested by Abu Bakar (1987), Cohen (1988), Norusis (1977) and Nunally (1987).

Value of reliability coefficient of Assessment Instrument of Oral Hearing Test for Deaf Candidate (IPULDCP) by 40 special education teachers of hearing-impaired programs involved in teaching Form 3 Bahasa Melayu subject. A set of questionnaires is used to determine the reliability of IPULDCP. Whereas the value of Cronbach's Alpha is used to obtain the reliability index of each aspect or construct. In the context of this study the reliability was assessed based on the internal consistency of IPULDCP using the Cronbach's Alpha test as defined by Valette (1997). A total of 40 special education teachers from hearing-impaired integration programs were involved in this study. Table III shows the reliability coefficient of the IPULDCP as a whole and based on sub-themes.

Table III Reliability Value on Assessment Instrument of Oral Hearing Test for Deaf Candidate (IPULDCP)

N	Number of Item	Alpha Value	Level
40	75	.968	High

Table III above shows results of the survey based on the questionnaire comprising a total of 75 items to test the IPULDCP reliability based on the Cronbach's Alpha analysis of 40 study samples. Result of the analysis shows Alpha (α) value is .968.

Table IV Reliability Value on Assessment Instrument of Oral Hearing Test for Deaf Candidate (IPULDCP) based on Sub Construct.

Sub Construct	N=40	Number of Item	Alpha Value	Level
Instrument Type		6	0.668	High
Task		11	0.808	High
Task Form		10	0.808	High
Item Type		25	0.928	High
PresentationMode		8	0.837	High
Scoring Method		15	0.931	High

Table IV above shows results of analysis on the IPULDCP sub construct questionnaire i.e. i) Instrument Type (6 items); ii) Task (11 items); iii) Form of Task (10 items); iv) Item Type (25 items); v) Presentation Mode (8 items) and iv) Methods of Scoring (15 items) based on Cronbach's Alpha test analysis of 40 study samples. Result of the Cronbach's Alpha test shows alpha values of sub construct for Instrument Type is 0.668; alpha values for Task and Task Form are 0.808; alpha value for Item Type is 0.928; alpha value for Presentation Mode is 0.837 and final alpha value for Scoring Method is 0.931. Based on results of this study, it can be generally concluded that every reliabilities of the sub construct IPULDCP is high. Deaf.

Discussion

This study has resulted in several findings on Assessment Instrument of Oral Hearing Test for Deaf Candidate (IPULDCP). This study has generally been developed by the McIntire & Miller (2007) Testing Model Model theory (IPULDCP) in developing the IPULDCP . This model comprises 10 steps; (i) Defining constructs, determining objectives and targets of tests, (ii) Designing tests, (iii) Building test items, (iv) Providing administrative instructions and test scores, (v) Conducting pilot tests, (vi) Conducting item analysis (vii) Revising tests (viii) Testing validity and reliability of tests, (ix) Determining norms (additional analysis - profiles), (x) Providing manuals of instruments. The IPULDCP construction process is divided into three phases, namely study need analysis phase, the construction phase and the validation phase. The need analysis phase is the initial phase of information gathering to define constructs, determine the objectives and targets of the test. The construction phase begins with determining the test design which is defining construct in specific terms, preparation of IPULDCP content, setting of test management format and setting of test scoring method. The next step is to create sign test and visual test items. IPULDCP has completed its test taker review by six teachers to obtain feedback on the difficulty and misinterpretation of the candidates either in terms of clarity of meaning, language and duration of the test (Cohen & Swerdlik, 2002). The IPULDCP items are then reviewed by the expert panel on the aspects of construct accuracy and clarity of intent (Nunnally, 1974; Kline, 2005; Hulse, 2006). Administration instruction tests are designed for candidates and test administrators. The first draft of IPULDCP was piloted and its data was analyzed to improve item quality and confidence in interpreting test scores (Popham, 1990; Gallagher, 1998). The verification

phase involves IPULDCP administration of data collection to obtain evidence of construct validity, reliability of the instrument, as proposed by McIntire & Miller (2000, 2007). The derivative IPULDCP has been piloted to obtain the value of validity and reliability. Findings of the pilot study show that IPULDCP has a high validity and reliability value above the level of 0.968. The findings are in line with researches carried out by Pophan (1990) and Gallagher (1998).

Reliability value for a good questionnaire construct is having a value of α exceeding 0.6 at the level of significance .05 (Kerlinger, 1979). However, the best α value for a construct should be greater than 0.7, however the value of α greater than 0.6 is still acceptable (Gay, 1996). Considering such views, it can be concluded that reliability value based on the internal consistency of IPULDCP is at a high level and equates the value of alpha value for a study instrument according to Gay (1996). Meanwhile, the Cronbach's Alpha value exceeds 0.60 which concludes that items have good internal stability and consistency (Cresswell 2005, 2010; Pallant 2001; Sekaran, 1992). The Cronbach's Alpha value summarizes that the items have good reliability and can be applied as stated by Mohd Majid (1990), Pallant (2001), Sekaran (1992) and Siti Rahayah (2003). The study findings on validity and reliability of IPULDCP shows that IPULDCP is acceptable and reliable and can be used as Assessment Instrument of Oral Hearing Test for Deaf Candidate.

Conclusion and Recommendations

The Malaysia Examination Board (MEB) has introduced the PT3 Communication Test for Bahasa Melayu (BM) and English (BI) for candidates with special needs that has been implemented beginning 2016 to the present. This Communication Test is an educational assessment transformation that gives meaning to the students' learning process according to their respective capabilities, in tandem with the National Education Philosophy (NEP), National Education Assessment System (NEAS) and Malaysia Education Development Plan (MEDP) 2013-2025. The elements contained in the Oral Hearing Test Assessment Instrument for Deaf Candidate (IPULDCP) help to expand knowledge and skills in developing assessment. This can be seen in the six elements contained in IPULDCP. Findings of the study have further expanded the knowledge related to construction of instruments in the special education field for hearing-impaired category. This is because studies on oral and hearing test instruments for deaf candidates are yet to be fully implemented. Therefore, this study further develops the theory of construction on the existing assessment instruments.

The study also highlighted the process of constructing IPULDCP that need to undergo pre-analysis stage to determine key elements of the test, followed by the process of determining its validity and reliability. This method has been used by some researchers who have produced assessment tools to assess cognitive, psychomotor and affective aspects of students by following teaching and facilitating training sessions, teachers' knowledge and skills in education assessment, classroom climate and education policy (Pajares; 1992; Stiggins & Conklin, 1992; Title, 1994). Each element contained in IPULDCP instructs teachers to modify curriculum of Bahasa Melayu subject in particular the oral test and visual test (Signs). IPULDCP allows teachers to choose the theme, item type, instrument type, scoring method and form of task in testing multi-level candidates who pass through the curriculum especially Bahasa Melayu subject. Each element with high credibility and reliability can help teachers to adapt written and comprehension tests into signs and visual forms of tests, hence giving paths to the Ministry of Education Malaysia through the Malaysia Examination

Board (MEB) to adapt the written test for other subjects especially those involving the use of language such as Islamic Education subject in signs and visual forms of tests .

This study also enhances alternative instruments and assessments for special education candidates, especially deaf students (Hearing Disabilities). Moreover, this research is a great help for teachers to empower their sign language communication skills and improve the students' achievement in the comprehension test in the form of visual and sign-based tests for deaf candidates. The forms of test through the use of sign-based video should be expanded so that it becomes an option for deaf candidates to sit for the test either in writing or using sign language.

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