DEAF DISABILITY ASSESSMENT MODEL

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Abstract: *Purpose to find out the deaf disability assessment model. Method: the design of this study is qualitative research, namely library research (library research). The information gathered and analyzed comes entirely from literature and documentation, such as publications in books, research journals, and other related media. The data collection technique is a literature study, namely by searching for data related to the discussion in this study. Relevant data is collected through literature study, literature study, and internet search. The data analysis technique uses descriptive qualitative analysis techniques. Results: Assessment technic in disability education (formal and informal) are distinguished from diagnostic, test, and evaluation terms in general education. The aim is to see the condition of students their abilities, difficulties, and learning needs individually. Conclusion: the assessment model in deaf disability education is as follows. (1) Diagnosing barriers in students (physical: hard of hearing/deaf, intellectual, social, emotional, and/or sensory-neurological); (2) Classification, placement, and discovery of deaf disability education programs; (3) Determine the learning path for kids with hearing problems; (4) Determine the technique of implementing the assessment to be used (tests, interviews, observations, analysis of student work); (5) Developing grids and questions along with scoring guidelines; (6) analysis of instruments and results. Implementation: by using the appropriate assessment model, the teacher can easily trace the barriers to deaf students' difficulties individually and accurately.*

Keywords: *Assessment, Disability, Deaf.*

INTRODUCTION

Based on the findings of the interviews Alemu (2023) with deaf students, teachers of deaf students, and the school principal as well as the questionnaires that were given, the results showed that overall the school environment in SD Integrated was not conducive for deaf students. In the teaching-learning process, the class participation of deaf students was poor, and their overall achievement was found to be lower than that of students without hearing loss. This shows that the teacher has not used the appropriate assessment model that shows objective data as it is because hearing loss in students seriously affects their quality of life (Li, et

al., 2023). These findings imply that having a deaf kid might have a detrimental influence on parental morale and views of a child's fragility, particularly when parents are unclear about their diagnosis, emphasizing the need for tailored assistance (Sealy et al., 2023). According to Nuraini (2023) special schools (SLB) should be sufficiently established, with suitable facilities, infrastructure, equipment, and structures that are representative enough, staff are quite professional, and have strong institutional legality. Communities utilize educational institutions, and the establishment of inclusive schools will make it easier for communities to send their children to the nearest school.

Teachers find it difficult to use assessments of students with hearing impairments adapted to culturally and linguistically diverse communities (Lainy, 2023). This happens because there are several levels in special schools (SLB) for children with special needs (ABK), namely A, B, C, D, and E which are schools for the blind (A), for the speech impaired (B), for the disabled people (C), for deaf people (D), for mentally disabled people (E), and added for people with Autism (Awlawi et al., 2023). There are also levels of education starting from elementary, junior high, and high school. Based on the results of the Central Bureau of Statistics (Ministry of Social Affairs, 2015), Indonesia has a large population of handicapped individuals has increased every year. In 2013, there were 5.8 million Indonesians with disabilities. This figure continues to increase to 9.46 million people in 2015. The biggest increase is in individuals with mental retardation.

According to Gunawan (2016) the appropriate use of a deaf disability assessment is adjusted based on three things, namely: based on the level of hearing loss, based on the anatomical location of the hearing loss, and based on when the hearing loss occurred. Deafness can cause children to be alienated from the association of their friends in everyday life, this situation hinders the development of the child's personality. As a result, This alienation can have negative consequences such as egocentrism that exceeds that of typical youngsters, emotions of dread of the larger world, dependent on others, and difficulty diverting their focus to a nature that is innocent, simple and not many problems Easier angry and easily offended (Gunawan, 2016: 25).

To carry out an appropriate assessment, special school teachers before teaching from the start must know the method/process of the assessment model through observation, assessment, continuous and systematic careful recording, and documentation to get the right conclusions about whether a child has abnormalities/deviations in growth/development (physical, intellectual, social, emotional/behavioral) and academic development compared to other children of his age (normal children). The information that has been obtained can then be used to identify and determine which children have abnormalities/deviations. Therefore, the main purpose of the assessment is to (1) obtain relevant, objective, accurate, and comprehensive data about the child's current

condition, (2) know the child's profile as a whole, especially the problems and learning obstacles they face, their potential, needs - special needs, as well as the carrying capacity of the environment needed by children; (3) fulfill the required services and monitor their capabilities (Sunaryo, 2011). In its implementation, the assessment is adjusted to the curriculum at each educational level. Teachers in schools have not maximized the use of appropriate assessments at all levels of education so as a result, the greater one's degree of education, the lower one's level of involvement among persons with impairments (Prasetyo, 2014).

The condition of ABK students whose abilities vary demands special treatment that is not necessarily the same as regular students (Faozanudin et al., 2023). Based on the results of Winarsih's research (2014), teachers who teach in schools providing inclusive education are regular teachers with no background in Special Education (PLB). These teachers come from various educational backgrounds, both from educational and non-educational majors. Without having any provision regarding features of special needs pupils (moreover being able to carry out assessments correctly), teachers must accept the participation of kids with specific needs in learning in the class they teach because they are in a designated school.Teachers do not understand the concept of learning and assessment in schools with hearing impairments professionally (Mentari et al., 2023).

Professional competencies that must be owned by teachers with disabilities include: (1) mastering the structure and material of the curriculum in the field of study; (2) mastering the substance of the field of study and scientific methodology; (3) mastering and utilizing information and communication technology in learning; (4) organizing curriculum materials in the field of study; and (5) improve the quality of learning through classroom action research. This professional competence is very influential on the quality of learning. According to the findings of Burhanuddin et al (2023), there is a positive and strong influence between teacher competency in terms of learning quality, between school organization and the quality of learning, and the adequacy of infrastructure is lacking. It was found that the dominant factors that inhibited the implementation of inclusive education in elementary schools were the unavailability of special companion teachers who had competence with appropriate educational backgrounds, the lack of socialization of education system service policies through inclusive schools, the limited budget for inclusive education services in schools, the unavailability of facilities and infrastructure supporting inclusive schools, poor coordination and communication between parties in supporting the implementation of inclusive schools (Wijaya et al., 2023). The impact of all of these is in the areas of educational attainment, employment, and disability domicile/residence, see Figure 1.
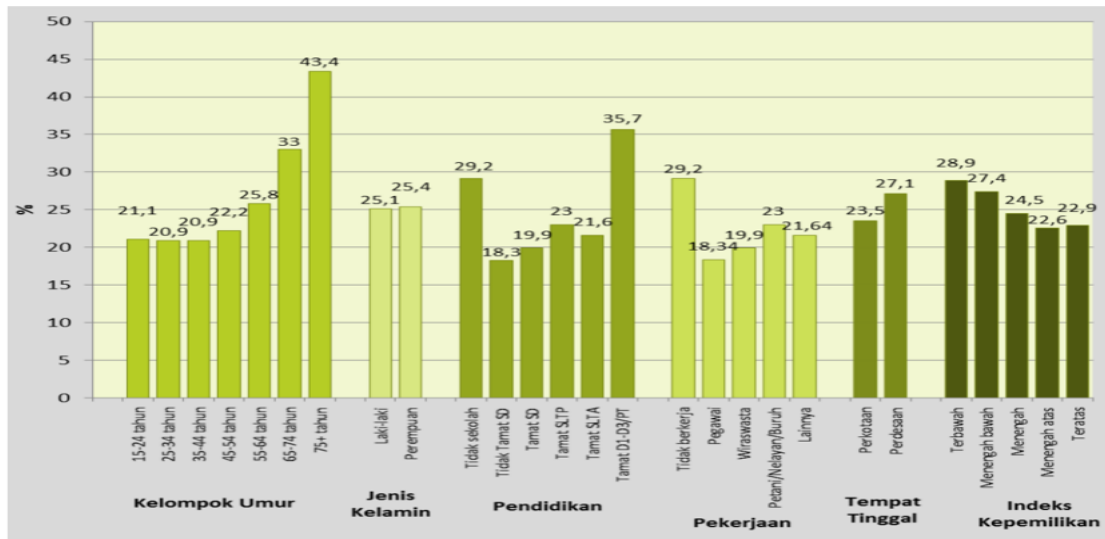
Figure 1. Average Disability Score of Indonesian Population Aged >15 Years According to Characteristics Based on 2013 Riskesdas Data

Based on Figure 1 in the Health Data and Information Window Bulletin, Semester 2, 2014, from the Data and Information Center, Republic of Indonesia's Ministry of Health. Pages 10-11 show that relating to "work" the majority of people do not work. (29.2%), based on a place most live in rural areas (27.1%).

The assessment model for students with hearing impairments is a problem that must be solved or resolved to support the success of inclusive education itself. The assessment model in this study is defined as the act of gathering data and information required to judge how far and how well learning has progressed so that assessments and improvements can be made to maximize results (Baniaturrohmah et al., 2023). Teachers are not the only ones that conduct diagnostic assessments; parents, psychologists, therapists, and physicians can all be engaged. Each of these elements conducts a diagnostic assessment for each student and the results are summarized in the form of a description and then an analysis and follow-up recommendations are carried out for students. The benefit of this mentoring activity is that teachers become skilled at carrying out appropriate assessments for children with special needs or special schools (SLB) (Munfarikhatin dan Natsir, 2023).

Students at special schools are the same as regular schools in terms of using their essay techniques, the same can be in the form of written tests, non-written tests, or oral. However, the implementation is adjusted based on the use of each curriculum (Zulaikhah et al., 2020). Teachers in schools must use assessments based on learning difficulties based on the level of hearing loss experienced by their students. This is due to the direct consequence of hearing loss, which is the inability/difficulty to recognize numerous sounds, including language

sounds. They receive specialized services such as communication, sound perception, and rhythm development. The learning program and evaluation must be tailored to their specific learning conditions and requirements. As a result, the assessment tools incorporate characteristics of sound detection, discrimination, and comprehension (Hermawati et al., 2023). From the various descriptions above, the problem in this research is what the deaf disability assessment model looks like. The products/forms/forms of research results or state-of-the-art (SOTA) are useful findings and can be used by teachers/students in schools. This is the quality of the novelty of this study.

METHOD

This study uses a type of qualitative research using the research method of a literature review or literature study which contains theories that are relevant to the problems in the research taken by the researcher. The reasons for its use include (1) the unavailability of quantitative data related to the assessment of deaf disabilities and (2) qualitative research that has gained credibility in professional education (Varpio and Meyer, 2017). The literature technique used in this study is a review of the literature relating to the study's core topic, which is then summarized and recommendations for better practice are provided (Aguinis et al., 2023). This is highly recommended because it can: (1) help researchers to improve their research results (Wright, 2016), (2) help address challenges to the research problem in question (Butler et al., 2022). This means that researchers can use a literature review to learn how to apply a method (Aguinis and Hill, 2020); (3) identify knowledge gaps and research needs, including not only methodological but also substantive innovations as a result of methodological improvements (Kunisch et al., 2018).

In this literature study, we conducted a review of the literature on deaf disability assessment, participatory-based approaches, and other relevant research to understand the relevant theoretical background and framework. Participatory Approach, involving learning experts involved in the process of assessing deaf disabilities. The data analysis was carried out through qualitative analysis of the collected data, including other related documents. This analysis can involve methods such as content analysis, thematic analysis, or other approaches to identify emerging patterns, themes, and issues. Data validity and reliability, ensuring the validity and reliability of research findings through data triangulation, namely comparing and matching findings from various data sources, as well as involving experts and participants in the interpretation process. Interpretation and recommendations, interpret research findings, and produce recommendations regarding the development and improvement of the Deaf Disability Assessment Model based on the insights obtained from participants and related experts.

The formulation of the problem is how the deaf disability assessment model can be improved to better meet the needs of individuals with deaf disabilities through information about its implementation in schools applied by teachers who teach deaf students and carry out the deaf assessment model. The data of this research were collected and evaluated exclusively from literature and documentary materials which were analyzed by means of reviews: critical, narrative, meta-analytic, and descriptive including philosophical phenomenology such as writing in books, research journals, or other relevant media. The data collection technique used by the author in this research is a literature study, namely by searching for data related to the discussion in the research title that the researcher took. In this study, relevant data were collected in various ways, namely through literature studies, literature studies, and internet searches. Data Analysis Techniques This research was conducted using deductive qualitative analysis techniques, meaning that from general matters or theories to draw specific conclusions.

RESULT

The results of the study show that an effective assessment model for individuals with hearing impairment involves a holistic approach that pays attention to various aspects of their life. Emphasis is placed on developing alternative communication and technology assistance, hearing and language evaluation, and cognitive and adaptive assessment. The importance of involving deaf individuals in the assessment process was also found, by providing space for them to actively express their needs and preferences. It is hoped that this assessment model can provide guidance for health professionals in developing integrated rehabilitation programs that focus on individuals with hearing impairments.

An effective deaf disability assessment model must involve a holistic approach and focus on individual needs. The importance of alternative communication, auditory and language evaluations, and cognitive and adaptive assessments must be noted. In addition, involving deaf individuals in the assessment process will help ensure that their needs are properly accommodated. This assessment model can be used as a guide for health professionals in developing appropriate rehabilitation programs that focus on individuals with hearing impairments.

Based on all literature reviews, the results are as follows. The scope of assessment in disability education is: (1) development, the competencies measured are cognitive (perception, speech, and communication), motor, and adaptive behavior; (2) academic, the competencies measured include: reading, writing, and arithmetic/mathematics. Therefore, based on the collection of all data obtained, the assessment model in deaf disability education is as follows. (1) Diagnosing barriers in students (physical: hard of hearing/deaf, intellectual, social, emotional, and/or sensory-neurological); (2) Classification, placement, and discovery of deaf disability education

programs; (3) Determine the learning path for kids with hearing problems; (4) Determine the technique of implementing the assessment to be used (tests, interviews, observations, analysis of student work); (5) Developing grids and questions along with scoring guidelines; (6) analysis of instruments and results. Complete information can be seen in Table 1. The aspects and competencies that can be measured include fields; (1) perceptual development, (2) motor development, (3) adaptive behavior, (4) pre-academic skills, (5) language, (6) reading, (7) writing, and (8) Mathematics (Gunawan, 2016).

Table 1. Assessment Model for Students with Deaf Disabilities

No.	Scope	Activities
1.	Diagnosing barriers in students	-Related to physical, intellectual, social, emotional, and/or sensory-neurological. -Examples of obstacles include (1) reading difficulties (dyslexia) such as difficulties: distinguishing forms, understanding reading content, and often making mistakes in reading; (2) writing difficulties (dysgraphia) such as: being very slow in copying, often writing letters incorrectly, writing results are illegible, difficulty writing straight on unlined paper, and writing letters in reverse position (p is written b or q); (3) numeracy difficulties (dyscalculia), such as difficulty distinguishing signs: +, -, x,:, >, <, =; difficult to operate arithmetic or numbers, often miscalculates sequentially, often confuses the numbers 9 with 6; 17 with 71 and so on.
2.	Classification, placement, and discovery of deaf disability education programs	Analyze the assessment's findings based on the results of number 1 then describe and create an individualized learning program.
3.	Determine the learning direction of students with hearing impairments	Within a certain period, the specific learning program provided is monitored, appropriate/not, successful/not.
4.	Determine the assessment implementation technique that will be used	Tests, interviews, observations, or analyses of student work.
5.	Develop grids and questions along with scoring guidelines	The aspects that are measured and the form of the questions arranged in a grid are adapted to the conditions of the students, such as measuring: (1) perceptual development, (2) motor development, (3)

		adaptive behavior, (4) pre-academic skills, (5) language, (6) reading, (7) writing, and (8) Mathematics.
6.	Analysis of instruments and results	All instruments were analyzed qualitatively and quantitatively.
7.	Create an instrument bank	Good instruments based on the results of the analysis are entered into the instrument bank.

(1) Assessment of the realm of perceptual development. For assessments related to the field of perception development in disability education, it can be seen in the following slow learner student difficulties. The results of Rahayu et al's research (2023) show that there are two students with special needs in the slow learner category. The learning difficulties he experienced were unable to read, write, and count. This is due to a history of household problems in their parents and the role of parents who are less than optimal in education. One of the strategies that teachers can do is to motivate students who experience slow learning so that students are more enthusiastic and believe in their abilities (Amasya et al., 2023). For students with disabilities who experience slow learning, an assessment can be used in the field of development of the student's perception in question. As a result, the evaluation scope in the subject of perceptual development in disability education may be assessed using the following criteria: (1) auditory: phonological awareness, auditory discrimination, auditory memory, auditory sequence, and auditory integration are measured; (2) visual: spatial relations, visual discrimination, shape, and background discrimination, visual closure, and object recognition are measured; (3) haptic: tactile and kinesthetic are measured.

(2) Assessment of motor development. For assessments related to the field of motor development in disability education, it can be seen in motor development has not been optimal. Like the implementation of learning when the Covid 19 Pandemic was implemented online, students rarely moved outside the room and sat more in front of laptops or smartphones. The development of an outdoor play model of throwing and catching balls shows that it has the feasibility of helping develop gross motor skills in children (Sudaryanti and Prayitno, 2023). The review's unintended consequence is that outdoor sports have a significant impact on children's gross motor abilities (Timansah dan Nurhadiyati, 2023). This can give instructors a direct understanding of how to prepare, administer, and evaluate conventional games and school sports to develop the psychomotor abilities of special school pupils (Anwar et al., 2023). According to the findings of a study conducted by Prafitralia et al (2023) fine motor abilities in children with special difficulties grow after receiving therapy such as playing emerging. The harmonious connection between instructor and student, parenting style, and the stimulus or stimuli offered are all factors that impact fine motor development.

Children with special needs have distinct kinds and traits that set them apart from other children, necessitating the use of a specific stimulant to help them develop their motor abilities (Aissya, 2023). This is because deaf students like visuals or images that are visible to their eyes, indeed for the senses the subjects do not experience obstacles or limitations. But for the kinesthetic learning style, they show that gross motor skills using visual aids and illustrations are very helpful and preferred because it is observed that it is easier to convey the intentions and goals that the subject thinks can be conveyed easily and well (Panglipur, 2023).

Rhythmic gymnastics exercises can help improve gross motor skills in children (Krismon dan Irdamurni, 2023). Another example is the use of loleba. Loleba is a type of bamboo used by the people of Maluku as a material for making roofs made of sago leaves. Loleba has many benefits, both for craft makers, households, and even for musical instrument materials. Loleba as the main ingredient is used to improve fine motor skills in early childhood through collage techniques. These results have an impact on increasing children's independence in learning and accuracy in carrying out assignments given by the teacher (Akollo et al., 2023). Therefore, the scope of assessment in the field of motor development in disability education can be measured through the following aspects: (1) gross motor, the competencies measured are sensory stimulation (receiving stimulation), position tolerance (resistance to certain positions), equilibrium reactions, head control, rolling, sitting, reach and strike, crawling, knee walk, standing, walking; (2) fine motor, the competencies that are measured are grasp, object manipulation, object formation.

(3) Assessment of adaptive behavior. Assessments related to adaptive behavior in disability education can be seen in the use of adaptive media learning. According to the findings of Marbun et al (2022) children who have differences, both significant inter-individual and intra-individual differences, and experience difficulties in interacting with the environment, so that to develop their potential, special services or special learning media are needed. As a result, the extent of adaptive behavior evaluation in disability education may be examined using the following criteria: (1) self-help, including abilities in eating, drinking, and using the bathroom; cleanliness (showering, brushing teeth, and washing hands); appearance; attire; mobility (use of public transportation); (2) Communication abilities tested include comprehension, expression, and articulation. (3) In terms of socialization, the competencies assessed include collaboration, concern for others, involvement in group activities, and contact with others. (4) vocational, the competency tested is aptitude in home and school activities.

(4) Assessment of pre-academic talents. For assessments related to pre-academic skills in disability education can be seen in the activities of an application for deaf children to learn shapes and colors in English using the Gamification and Full Word Syntax methods (Falan et al., 2023).

Based on this example, the scope of assessment of pre-academic skills in disability education can be measured through the following aspects: (1) classification, the competencies measured are grouping objects based on: color, shape, size; (2) ordering/serial, the competencies measured include: (a) Sorting objects based on size patterns: shape, color; (b) Counting each object only once sequentially; (c) Arranging objects based on long and short sizes; (d) Arranging objects based on large and small sizes: (3) correspondence, the competencies measured are: (a) Understanding the number of two groups of objects that have different characteristics, but have the same value; (b) Understanding the sum of the three groups of objects that have different characteristics, but have the same value; (4) conservation, the competency that is measured is understanding the conservation of numbers.

(5) Language skills assessment. Assessment related to language skills in disability education can be seen in the language skills. Language is one of the main ways of communicating. Hearing is the main sensory pathway through which speech and verbal communication develop. Hearing loss can have an impact on more than just a child's speech and language development, but also sensory, emotional, cognitive, and academic skills. Early detection of hearing defects is important for a child's overall development because they usually focus on communication skills (Devi, 2023). Deaf disabilities do not have a primary language basis, they have difficulty learning a second language. Consequently, It is advised that Sign Language be taught as the environment's first language and dominant vocal language (Grace, 2023). To advocate for themselves, deaf or hard-of-hearing children in inclusive education settings must be aware of how well they hear and understand spoken language (Squires & Kay-Raining, 2023).

Because deaf students have trouble recognizing abstract terms, many deaf students struggle to comprehend the content they read (Hartati et al., 2023). Sign language is one of the most reliable means of communication with people with special needs because it can be done anywhere. However, most people do not understand sign language (Obi et al., 2023). In addition, listening skill is a language skill that must be possessed. As a social creature, listening skill is a self-value that must be radiated as a form of self. Listening skills in children with severe impairments are an essential issue that receives little attention in studies (Arifah et al., 2023). Deaf children are children who have hearing loss, which causes them to not be able to speak perfectly. These components are interconnected and form a system that cannot be separated in communication. Meanwhile, deaf children cannot perform these components well in language so the communication that occurs becomes unclear. However, deaf children can take part in training in lip reading, using sign language, and inclusive schools in improving their language skills (Putri, 2023). Therefore, the scope of the assessment of language skills in disability education can be measured through the following

aspects: (1) receptiveness, the competencies measured are listening (listening) and reading; (2) productive/expressive, the competency that is measured is speech which includes: (a) articulation (clearness of utterance of words, (b) voice (tone, loudness, quality of speech), (c) fluency (speed and accuracy of speech). What is measured are phonemes (letters), morphemes (words), syntax (sentences), semantics (meanings of words/sentences), prosody (rhythm, intonation, stress patterns of language), and pragmatics (how to use language in social situations); and writing.

(6) Reading skill assessment. For assessments related to reading skills in disability education, it can be seen in learning activities at school that we often encounter students who have learning difficulties, including students who have reading difficulties. Reading difficulties in learning mathematics will have an impact on students' understanding of mathematical concepts, one effort that can be made to overcome these problems is to apply the Realistic Mathematics Education (RME) approach (Ariyani & Maharani, 2023). Skimming techniques have a positive effect on improving reading comprehension skills (Mutahara et al., 2023). In full, the scope of assessment of reading skills in disability education includes: (1) technical aspects, the competencies measured include: recognizing letters, recognizing letter sounds (k-v-diphthong), combining sounds to form words, sound variations, using context analysis, using structural analysis (a form of the word); (2) comprehension, the competencies measured include vocabulary development, literal understanding (understanding and remembering written information from discourse), inferential understanding (concluding discourse), critical/evaluative reading (assessment of discourse material), appreciation (emotional sensitivity/ aesthetics of discourse material).

(7) Assessment of writing skills. For the assessment of writing skills in disability education, it can be tested from several specific activities. Because the quality of instruction children get has a substantial influence on their writing skills, we may learn from what instructors describe their views and methods of teaching and learning writing (Wolbers et al., 2023). There are four areas of focus: (1) emerging writing developmental phases, (2) variations in writing throughout time, (3) emerging writing and translation characteristics, and (4) writing features peculiar to language-deprived environments (Holcomb et al., 2023). Furthermore, it is suggested that the Concept Sentence Learning Model be used as an alternative to promote student participation, which affects improving student writing performance (Fitriani et al., 2023). Therefore, the teacher can observe children's writing skills in terms of writing from left to right, holding a pencil, writing their name, writing letters, copying words from the blackboard to a book or paper, writing on the right line, paper position, use of the dominant hand, and sitting position.

Guidelines for scoring writing skills include: (1) sitting position, in which the body is less upright, the chin is against the table, the soles of

the feet are well planted on the floor, and the hands are not supporting the body but are stretched forward; (2) paper position, in which the paper is tilted/not parallel to the body; and (3) ability to grasp a pencil or writing tool with three fingers. (4) The shape and form of letters and words are deformed and inconsistent; they lean at times and stand upright at others, (5) Inconsistency in font size; some letters are too large to cross the line, while others are too little. (6) gap (between letters and between words), since the child does not understand word spacing, the words were written pile up. (7) the accuracy of the line, the letters are inscribed astride the line, (8) The line quality (too thick or too thin), the lettering is too pressing, and the letters appear heavy and unclean.

The evaluation of writing skills in disability education focuses on the following aspects: (1) In pre-writing, the following abilities are assessed: (a) gripping, feeling, holding, and releasing items; (b) searching for differences/similarities between diverse objects, forms, colors, and sizes; and (c) spatial orientation and direction (left-right, up-down, front-back). (2) At the start, the following aspects are measured: (a) holding a writing utensil, (b) moving the writing utensil (up and down, left and right, circular), (c) copying letters, words, and sentences with block letters, (d) writing his name in block letters, (e) copying block letters remotely, (f) copying letters, words, sentences in cursive, and (g) copying in cursive from a distance. (3) Spelling, the following competencies are assessed: (a) Recognizing letters of the alphabet, words; (b) pronouncing the word he knows, (c) knowing the differences/similarities in word configuration, (d) associating sounds with letters, (e) spelling words, (f) finding the spelling rules for words, (g) writing words with the correct spelling; (4) expressive (composing/continuing), the competencies measured are: (a) Reproduction, (b) description (description), (c) creation, (d) explanation.

(8) Assessment of mathematical ability. It is recommended to employ activities such as GeoGebra to increase learning in disability education, and activity design has the advantage of encouraging pupils to study and so boosting their academic accomplishment. GeoGebra is an essential instrument in secondary and higher-level mathematics teaching and learning (Diva et al., 2023). The difficulty of deaf students in learning mathematics is difficulty understanding verbal explanations in integer operations, namely addition. In development, the traditional crank game is used to become a game that can be used in learning mathematics (Zakiyah, 2023). Several concepts that underlie readiness in understanding mathematics learning or quantitative concepts are understanding of (1) classification, (2) sequence and serialization, (3) correspondence, and (4) conservation. According to Underhill (1980) in Rochyadi and Alimin (2005) there are three stages of learning mathematics/arithmetic, one stage becomes the basis for the next stage, namely learning at the concrete, semi-concrete, and abstract stages.

Mathematics is a hierarchical subject (Nakamura, 2014). This suggests that sequential concept development promotes a greater

comprehension of mathematics (Newton et al., 2020). Content sequencing improves teachers' ability to create clear goals for teaching and learning programs (Smith, 2022). Early mathematics assesses sub-concepts such as counting things, matching shapes, and weighing objects, for example, calculating memorization, measuring time, and solving puzzles, including advanced tasks that measure the same sub-concept (Wauters et al., 2023). Mathematical literacy includes knowledge and skills such as being able to transform information to reach mathematical expressions, using mathematical language, generating appropriate steps to solve problems by interpreting problems and understanding them mathematically, and thinking mathematically (MEB, 2013). According to Sugiman & Ananda (2023) that mathematics includes material: mathematizing, combining symbolic, formal, and technical language and processes to describe reasoning arguments, problem-solving techniques, communication, representation, problem-solving tactics, reasoning arguments, and math tool use.

According to Chinofunga et al (2023) that proper and logical sequencing of mathematical content emphasizes: (1) student comprehension; (2) finding the abilities needed to interact with new information; (3) linking past knowledge with new concepts; and (4) breaking down concepts to establish the essential concepts that students must have to grasp or access new concepts, (5) recognizing the main ideas in the new unit and sequencing them in a logical fashion that links existing information and creates new knowledge, therefore creating new knowledge in small stages, and (6) generating new knowledge in small steps. Therefore, the scope of Mathematics assessment in disability education includes aspects of (1) the content/content is spiral in nature, the competencies measured include: (a) arithmetic/algebra (numbers, computation), (b) geometry (flat plane/multiplication, area of space/division), (c) measurement (length, circumference, area, content, weight, time); (2) expected learning outcomes, the competencies measured include: (a) quantitative dimensions (understanding of concepts, skills); (b) qualitative dimension (problem-solving).

DISCUSSION

The results of this study make an important contribution to understanding the development of an effective assessment model for individuals with hearing impairments. The main findings include several key components that need to be considered in a holistic and contextual assessment model.

First, it is important to understand the experiences and perceptions of individuals with hearing impairments in depth. In-depth interviews with individuals with hearing impairments provide valuable insight into their needs and expectations regarding assessment. Involving individuals with hearing impairments in the assessment model development process ensures that the model is more relevant and responsive to their needs.

Second, collaboration with experts in special education and audiology is essential in developing an effective assessment model. Special education specialists can provide insight into effective learning strategies and adjustments needed for individuals with hearing impairments. Meanwhile, audiologists can provide knowledge about individual hearing abilities and their implications in the assessment process.

In addition, the deaf disability assessment model must cover various dimensions such as communication, hearing ability, and social adaptation. This allows for a more complete identification of the needs and potential of individuals with hearing impairments. Using a qualitative approach in this study allows researchers to explore individual experiences in-depth and understand the social context that influences the assessment of deaf disabilities.

The results of this study also highlight the importance of cultural context in the assessment of deaf disabilities. Previous research has shown that cultural values and social norms can influence the perceptions and experiences of individuals with hearing impairments. Therefore, the assessment model must be sensitive to the cultural context and take these factors into account in the assessment process. The limitations of this study are the relatively small sample size and the limited geographic location of the study. Future research could involve a larger and more inclusive sample.

The law on persons with disabilities makes students with disabilities a protected group under the law (Geisinger, 2023). Disability is defined as "the evolving concept that disability results from the interaction between persons with disabilities and attitudinal and environmental barriers that prevent their full and effective participation in society on an equal basis with others." Persons with disabilities are persons who have long-term physical, mental, intellectual, or sensory impairments that, when combined with additional impediments, prevent them from fully and effectively participating in society on an equal footing with others (Van der Geld, 2023). Hearing loss has become a major disability challenge globally and is considered a threat to the quality of education (Mohamed ete al., 2023). Deaf children are children who have lost all or part of their hearing ability, making it difficult for them to communicate vocally. Despite receiving hearing aids, kids still require special education programs. Deaf children exhibit the following characteristics: (1) frequent head tilting to hear, (2) high sensitivity to vibrations, (3) delayed language development, (4) no reaction to sounds or voices, (5) frequent use of signs in communication, (6) less or no response when spoken to, (7) unclear speech, strange/monotonous sound quality (Gunawan, 2016).

In general, deaf children's learning requirements and evaluations are the same as those of other children. They do, however, need careful consideration in learning activities and evaluations, such as (1) avoiding asking youngsters to communicate with their backs to them. Children should be placed in the front so they can easily read the teacher's lips; (2)

pay attention to the child's posture, which frequently tilts the head to listen; (3) Encourage youngsters to constantly look at the teacher's face and converse to the child in a face-to-face position, and if possible, the teacher's head is aligned with the child's head; and (4) the teacher speaks at normal volume but with clear lip movements (Gunawan, 2016). Therefore it is very necessary to have a teacher's educational background that is in accordance with this learning (Safari, 2019), including concern for students' parents (Safari, 2021).

Assessment in disability education has a special meaning and is different from the assessment used in general for students who are not disabled. Assessment in this case is used specifically for individual students not groups of students. According to (Alimin, 2010), assessment in disability education has a much broader meaning than the terms diagnostic, test, or evaluation. The main reason is that diagnostics, tests, and evaluations are unable to uncover the following four things. In the disability assessment, four important aspects of questions must be disclosed related to the condition of an individual, namely: (1) what abilities or skills do you already have, (2) what obstacles or difficulties are experienced, (3) why are these obstacles or difficulties experienced, (4) what needs (in terms of education and learning) should be met. As a result, a disability evaluation attempts to evaluate the abilities possessed, the obstacles/difficulties faced, the context of why these obstacles/difficulties exist, and what help is necessary by the individual concerned. Based on the data from the assessment results, learning programs that are appropriate for students with disabilities can be created. The approaches used in assessment activities are formal and informal assessments (Gunawan, 2016). Why is an assessment of hearing impairment so necessary? Because the disability assessment activity is a follow-up to the detection activity and individual student differences (Amin, 1995). The differences in the assessment of deaf students and the evaluation of students, in general, are shown in Table 2. These findings were unaffected by racism, ability, or nation-state and acted as a fundamental mechanism for supervision (Nair et al., 2023).

Table 2. Differences In The Assessment Of Students With Disabilities And The Assessment/Evaluation Of Regular Students

Component	Assessment of Students with Disabilities	Assessment/Evaluation of regular students
Implementation	Before, during, and at the end of learning, so that it continues to roll non-stop (dynamics assessment)	Throughout the learning process and at the end (formative and summative assessments)
Content (instrument)	Based on the problems and abilities that students have	Based on the material that has been taught.
Objective	To see the current condition of students their abilities, difficulties, and learning needs.	To assess how far pupils can absorb or master the stuff supplied to them.

The assessment techniques used (1) seeing an object, symptom, event, or process that occurs in a situation, regardless of whether it affects the learner or the environment; (2) Interviews, one of the data gathering procedures that are carried out verbally by having question and answer sessions with the respondent, either directly or indirectly; (3) Using a test, this is a technique used to discover or measure something in an environment in a certain manner and according to predefined norms; (4) Inventory is a data gathering technique that assesses the proclivity of individual behavioral traits.

Based on the use of this assessment model, habituation exercises are used as a learning approach to help children with special needs develop their social-emotional skills. Habits like greetings, hand washing, rubbish disposal, queuing, and so on are established at school and reinforced at home by parents. This habituation's effectiveness is dependent on a stimulating atmosphere, a constant collaboration between the instructor and the environment at school, and parents at home (Kurniawati and Ernawati, 2023). Sports activities including music groups are highly activated in order to reduce the negative actions caused by students (Safari, 2021a).

CONCLUSION

The results of the study show that the use of this deaf disability assessment model provides significant benefits in understanding individual needs and designing appropriate rehabilitation programs. This model consists of several steps, including data collection, observation, interviews, and a comprehensive assessment of individual abilities in various aspects of daily life.

In addition, this model also emphasizes the importance of understanding the cultural and social context of deaf individuals in the assessment process. Factors such as communication habits, family support, and school or work environment are also important considerations in assessing the level of disability and treatment needs.

This research also highlights the importance of involving deaf individuals in the assessment process. In developing this model, deaf participants were actively involved in providing input and providing their perspectives on their life experiences. This ensures that the assessment model is relevant, sensitive, and responsive to the needs of the individual concerned.

Overall, the deaf disability assessment model resulting from this study offers a holistic and individual-focused approach. By considering the physical, communication, and social aspects, this model can help professionals in the field of rehabilitation and special education to develop effective and measurable programs.

However, this study has several limitations, including the limited number of participants and the focus on certain populations. Therefore, it is

suggested that further research be conducted involving more participants and covering variations in the level of hearing impairment.

Overall, this research has made a valuable contribution to the development of a deaf disability assessment model that can be used to improve the understanding, measurement, and treatment of individuals with deaf disabilities.

REFERENCES

Aguinis, H., Ramani, RS., and Alabduljader, N. (2023). Best-Practice Recommendations for Producers, Evaluators, and Users of Methodological Literature Reviews. *SAGE JOURNALS: Organizational Research Methods, 26*(1). https://doi.org/https://doi.org/10.1177/1094428120943281.

Aguinis H., Hill N. S., B. J. R. (2020). Best data collection and preparation practices: Recommendations for reviewers, editors, and authors. *Organizational Research Methods. Advanced Online Publication.* https://doi.org/https://doi.org/10.1177/1094428119836485

Aissya, A. (2023). *Introducing simple sports for Mentally blind High School Levels at SLB Negeri Pekalongan. 3*(1). https://doi.org/DOI: https://doi.org/10.33222/jmuri.v3i1.2033

Akollo, JG; Tarumasely, Y.; dan Surur, M. (2023). Meningkatkan Motorik Halus Anak Usia Dini Melalui Teknik Kolase Berbahan Loleba. *Jurnal Obsesi, Jurnal Pendidikan Anak Usia Dini, 7*(1). https://doi.org/DOI: 10.31004/obsesi.v7i1.3748.

Alemu, M. (2023). Assessment of the education of deaf students in the integrated primary schools of Amhara national regional state: practices, opportunities, and challenges. *UNISA: Institutional Repository. Thesis.* uri: https://hdl.handle.net/10500/29928

Alimin, Z. (2010). *Asesmen Keterampilan Membaca dan Matematika/Aritmatika. Program Studi Pendidikan Kebutuhan Khusus Sekolah Pascasarjana UPI.* https://docplayer.info/45649842-Asesmen-keterampilan-membaca-dan-matematika-aritmatika-bagi-anak-berkebutuhan-khusus.html.

Amasya, A. P., Thaharah, A., Amelia, R., & Widiarti, Y. (2023). Strategi Guru Dalam Menangani Anak Yang Mengalami Kelainan Lamban Belajar. *Renjana Pendidikan Dasar, 3*(1), 49–53. https://prospek.unram.ac.id/index.php/renjana/article/view/295

Amin, M. (1995). *Ortopedagogik anak tunagrahita. Jakarta: Departemen Pendidikan dan Kebudayaan.*

Anwar, K.; Andriani, MW.; Ruski; Firmansyah, I.; and Himawan, A. (2023).

The assistance of Traditional Schools of Games and Sports as an Effort to Improve Psychomotors SLB Students Bangkalan District. *GANDRUNG: Jurnal Pengabdian Kepada Masyarakat, 4*(1). https://doi.org/https://doi.org/10.36526/gandrung.v4i1.2252

Arifah, C., Rakhmat, C., & Mulyadi, S. (2023). Media Digital Sebagai Upaya Optimalisasi Keterampilan Menyimak Anak Berkebutuhan Khusus. *Naturalistic: Jurnal Kajian Dan Penelitian Pendidikan Dan Pembelajaran, 7*(2), 1694–1698. https://doi.org/https://doi.org/10.35568/naturalistic.v7i2.3375

Ariyani, E. F. ., & Maharani, A. (2023). Penerapan Realistic Mathematics Education Pada Pembelajaran Matematika Siswa Berkesulitan Membaca. *Jurnal Lebesgue : Jurnal Ilmiah Pendidikan Matematika, Matematika Dan Statistika, 4*(1), 119–129. https://doi.org/https://doi.org/10.46306/lb.v4i1.214

Awlawi, AH; Konadi, H.; dan Rambe, S. (2023). Laboratorium Bimbingan Konseling Pengembangan Life Skill Anak Berbasis Komunitas Guru Dan Anak Disabilitas Pada Sekolah Luar Biasa Negeri 14 Takengon Kabupaten Aceh Tengah. *Catimore: Jurnal Pengabdian Kepada Masyarakat, 2*(1), 34–47. https://doi.org/https://doi.org/10.56921/cpkm.v2i1.55

Baniaturrohmah, F., Abdullah, A., Mayangkoro, AS., Djaka, CT., dan Husna, D. (2023). Evaluasi atau Penilaian Pembelajaran bagi Anak Berkebutuhan Khusus (Tuna Rungu). *MASALIQ: Jurnal Pendidikan Dan Sains, 3*(1), 143–157. https://doi.org/https://doi.org/10.58578/masaliq.v3i1.836

Burhanuddin, B., Hudaya, C., & Siswandi, I. (2023). Analisis Pengaruh Kompetensi Guru, Pengorganisasian Sekolah dan Sarana Prasarana terhadap Kualitas Pembelajaran di SLB Kabupaten Sumbawa. *JIIP - Jurnal Ilmiah Ilmu Pendidikan, 6*(3), 2064–2073. https://doi.org/https://doi.org/10.54371/jiip.v6i3.1563

Butler, BR., Gladney, D., Lo, YY., and Caldera, A. (2022). *Classroom Management Instruction in Teacher Education, 3rd Edition.*

Chinofunga, MD., Chigeza, P., and Taylor, S. (2023). Teachers' perceptions of the effectiveness of a planning framework on content sequencing for the teaching and learning of mathematics. *Eurasia Journal of Mathematics, Science and Technology Education, 19*(4). https://doi.org/https://doi.org/10.29333/ejmste/13108.

Devi, B. (2023). Impact of Early Intervention Programme on Language Acquisition Skills of Children with Hearing Impairment. *International Journal of Multidisciplinary Educational Research,*. https://doi.org/DOI: http://ijmer.in.doi./2023/12.02.63 www.ijmer.in.

Diva, DF., Andriyani, J., Rangkuti, SA., Prasiska, M., Lumban Tobing, TEW., Irani, AR., & Saragih, R. (2023). Pentingnya Pemahaman Konsep Geogebra dalam Pembelajaran Matematika. *Journal on Education*, *5*(3). https://doi.org/https://doi.org/10.31004/joe.v5i3.1629

Falan, MA; Hanuranto, AT; dan Henfryanti, R. (2023). Aplikasi Pengenalan Bentuk dan Warna Menggunakan Bahasa Inggris pada Anak Penderita Tunarungu Berbasis Augmented Reality. *EProceedings of Engineering*. https://openlibrarypublications.telkomuniversity.ac.id/index.php/engine ering/article/view/18929

Faozanudin, M., Faozanudin, M., & Sulistiani, L. (2023). Aplikasi Pengenalan Bentuk dan Warna Menggunakan Bahasa Inggris pada Anak Penderita Tunarungu Berbasis Augmented Reality. *Indopedia (Jurnal Inovasi Pembelajaran Dan Pendidikan), 1*(1), 107–118. https://indopediajurnal.my.id/index.php/jurnal/article/view/16

Fitriani, NH., Huda, N., & Ramadhani, M. I. (2023). Peningkatan Hasil Belajar Bahasa Indonesia Materi Menulis Karangan Narasi Menggunakan Model Pembelajaran Concept Sentence di SDN Sidorejo 2 Kabupaten Barito Kuala. *Journal on Education*, *5*(4). https://doi.org/https://doi.org/10.31004/joe.v5i4.2710

Geisinger, K. (2023). *College Admissions for Students with Disabilities, in the book: College Admissions and Admissions Testing in a Time of Transformational Change,*. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003326823-5/college-admissions-students-disabilities-kurt-geisinger

Grace, M. (2023). The Experiences and Perceptions of Teachers of the Deaf Children in a South African Sign Language Class. *JOLLT: Journal of Languages and Language Teaching, 11*(2). https://e-journal.undikma.ac.id/index.php/jollt/article/view/7462.

Gunawan, D. (2016). *Modul Guru Pembelajar SLB Tunarungu Kelompok Kompetensi A. Pusat Pengembangan dan Pemberdayaan Pendidik dan Tenaga Kependidikan Bidang Taman Kanak-kanak & Pendidikan Luar Biasa,*. Direktorat Jenderal Guru dan Tenaga Kependidikan.

Hartati, AD; Maryanti, R.; Azizah, NN; Al-Husaeni, DF; Wulandary, V. and Iraean, A. (2023). Webtoon comic Media to Improve Reading Comprehension for Students with Hearing Impairment in Special Primary Schools. *ASEAN Journal of Community and Special Needs Education, 2*(1). https://ejournal.bumipublikasinusantara.id/index.php/ajcsne/article/vie w/90.

Hermawati, T., Rusyani, E., Wibowo, SW., and Herawati, N. (2023).

Instrument to Assess the Perception of Sound and Rhythm for Children with Hearing Impairment. *Journal of Icsar, 7*(1). https://doi.org/DOI: http://dx.doi.org/10.17977/um005v7i12023p115

Holcomb, L., Dostal, H., and Wolbers, K. (2023). Characteristics of deaf emergent writers who experienced language deprivation. Bilingual Research Journal,. *Bilingual Research Journal, The Journal of the National Association for Bilingual Education, 45*(3–4), 358–379. https://doi.org/https://doi.org/10.1080/15235882.2023.2169412

Krismon, A. dan Irdamurni, I. (2023). Meningkatkan Kemampuan Motorik Kasar melalui Senam Ritmik bagi Anak Tunagrahita Ringan di SLBN 1 Panti. *Jurnal Pendidikan Tambusai, 7*(1), 1507–1512. https://jptam.org/index.php/jptam/article/view/6011

Kunisch S., Menz M., Bartunek J. M., Cardinal L. B., D. D. (2018). Feature topic at Organizational Research Methods: How to conduct rigorous and impactful literature reviews? *Organizational Research Methods, 21*(3), 519–523. https://doi.org/https://doi.org/10.1177/1094428118770750

Kurniawati, H., Rosidah, R., dan Ernawati, E. (2023). Strategi Pengembangan Sosial Emosional Anak Berkebutuhan Khusus: studi Kasus di PAUD Pondok Anak Pertiwi Depok. *Jurnal Pendidikan Dan Agama Islam, 22*(1). https://doi.org/DOI: https://doi.org/10.47467/mk.v22i1.1856

Lainy, R. (2023). *Disability, diversity and Inclusive Education in Haiti*. Publisher: Taylor & Francis.

Li, J., Zhang, K., Cha, C., Lu, Z., and Liu, L. (2023). Oral health status of students with visual or hearing impairments in Northeast China. *BMC Oral Health, 23*, 242. https://doi.org/https://doi.org/10.1186/s12903-023-02923-1.

Marbun, E. M., Silaban, L. N. I., Hasugian, E. L., & Turnip, H. (2022). Media Pembelajaran Adaptif Bagi Anak Berkebutuhan Khusus Dalam Administrasi Pendidikan. *Jurnal Pendidikan Sosial Dan Humaniora, 2*(1), 47–63. https://publisherqu.com/index.php/pediaqu/article/view/47

Mentari, AP; Sabri, A.; Diah, A.; Prasasti, D.; Puspitasari, E.; Chamdani, M.; dan Fatimah, F. (2023). *Regular Teacher Professionalism in The Implementation of Elementary School Inclusion Education in Kebumen. Seminar Nasional Inovasi pendidikan ke-6 (SNIP 2022),*. 417–425. https://jurnal.uns.ac.id/SHES/article/view/71148/39476

Mohamed, NHA; Ayed, MMA; Mohammed, YA; Khalaf Allah, MAA; and Awad, R. (2023). Effect of Structured Visual Educational Sessions on Knowledge and Practices Regarding Breast-Self Examination among

Adolescents Girls with Hearing and Speech Challenges. *Egyptian Journal of Health Care.* https://doi.org/DOI: 10.21608/EJHC.2023.295311.

Munfarikhatin, A., dan Natsir, I. (2023). Pendampingan Penyusunan Ppi (Program Pembelajaran Individu) Anak Berkebutuhan Khusus Di Slb Negeri Anim Ha Untuk Mendukung Kurikulum Merdeka. *Jurnal Abdimas Indonesia*, *3*(1), 130–139. https://www.dmi-journals.org/jai/article/view/450.

Mutahara.B, N. ., Said, A. ., & A. Saleh, W. (2023). Peningkatan Kemampuan Membaca Pemahaman Melalui Penerapan Teknik Skimming Pada Murid Tunarungu kelas menengah VIII di SLB Pembina Tingkat Provinsi Sulawesi Selatan. *SPEED Journal: Journal of Special Education*, *6*(2), 62–71. https://doi.org/https://doi.org/10.31537/speed.v6i2.935

Nair, VKK, Farah, W., and Cushing, L. (2023). A Critical Analysis of Standardized Testing in Speech and Language Therapy. *The Asha Leader Journals,*. https://doi.org/https://doi.org/10.1044/2023_LSHSS-22-00141

Nakamura, A. (2014). Hierarchy construction of mathematical knowledge. *Lecture Notes on Information Theory*, *2*(2), 203–207. https://doi.org/https://doi.org/ 10.12720/lnit.2.2.203-207

Newton, K. J., Lange, K., & Booth, J. L. (2020). Mathematical flexibility: Aspects of a continuum and the role of prior knowledge. *The Journal of Experimental Education,* *88*(4), 503–516. https://doi.org/https://doi.org/10.1080/00220973.2019.1586629

Nuraini, N. (2023). Dampak Pembelajaran Pendidikan Agama Islam di Sekolah Inklusi dan Sekolah Luar Biasa. *ADIBA: Journal of Education,* *3*(1). https://adisampublisher.org/index.php/adiba/article/view/258.

Obi, Y.; claudio, KS; Budiman, VM; Achmad, S.; and Kurniawan, A. (2023). Sign language recognition system for communicating with people with disabilities. *ELSEVIER: Procedia Computer Science, 216,* 13–20. https://doi.org/https://doi.org/10.1016/j.procs.2022.12.106.

Panglipur, I. (2023). Analisis Gaya Belajar Dan Kemampuan Literasi Matematika Pada Tuna Rungu. *MATH-EDU: Jurnal Ilmu Pendidikan Matematika*, *8*(1), 37–46. https://doi.org/https://doi.org/10.32938/jipm.8.1.2023.24-36

Prafitralia, A. ., Turmudi, I. ., & Intan Zahro, K. (2023). Terapi Bermain Meronce Untuk Mengembangkan Motorik Halus Pada Anak Berkebutuhan Khusus di Kelas Inklusi MI Al Ma'arif 02 Jombang Jember: Meronce Play Therapy to Develop Fine Motor in Children

with Special Needs in Inclusion Class MI Al Ma'arif 02 Jombang . *Sociocouns: Journal of Islamic Guidance and Counseling*, *3*(1), 117–127. https://doi.org/https://doi.org/10.35719/sjigc.v3i1.104

Prasetyo, F. (2014). Disabilitas dan Isu Kesehatan: Antara Evolusi Konsep, Hak Asasi, Kompleksitas Masalah, dan Tantangan. Pusat Kajian disabilitas Fakultas Ilmu Sosial dan Ilmu Politik- Universitas Indonesia. *Buletin Jendela Data Dan Informasi Kesehatan, Semester 2, 2014.*

Putri, N. (2023). Analisis Gangguan Berbahasa pada Anak Tunarungu dalam Pembelajaran Bahasa (Studi Literatur Jurnal). *Jurnal Riset Pendidikan Dasar Dan Karakter,.*

Rahayu, AW; Januar, H.; Miyono, N.; dan Khasanah, S. (2023). Analisis Kesulitan Belajar Siswa Berkebutuhan Khusus Slow Learner di SDN Karanganyar Gunung 02. *Jurnal Pendidikan Dan Konseling (JPDK), 5*(2), 2471–2480. https://doi.org/https://doi.org/10.31004/jpdk.v5i2.13200

Rochyadi, E. dan Alimin, Z. (2005). *Pengembangan Program Pembalajaran Individual bagi Anak Tunagrahita.* Jakarta: Depdiknas Dirjen Dikti Direktorat Pembinaan Pendidikan tenaga Kependidikan dan Ketenagaan Perguruan Tinggi.

Safari. (n.d.). Principal's Perceptions of Students' Use of Born By PISA 2018. *AKADEMIKA: Jurnal Teknologi Pendidikan*, *10*(2). https://doi.org/DOI: https://doi.org/10.34005/akademika.v10i02.1555.

Safari. (2019). Pengaruh Latar Belakang Pendidikan Guru SMP/MTs Terhadap Hasil UN Bahasa Inggris 2019. *AKADEMIKA: Jurnal Teknologi Pendidikan*, *8*(2), 105–116. https://doi.org/DOI: https://doi.org/10.34005/akademika.v8i02.

Safari. (2021). Level of Parental Care Attending School Activities Meeting Based On 2020 AKM Data. *AKADEMIKA: Jurnal Teknologi Pendidikan*, *10*(1), 25–38. https://doi.org/DOI: https://doi.org/10.34005/akademika.v10i01.1338

Sealy, J., McMahon, C. and Sweller, N. (2023). Parenting Deaf Children: Exploring Relationships Between Resolution of Diagnosis, Parenting Styles and Morale, and Perceived Child Vulnerability. *Journal of Child and Family Studies.* https://doi.org/https://doi.org/10.1007/s10826-023-02579-z.

Smith, P. (2022). Where there is life: Science fiction in Singapore. *The Journal of Commonwealth Literature, 57(2), 291–03. Https://Doi.Org/10.1177/0021989419881232, 57*(2), 291–203. https://doi.org/https://doi.org/10.1177/0021989419881232

Squires, B., & Kay-Raining Bird, E. (2023). Self-Reported Listening Abilities in Educational Settings of Typically Hearing Children and Those Who Are Deaf/Hard-of-Hearing. *Communication Disorders Quarterly*, *44*(2), 107–116. https://doi.org/https://doi.org/10.1177/15257401221074412

Sudaryanti, S. dan Prayitno, P. (2023). Model Pembelajaran Bermain Outdoor Lempar Tangkap Bola untuk Mengembangkan Motorik Kasar Anak Usia 5-6 Tahun. *Jurnal Obsesi, Jurnal Pendidikan Anak Usia Dini*, *7*(2). https://doi.org/DOI: 10.31004/obsesi.v7i2.4249

Sugiman, S., & Ananda, B. (2023). Kemampuan Literasi Matematis Melalui Pembelajaran Flipped Classroom Berbantuan Website Mathnesia Pada Siswa SLB Tunarungu. *PRISMA, Prosiding Seminar Nasional Matematika*, *6*, 229–235. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/66725

Sunaryo, S. dan. (2011). *Intervensi Dini Anak Berkebutuhan Khusus*. Jakarta: Yayasan Mitra Netra. https://opac.perpusnas.go.id/DetailOpac.aspx?id=1035329.

Timansah, A., dan Nurhadiyati, A. (2023). Pengaruh Permainan Edukatif di Luar Kelas pada Motorik Kasar Siswa Autis di TK Inklusi. *Journal on Education*, *5*(2). https://doi.org/https://doi.org/10.31004/joe.v5i2.1267

Van der Geld, L. (2023). The Assessment of Testamentary Capacity Viewed from the Perspective of the UN Convention on Rights of Persons with Disabilities. *International Law- A Practical Manual*. https://doi.org/DOI: 10.5772/intechopen.110083

Wauters, L., Pagliaro, CM., Kritzer, KL., and Dirks, E. (2023). Early mathematical performance of deaf and hard of hearing toddlers in family-centered early intervention programs. *Deafness and Education International*. https://doi.org/https://doi.org/10.1080/14643154.2023.2201028

Wijaya, S., Supena, A., & Y. (2023). Implementasi Program Pendidikan Inklusi Pada Sekolah Dasar di Kota Serang. *Jurnal Educatio FKIP UNMA*, *9*(1), 347–357. https://doi.org/https://doi.org/10.31949/educatio.v9i1.4592.

Winarsih, M. (2014). Peningkatan Kemampuan guru dalam pembelajaran Tunarungu Melalui Pelatihan contextual Learning di Sekolah Inklusif. *Perspektif Ilmu Pendidikan*, *28*(2). https://www.researchgate.net/publication/324060078_KOMPETENSI_GURU_REGULER_DI_SEKOLAH_INKLUSIF_DALAM_PEMBELAJARAN_BAGI_SISWA_TUNARUNGU

Wolbers, K., Dostal, H., and Holcomb, L. (2023). Teacher Reports of

Secondary Writing Instruction with Deaf Students. *SAGE JOURNALS: Journal of Literacy Research.* https://doi.org/https://doi.org/10.1177/1086296X231163124.

Wright, P. M. (2016). Ensuring research integrity: An editor's perspective. *Journal of Management, 42*(5), 1037–1043. https://doi.org/. https://doi.org/10.1177/0149206316643931

Zakiyah, Z. (2023). Pengembangan Model Permainan Engklek Untuk Meningkatkan Kemampuan Belajar Matematika Siswa Tunarungu. *SENTRI: Jurnal Riset Ilmiah, 2*(4), 1356–1365. https://doi.org/https://doi.org/10.55681/sentri.v2i4.752

Zulaikhah, D., Sirojuddin, A., dan Aprilianto, A. (2020). Analisis Pembelajaran Pendidikan Agama Islam Kurikulum 2013 Bagi Anak Berkebutuhan. *Docplayer.Com 1.1 (2020),* 54–71.