

The Assessment of Communication Ability on Deafblind Students

Tati Nurul Hayati, Rahman Rahman, Juang Sunanto and Lalan Erlani

Universitas Pendidikan Indonesia, Bandung, Indonesia

tati_nurul@student.upi.edu

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Abstract: The purpose of this study was to determine the deafblind student communication profile based on the assessment of research. The research method is descriptive qualitative with the data collection and how the communication learning that have been adjusted using several standard and non standard research instruments by the teacher. The research is conducted on three deafblind students aged 8-12 years. In communicating, some students made symbols of their own communications to the interlocutor. While the teacher learning is still modest and hasn't paid attention on considering the students' sensory conditions, so the results are less than the maximum. The results of the study show that the three students have medium low vision, nonverbal speech ability, and severe hearing ability. Participant 1 Hnf: low vision, hearing impairment, nonverbal and heart abnormalities, is less able to use his expressive language skills and less socializing. Participants 2 Dk: low vision, hearing impairment, nonverbal, is very active and communicate with his own sign language. Participant 3 Fz: low vision, hearing impairment, nonverbal, and is very active. His right eye and ear were not working well. The impact of the research needs the development of individual education program in sign language and enlarged picture media.

1 INTRODUCTION

Assessment of communication for students with sight and sound barriers (deafblind) a measure of the development of the necessary communications in accordance with the conditions of the students in detail. Communication is a prerequisite of life human interaction. Communication occurs when an individual sends a message to the other and that message received and understood (Downing & Falvey 2015). Communicative function is the way a communication partner perceives or interprets the meaning of a sender's message (Bruce, Godbold & Naponelli-Gold, 2004) In children with special needs, especially students who experience barriers sensory way of communicating is important to remember some of the obstacles that happened, a good student with impaired sensory both singles and doubles, because communication is one of the main needs of deafblind in addition to access to mobile and social interaction (Alsop, Blaha& Kloos, 2000). Children deafblind experience delays in the early stages of communication, namely interest and joint attention in communicating. (Nunez, 2013).

In people with barriers deafblind, 90% of their population, experienced an additional barrier to other

fine motor and cognition make a significant impact on language and cognition, while 20% of the population occurs as a congenital factor (Hunter & Killoran, 2004; Hartmann, 2012; Parker & Ivy 2014). Although deafblind implies an inability to vision and hearing, but most of them still have hearing or vision that is still functioning. (NCDB, 2007). Hearing loss in conjunction with visual impairments, the combination led to communications and other severe developmental and educational needs that cannot be accommodated in special education programs just for children with deafness or children with blindness alone (NCDB, 2007: 1). The catalyst in reducing the barriers is a particularly good communications between students and teachers, student with his colleagues and students with their parents. Interaction with people older or more mature speakers plays a very important role in helping to communicate. (Spencer-Oatey & Xiong, 2006). Several studies conducted Chen, 1999; Chen, 2014; Chen & Downing, 2006; Chen, Downing & Rodriguez-Gil, 2001; and Chen, Klein & Haney, 2007. These studies conclude on interventions and communication for deafblind children in accordance with the child's profile or characteristics is a series of research results into a baseline assessment of early intervention on the

deafblind. Bruce (2007) stated that most children who are deafblind from birth a very delayed in the development of communication and many do not reach the symbolic understanding and expression. This article discusses the development of a predictive marker or facilitative development of symbolism. These markers include growth towards a more abstract representation of the level of intentional communication. Deafblind students have different capacities to the level of vision and hearing, diverse social experiences, learning styles, and / or the impact of additional disability. Currently, there is no formal assessment of standards for students with deaf blindness. While some parts of the standard assessment can be used when assessing deafblind students. Assessors should be careful when interpreting the results of their assessment. (NCDB, 2007) Thus the assessment of the deafblind student to be very diverse and not rigid because of the diversity of the sensory level, communication skills and the influence of culture or customs in the local environment.

Studies on the communication development for deafblind students show the importance of the proper identifications in determining the programs and strategies which fit the needs of deafblind students, in case of the complexity of sensory capabilities (eg, the level of sharpness of vision and hearing) and the student learning experiences.

Deaf-blind people have many different ways of communication. The methods they use vary, depending on the causes of their combined vision and hearing loss, their backgrounds, and their education. (AADB, 2009) some communication needs can be done through:

1. Voice amplication system
2. Labial reading
3. Tactile Speechreading (tadoma method, tactiling)
4. Sign language:
 - Adapted (e.g. sign language in a narrow residual field of vision;in front of the face; tactile sign language, etc)
 - nonadapted
5. Fingerspelling
6. Print-on palm
7. Writing (e.g. Fingerspelling and Writing in the hand, Braille)
8. Pointing
9. Technological aids (Duquette, 2012:6)

This study is to get an initial picture profiles sensory abilities and communication skills as well as communication in learning. Therefore, the results of the assessment will generate profiles deafblind

students and some students will require alternative communication system, then every teacher needs to understand the realistic conditions of their students to sensory aspects and communication that can be arranged individual program that fits the needs of each individual.

2 METHODS

Research was conducted during the four months from August to November 2016 to take place in the Special School “Bina CitraAnak” Serang Regency, Province Banten. The research is conducted twice a week. The three Studentss Hnf, Dk and Fz are students deafblind of five (5) persons deafblind students in the school, and their teacher.

The research uses a descriptive qualitative research design. The subjects of the research are 3 deafblind students. Instrument of the Data collection: Interview instrument towards parents, teachers and principal. Observation Sheet of the Data is obtained to review the ability of Communication and Learning. Screening ability of vision, hearing and speech. The data collected is interpreted to be the profile of each students.

Table 1: Name of the object of study.

No.	Name	Age	Class	Teacher
1	Hnf	12	5	Fn
2	Dk	7	1	St
3	Fz	7	1	St

Design research using qualitative descriptive that is used to obtain information about the status or condition variable phenomenon situation.

2.1 Step 1: Planning

To collaborate with parents, principals and teachers as a data source. Collecting instrument interview, test / screening (modification of standard tests taken from: and to make nonstandard tests), observation and health documents and draw up a schedule

The test and the instruments used in the study for sensory screening, in addition to collecting the existing data from the expert tests, we were conducting a non-standard as a modification of several standard tests in case of adjusting them with the local culture and students' communication experiences.

Tests taken as the reference are Deafblind Assessment Guide of Oregon Health and Science.

Rowland (2009), Assessment of Deafblind Manual Access to Language Systems (ADAMLS) (Blaha & Carlson, 2007), to determine the level of communication The Communication Matrix (Ruesch & Bateson, 2006). Communication: The social matrix of psychiatry. Transaction Publishers.). The matrix provides a descriptive assessment that puts the child's communication in different areas as a characteristic of a certain level.

To get initial data of student ability, it is necessary observation and interview. Therefore prepared observation sheets and interview guides.

Observations conducted by researchers to observe deafblind students directly in learning and socialization in schools.

Interviews were conducted to parents to know the progress of the students from birth, interviews of teachers and principals conducted to obtain student communication data in the school environment.

2.2 Step 2: Implementation

The targets of research activities in the third assessment expected student is the student profile that includes: (1) the objective conditions of sensory and communication capabilities deafblind students; (2) Objective conditions deafblind student learning. To achieve these targets, the implementation of research activities carried out in the following manner: (1) the objective conditions of sensory abilities and communication students deafblind by: test nonstandard vision, hearing and speech, conduct interviews with ENT doctors, see test results vision capabilities of optometrists, as well as the observation of everyday behavior of students during the school day. Besides the interviews to teachers, principals and parents. Interview with the ENT doctor was made during a hearing screening for an hour to the condition of three students. The ability of vision seen from the test results of existing physician. To support the data do vision tests in nonstandard way of showing several objects at some distance, the students were asked to indicate the same thing, at a distance of few students do not recognize the object. Activities conducted with the participation of teachers and principals to record, record, and perform tests. Tests carried out at different times. A hearing test is done by playing a few things that sounded. Students turned assessor and holds two kinds of objects in accordance with the objects held assessor. Students are asked to indicate the object that emitted the assessor. Determination of ratings: on the distance and objects where students can not show correctly. Interviews conducted for one hour to each parent at different

times. Interviews were conducted to uncover the medical history and development of students, communication skills at home, habits and data that can support the other. Interviews were conducted also to the teachers and principals to find out how students communicate during the school day, either with teachers or peers or the school community. Besides, recorded interviews and observations are also recorded.

To obtain learning data, the researchers record the teaching and learning activities of students in each class, collect data from students' work, recording other learning activities outside of class time.

2.3 Step 3: Interpretating data

Discussion to describe the ability of young people today and their implications is needed for individual programs.

3 RESULTS AND DISCUSSION

3.1 Results

Data were collected through interviews and assessment conducted observation both to students, teacher and parents shows that:

3.1.1 Hnf Profile

Hanifa was 12 years old. Live at home with her parents. She was born with cataract congenital and has twice eye surgery at the age of 3 and 6 months. Leaking heart and until the age of five years overdue development. According to doctors all due to rubella virus. Her sight: The test results right eye left + 12 Looked the eyes are white, still can sense light, smiling and tilted his head when shown the light-colored objects and try to follow their movements, squinted toward the upper right to be able to focus view, unable to imitate the movement at a distance of 6 meters, not being able to recognize people / objects at a distance of 6 meters and always try closer to see clearly can not see the writing on the blackboard. Hearing:—Responds to spoken commands with the touch, Can be mimicked at a distance of 1 meter with a touch. There came when called from the front, unless the wave of a hand followed by a man known. It cannot respond to sound at a distance of 1-2 meters from the rear. Almost never sound just smiled and moaning if anyone does not like. Expression Communicative behavior: smiles, body movement,

head movement, growls, movement (take the desired own, do the work yourself interesting hands of the mother). Receptive communication: Understanding greetings, referrals, requests for attention. Tend to be passive, in the class just copy the work of teachers. Communication skills: At school more often with her mother and only eat food that was delivered mother. Any initiative in contact with other friends, If the atmosphere is bustling student cry. Attractive mother hand, if there is a desire that can not be done alone or whining. Enjoys flashlight, hp and dolls a smile is a sign of agreement or understanding. Implication and discussion: Provide support / increase in the use of the current movement in different contexts. Providing an opportunity to make a choice. Watched and noted the use of the symbols of objects. Support / improve responsiveness to touch cues, gestures, signs, and name, words spoken with touch gestures and actions when possible Need to be involved with her friends activities. Hnf need more taught socializing with friends and people around him. Several previous studies had no strategy / media communication through both the original image and compic, also assisted using visual cues. Modification of communication lies in the theme of content tailored to a child's learning experience and the immediate environment. Selecting the communication strategy to use depends on the ability of hearing, vision, and language of the person; cognitive abilities; comfort; and risk assessment. The more methods that people can use skilled, easier communication with the public (Miles & McLetchie, 2008).

3.1.2 Dk Profile

Dk was born in Serang, October 22th 2008. Known to have congenital cataracts after birth, and perform eye surgery at the age of 3 months. Developmental delay before 5 years. According to doctors exposed to rubella virus. Vision: Using glasses convex lens 16, directions vision focus on the front center, always closer in order to see more focus, some took off her glasses when feeling uncomfortable, very happy to see hp and a luminous object, sometimes often approached the classroom window and stood looking out. Can imitate finger movements facing position. Frequent squinting his eyes in order to focus. Hearing:—Very active, sometimes angry and kicks. Cooperative and willing to learn when already understand but if there are things that are not understood or disliked frequent head-banging. He have his own gesture of the family, like drinking milk with rubbing cheek. Speech: laughing, crying, has not release a meaningful words. In the first week in

school often uncontrollable tantrums and sometimes hurt himself or a friend. The new academic aspects of stage thicken letters or numbers. For the case of Dk, handling stages are analyzing the assessment results (Based on the assessment results Dk still be able to use his eyesight in a distance of 1.5 m (5 feet), hearing impairment and nonverbal. Right now, DK communicates limited with gestures only). Designing Individual Program in line with the sensory conditions. Determining the strategy to build his communication skills. (Dk is suggested to use his existed vision capabilities using an enlarged picture media provided with written and sign language to develop his expressive and receptive skills).

3.1.3 Fz Profile

After the birth of swelling of the right side of the head so long for treatment and 5 months punctuated oxygen. It affects the nervous eyes and ears that suffered heavy damage and leaves a meeting right ear cover ear hole. According to doctors exposed to rubella virus. Neural vision right eye and ear had collapsed and there is still little vision, left eye minus 7. See images at close range, Cannot focus in view, always tilt head, can be mimicked with guidance Can imitate finger movements less than one meter. Can follow the driven object at a distance of approximately 1 meter. Communication: Often laughing themselves and irregular noises. Using a simple gesture, responding to a contact from another person, such as replying to the greeting / touch and initiate contact to others in face to face. Not to understand commands directly. Speech: laughing, crying, has not release a meaningful words. Learning: Very active and show interest in learning, loved the pictures / photos in learning, learning materials thicken and connect the dotted line.

3.2 Discussion

Based on the results of assessment, Fz's right side vision and hearing abilities have not working anymore, while the left side vision capabilities working in (2/6 or 6/20 m feet, and the left hearing capabilities still be heard up to a distance of 1.5 m (5 feet), the speech ability: nonverbal.

The individualized program should be designed in accordance with the sensory conditions. Fz is able to use the enlarged image and the sign language within the left position.

Some studies related to persons with learning how to give deafblind as written Chen (1999) about the importance of early identification, early stage needs,

and prepare appropriate learning based on the child's information. Bruce (2007) that most children who are deafblind from birth a very delayed in the development of communication and many do not reach the symbolic understanding and expression. Then the impact of congenital deafblind require appropriate compensation strategies to support children's development

4 CONCLUSION

Persons with deafblind is a unique situation because it has two sensory barriers as well and can be accompanied by other obstacles. Hence the range of sensory abilities and unique communication it requires individualized learning program. In the aspect of communication mode of communication at the level of research subjects unconventional communication. Form of nonverbal communication, production, irregular sounds, gestures / gesture itself. children who are deaf blind / deaf-blind have no access for "incidental learning" and the information obtained through contacts with the child and the environment is often fragmented and distorted (Parker & Ivy 2014).

This study found three deafblind students who studied the effects of rubella virus. The assessment results indicate the condition of slow progress at the age of five, constraints on vision, hearing and speech. To communicate utilizing the existing vision, the use of symbols and images. Communication skills often use receptive language. Van Dijk (2006) empirical data on the development, interaction, communication, and language in children are very rare deafblind, \ "and suggested that the interaction analysis methods used for this study can be replicated and used in future research. In this study, teachers do not have a strategy that can be given to developing students' expressive communication. According to the results of research on the relationship deafblind student communication with educators noted the importance of improving the competence of teachers through in-house training (Janssen, Riksen-Walraven & Van Dijk, 2006).

The treatment stages for the deafblind students involves: Stage 1: analyzing the sensoric abilities (vision, hearing and spoken abilities). Stage 2: designing individual service program in accordance with the sensoric capabilities. Stage 3. Determining the strategies and media to the development of communication skills.

The results of this research is a description of the results of the assessment to 3 deafblind students and rubella virus caused an impact on barriers to vision,

hearing and speech. Participant 1 Hnf: low vision, hearing impairment, nonverbal and heart abnormalities, are less able to use expressive language and less socializing. Participants 2 Dk: low vision, hearing impairment, nonverbal, very active and communicate using symbols which he made herself. Participant 3 Fz: low vision, hearing impairment, nonverbal, very active. Eye and his right ear was not functioning. The impact of the results of this research needs the development of individual education program and media used in communication is sign language and the enlarged image. Communication skills often use receptive language. The impact of the results of this research needs the development of individual education program of students' communication which is related the student's profile The purpose of individualization is to "maximize the chances of every child to learn optimal "(McCormick, Wong, & Yogi, 2003, p. 212). The results of this study is a baseline and a recommendation for further research. There are several advanced research steps that can be done after this research are:

1. Preparation of Communication Development Program, in this program the researcher can determine one of the appropriate communication media for deafblind-lowvision students, Such as a picture symbol or sign language. Furthermore, in this program also researchers can discuss aspects of communication to be studied. Do vocabulary mastery through image media or expressive and receptive language abilities and so on.
2. The next step after the preparation of the Program is the validation of the Program. Validation is intended to get a correction or opinion of others to better the program validity. Validation may be performed by an expert who is competent in deafblind or by experts and practitioners.
3. Subsequent research that can be done after the compiled program is to test the use of the Program against deafblind students. From the test results can be measured the effectiveness of programs that have been made.

Thus, initial research on the assessment of deafblind students will open up opportunities for more specific and more beneficial research for students and teachers.

REFERENCES

- Alsop, L., Blaha, R., Kloos, E. 2000. *The intervener in early intervention and educational settings for children and youth with deafblindness*. UK: NTAC Briefing Paper.
- Blaha, R., Carlson, B. 2007. Assessment of deafblind access to manual language systems (ADAMLS). *National Information Clearinghouse on Children Who Are Deaf-Blind*.
- Bruce, S. P. 2007. Functions of unique and conventional gestures in children who are congenitally deafblind. *14th Dbl World Conference on Deafblindness Conference Proceedings*. Perth, Australia.
- Bruce, S., Godbold, E., Naponelli-Gold, S. 2004. *An analysis of communicative functions of teachers and their students who are congenitally deafblind*. 81-90.
- Chen, D. 1999. Learning to communicate: Strategies for developing communication with infants whose multiple disabilities include visual impairment and hearing loss. *Resources*, 10(5).
- Chen, D. (Ed.). 2014. *Essential elements in early intervention: Visual impairment and multiple disabilities*. New York: American Foundation for the Blind.
- Chen, D., Downing, J. E. 2006. *Tactile strategies for children who have visual impairments and multiple disabilities: Promoting communication and learning skills*. New York: American Foundation for the Blind.
- Chen, D., Downing, J., Rodriguez-Gil, G. 2001. Tactile learning strategies for children who are deaf-blind: Concerns and considerations from Project Salute. *Deaf-Blind Perspectives*, 8(2), 1-6.
- Chen, D., Klein, M. D., Haney, M. 2007. Promoting interactions with infants who have complex multiple disabilities: Development and field-testing of the plai curriculum. *Infants & Young Children*, 20(2), 149-162.
- Downing, J., Falvey, M. 2015. *The importance of teaching communication skills*. Baltimore, MD: Paul H. Brookes Publishing.
- Hartmann, E. 2012. A socio-cognitive approach to how children with deafblindness understand symbols. *International Journal Of Disability, Development, And Education*, 131-144.
- Hunter, D. J., Killoran, A. 2004. *Tackling health inequalities: Turning policy into practice*. UK: NHS Health Development Agency.
- Janssen, M. J., Riksen-Walraven, J. M., van Dijk, J. P. 2006. Applying the diagnostic intervention model for fostering harmonious interactions between deaf-blind children and their educators: A case study. *Journal of Visual Impairment & Blindness*, 100(2), 91.
- Miles, B., McLetchie, B. 2008. Developing Concepts with Children Who Are Deaf-Blind. *National Consortium on Deaf-Blindness*.
- National Cancer Data Base (NCDB). 2007. *The National Cancer Data Base Report*. Chicago, USA: Author.
- Nunez, M. 2013. *Joint attantion in deafblind children: a multisensory path towards a shared sense of the world*. Skotlandia: Glasgow Caledonian University.
- Parker, A. T., Ivy, S. 2014. Communication development of children with visual impairment and deafblindness: A synthesis of intervention research. *International Review of Research in Developmental Disabilities*, 46, 101-144.
- Ruesch, J., Bateson, G. 2006. *Communication: The social matrix of psychiatry*. New Jersey: Transaction Publishers.
- Spencer-Oatey, H., Xiong, Z. 2006. Chinese students' psychological and sociocultural adjustments to Britain: An empirical study. *Language, culture and curriculum*, 19(1), 37-53.
- Van Dijk, J. A. 2006. Digital divide research, achievements and shortcomings. *Poetics*, 34(4-5), 221-235.