(ISSN: 2455-8001)
Online

Vol 2, No:1-2017

INTERNATIONAL eJOURNAL
Disability Studies
Special Education & Rehabilitation

Development of Language and Communication Checklist for Students with Deafblindness

By

Shruti Bobade
Gayatri Ahuja

Abstract

Development of students with deafblindness (SDb) has been associated with communication, sensory integration and to know own environment often bares challenges in the environment. To date, very little is known about assessing the language and communication of young students with deafblindness. We examined the language and communication of 20 students with deafblindness, age 5-7 years, using a language and communication functional assessment checklist. Scoring of the checklist has been based on the dependent to independent level of performance to each item. Finding has shown that the developed checklist for this study was useful and reliable for analyzing the language and communication skills of the young students with deafblindness. It was also found useful for the students with deafblindness who are having additional disabilities. Statistical analysis showed significant correlation in domains responding, interacting and communicating of the area language and communication skills developed for young children with deafblindness. There are ongoing difficulties in students with deafblindness at young age, despite their good intellectual abilities and intrinsic skills. Further research is required to study the underline cause and factors functioning in development of language and communication skills.

Key Terms : Language and Communication Skills, Young students with Deafblindness

---

1.Designation:-Lecturer, NAB, Mumbai
2.Designation :-Lecturer in Special Education
Department of Education, AYJNIHH, Mumbai

Introduction

Deafblindness is a unique disability- a combination of visual and hearing impairment. Though the degree of deafness or blindness varies, the combination of dual sensory loss leads to unique problems in an individual's communication, mobility and their ability to access information. Because 95% of what we learn about the world comes through sight and hearing, deafblind children face unique challenges in communication, mobility and accessing information; making deafblindness one of the most isolating disabilities. Deafblindness is a low incidence disability and is hidden in community. There is no data available regarding the size of the deafblind population in India as, to date there has been no comprehensive study or research to determine the true incidence. Estimates, based on information gathered from community based projects, indicate that there could be more than 450,000 deafblind/ multiple disabled people in the country.

Deafblind children, therefore, face major challenges in learning. Due to limited vision and hearing these children face problems in communication, mobility and activities of daily living. Deafblindness causes such severe communication and other developmental and learning needs that the persons cannot be appropriately educated in special education programs solely for children and youth with hearing impairments, visual impairments or severe disabilities, without supplementary assistance to address their educational needs due to these dual, concurrent disabilities. Deafblind children are educationally isolated because impairments of sight and hearing require attentive and unique educational approaches in order to ensure that children with this disability have the opportunity to reach their full potential.

Assessing communicative abilities in children who are deafblind or who have multiple disabilities is a challenge, even for experienced professionals. Vision and hearing losses limit methods of communication which rely on these modalities. For some children, motor impairments may reduce the range of communicative behaviors or restrict communication to subtle actions that are easily overlooked. Because there are so many issues in assessing these children, the task is best approached with the mindset that are engaged in a process of discovery: discovering how to observe, elicit, and identify communication in a child whose abilities and limitations are truly unique; discovering how to acquire relevant information from teachers, parents, and others who know the child well; and discovering how to transform assessment information into an individualized educational plan. It is believing that accurate assessment of communication will lead to realistic educational goals and appropriate learning experiences, not only for communication, but across developmental domains.

Result of the study conducted by Jordan & Costello (2011) follows that, IDb often face challenges in the areas of assessment, exploration, mobility, communication, social skills, independent living, self-determination, functional academics and transition planning. Without an understanding of the unique challenges and needs of students with deafblindness, the setup and teaching strategies of a classroom may hinder the student's learning potential. Particular challenges faced by IDb are as follows:

Access to information

"For a student with deafblindness, the combined effects of the vision and hearing loss create barriers that significantly impede the ability to gather information from the environment. This causes chronic difficulties with incidental learning and concept development. Students cannot learn what they do not detect and they may be unaware of what they are missing. Access to information is a primary issue for all students with deafblindness.

Communication

The disability of deafblindness presents unique challenges to families, teachers, and caregivers, who must make sure that the person who is deafblind has access to the world beyond the limited reach of child's eyes, ears and fingertips. The most important challenge for parents, caregivers and teachers is to communicate meaningfully with the child who is deafblind.

Orientation and Mobility

The child who is deafblind needs help learning to move about in the world. Also lack the motivation to move outward in the first place. In many instances IDb may also have additional physical and health problems that limit their ability to move about.

Obretenova, Halko, Plow, Pascual, Merabet, and Frontiers (2010) this study used functional magnetic resonance imaging (FMRI) to explore the neural correlates associated with language processing in a 37-year-old man who is congenitally deaf and lost his vision due to trauma at age 6. It

compared the neural networks associated with three modes of tactile communication Braille reading, Print on Palm, and a tactile form of American Sign Language. With all three modes of tactile communication, identifying words was associated with robust activation within the brain's occipital cortical regions as well as posterior superior temporal and inferior frontal language areas. The authors write that the results demonstrate that in the case of early onset visual and auditory deprivation, tactile-based communication is associated with an extensive cortical network implicating occipital as well as

posterior superior temporal and frontal associated language areas.Pizzo, Bruce and Susan (2010) study explored the relationships between play and the development of communication in 11 students (aged 3 to 10 years) with multiple disabilities and visual impairments (5 children) or deaf-blindness (6 children). The parents and teachers of the students were asked to complete the Play Assessment Questionnaire, an observational measure designed to assess play behaviors. The Communication Matrix was used to assess the children's communication skills. The findings indicate that students with higher levels of communication demonstrate more advanced play skills and that the use of play-based assessment and exposure to symbolic play are important instructional considerations.Dammeyer (2010)the purpose of this study was to investigate the relationship, if any, between communicative abilities and cognitive function among persons who are congenitally deafblind. All 123 people in Denmark aged 18 and older who were known to be congenitally deaf-blind were included in the study. A questionnaire asking about demographic characteristics, medical problems, communication, and cognitive functioning were completed for 117 of the 123 individuals by personnel who worked with them (the majority were living in institutions for individuals with intellectual or sensory disabilities). Findings included the following: older age was associated with reduced cognitive function, limited communication abilities were associated with reduced cognitive function, and the more partners with education in deaf-blindness a person with deaf- blindness had, the better his or her communication abilities. Ingraham and Andrews (2010)this qualitative study used in-depth interviews to explore the language and reading histories of three deaf-blind adults. Each participant was interviewed for 1 hour. The participants reflected on how they learned language and how they learned to read as children. They also described the technology that assists them in reading print. The interviews were conducted in sign language, videotaped, transcribed into English, and analyzed. The findings suggest that deaf-blind adults use a variety of auditory, visual, and tactile- kinesthetic strategies (e.g., Braille, large print, and raised print) in decoding English.

Rational of the Study:

Deafblindness creates the unique condition in individual, as it's the combination of vision and hearing impairment. This combination of impairment creates other associated conditions in the children. This condition need to be assessed for successful educational planning. The need of the study is to make the individuals with deafblindness responsible contributor through building the individuals self-confidence in educational, social and economic area which will automatically reduce the dependency and improve the living skills towards more independency, in which the policies played very important role as it came out with the magic for IDb for complete inclusion in society and universal level. This created the demand for academic and social achievement for IDb to develop as one curriculum which will involve overall developmental areas.

Methodology

The main objectives of the study were:

1. To develop the language and communication checklist (LCC) for young children with deafblindness
2. To assess language and communication skills of young children with deafblindness
3. To find out correlation between sub domains of language and communication skills of students with deafblindness
4. To compare area wise performance level of language and communication skills with respect to range of impairment of children with deafblindness.

Children with deafblindness face major problem in communication and language because of dual sensory impairment. Ithas been recognized that they find difficulty to communicate even their basic needs to familiar people. Many of them are not able to participate in regular school. It was a felt need to assess their language and communication skill. This study concentrates on development as well as assessment of language and communication of the young children with deafblindness who are in 5 to 7 years of age group.

Method:

Selection of sample

Information was collected from 58 children from different institutes in Mumbai. The sample was selected from the cases registered and assessed by the qualified educators to confirm their range of impairment. Purposive sampling technique was used to select 16 cases from a total of 58 persons with deafblindness based on the following criteria.

Range of impairment

Table 1: Sample Selected for the Study

Sr. No	Early Intervention (0 to 7 years)	Total No of IDB=20
1.	Blind with Deaf	5
2.	Low vision with deaf	5
3.	Blind with moderate hearing loss	5
4.	Low vision with moderate hearing loss	5

To find out the difference in scores of assessment, sample was selected from four group base on range of impairment.

1. Age: though it was decided to limit the study for young children with deafblindness, the age criteria was kept as 5 to 7 years of age.
2. Gender: the females in the selected population were comparatively low in number than the male population. Therefore gender ratio has been kept as 4:1 (males: 16 and females: 4)

3. Other associated disabilities: without any disabilities with deafblindness

Instrumentation

As the objective of construction of the tool was to analyze the language and communication skills of young children with deafblindness, items were selected based on reviews and experts opinion from the field of deafblindness.

The following steps were used to develop language and communication checklist (LCC):

1. Selection of Items for Initial Tryout
2. Initial Tryout of Selected Items
3. Item Validity
4. Objectivity
5. The Final Tool "LCC"

The 109 items were arranged in a simple to complex form, so that the items can be select for initial tryout base on exhaustive, relevance and behavioral terms. The tool covered the following as main domains from opinion of expert group:

- Responding
- Interacting
- Communicating

In order to establish the validity of the items, tool was given to the 10 experts committee from the field of deafblindness. Items were validated from the experts on the basis of objectivity, appropriateness and clarity of the items. On the basis of opinion and remarks on the tool changes had been made accordingly.

Selection of items

Whenever it was not possible to clarify a particular item in behavioral terms, the particular item were made it more clearly by changing sentence construction of the item with the help of experts, so as to clarify and give clear instruction on its administration.From the second level consultation, few items have been modified and the final tool is prepared based on following criteria described by committee:

- Sentence structure
- Change of items
- Sequence arrangement

84 items from 109 items were selected based on the validation process and opinion of experts from the field.

Table 2: Domains and Items Selected for the Tool

Sr.No	Areas	Domains	Initial Pool	Rejected items	Selected Main Pool

1.	Communication and language	1.1 Responding	39	11	28
		1.2 Interacting	29	8	21
		1.3 Communicating	41	6	35
		Total	**109**	**25**	**84**

Discussion:

After validating the tool, it was used to collect the data from the selected sample. The investigator conducted the test individually and in small group with the help of parents and teachers. Row score were derived for each domain as well as the whole checklist depending on the individual performance. The score range from each item varied from 0 (totally dependent); 1(physical prompting); 2 (verbal prompting); 3 (clueing); 4 (totally dependent) respectively. A material kit was also prepared with the help of teachers for uses during the initial try out in order to facilitate objective assessment of each individual on the LCC. After testing, the data was filled in and prepared the final data tabulation sheet for the entire sample selected for the study.

Based on the two main objectives of the study, two major hypotheses were formulated to analyses, developed and assess language and communication checklist for young children with deafblindness. After the assessment mean score were analyzed using “F” and “Pearson correlation” test.

H0: “There will be no significant correlation between three domains of area language and communication checklist for young children with deafblindness”

Table3: Correlation of Selected Domains for Area Language and Communication Checklist

	Pearson Correlation		
Variable	**Domain1 (D1T)**	**Domain 2 (D2T)**	**Domain 3 (D3T)**
Language and communication skill (mean score: A_T)	0.94**	0.48*	0.80**

*correlation is significant at the 0.05 level

**correlation is significant at the 0.01 level

Table-3 shows the scores of correlation between three domains under the area of language and communication for young children with deafblindness namely responding, interacting and communicating. The mean score of domain 1 responding is 0.94, domain2 interacting is 0.48 and domain 3 communicating is 0.80, the correlation among three domains was significant at .01 and .05 level. It was found that all three selected domain in the area of language and communication checklist is positively and highly correlated with each other. Domains responding, interacting and communicating are well related with each other and well related in the area of language and communication checklist and hypothesis 1 is rejected.

The second hypothesis was H0: there will be no significant difference between mean score of area language and communication with mean scores of range of impairment of children with deafblindness.

Table 4: Result ofOnewayAnovaon Area Language and Communication With Range Of Impairment For Children With Deafblindness

Group	**N**	**Mean**	**Std.**	**Minimum**	**Maximum**

			Deviation		
Blind with Deaf	5	315.00	2.91	311	319
Low vision with deaf	5	314.60	6.54	306	322
Blind with moderate hearing loss	5	320.20	1.48	318	322
Low vision with moderate hearing loss	5	325.60	2.07	323	328
Total	20	318.85	5.77	306	328

F-ratio: 9.258, Sig: 0.01

Fig.1 Difference in Mean Score of Area Language and Communication with Mean Score of Range Of Impairments

Figure 1 shows mean score of area language and communication development with mean scores of range of impairment of children with deafblindness. Group 1 blind with deaf observed minimum score 311 and maximum score 319 with mean value 315.00 and std. deviation is 2.91. Group 2 low vision and deaf observed minimum score 306 and maximum score is 322 with mean value 314.60 and std. deviation is 6.54. Group 3 blind with moderate hearing loss observed minimum score 318 and maximum score 322 with mean value is 320.20 and std. deviation is 1.48. Group 4 low vision with moderate hearing loss observed minimum score is 323 and maximum score is 328 with mean value 325.60 and std. deviation is 2.07. F-ratio is 9.258 which is Significant at 0.01 levels. Highly significant difference was found when compared the mean scores of language and communication checklist between four groups based on range of impairments. One of the objectives set for the study was there would be no significant difference in the language and communication skill levels between ranges of impairment. Table 4 shows the significant difference between four groups. P-value is <0.01. Therefore, the difference is highly significant.Hypothesis two is rejected.

Referring to Indian and foreign tools relating to the analysis of the extent of language and communication skills by young children with deafblindness, the tool developed for this study has been found unique for the use of Indian children. The result of data analysis shows that the tool LCC could be used as individual education plan and assessment for the children with deafblindness with additional disabilities. As the study is limited to Mumbai, there is a scope for expanding the study at national level to modify the tool for better results if necessary. Therefore, LCC (5 to 7) is first of its kind, which has been validated on population with deafblindness for the detailed domain and item wise analysis.

Findings

The checklist language and communication skills (LCC) - (age group 5 to 7) developed for this study was found useful and reliable for analyzing the language and communication skills of the young children with deafblindness. It was also found useful for the children with deafblindness who are having additional disabilities.Statistical analysis showed significant correlation in domains responding, interacting and communicating of the area language and communication skills developed for young children with deafblindness.Statistical analysis showed significant difference in language and communication skills development of young children with deafblindness having the range of

impairments deaf with blind, low vision with deaf, moderate hearing loss with blind and moderate hearing loss with low vision. Therefore, on referring to the study, the proposed objectives were achieved.

Limitation of the study

Sample: it was a Mumbai city based study. As on the base of convenience of the investigator to assess the developed checklist, data for the study has been collected from Mumbai. Variable: the criteria set on sample selection for the study. Only children with deafblindness with deafblindness without any additional disabilities were selected for the study.

Scope of further research

There is possibility to extend the study at national level for further investigation. The result of the study can be a basis to develop curriculum for children with deafblindness with additional disabilities. The study as a guide for developing curriculum packages with other developmental areas for students with deafblindness. The methodology will be useful for developing assessment tools and study materials in other areas, which can be used in all the institutes for inclusive education of students with deafblindness.

Conclusion

The need of the study was felt as the investigator is working in the field of deafblindness as special educator. Due to the severe shortage of training courses specific to deafblindness, many people working in the field are untrained. Support providers may begin their work with people who are deafblind with feelings of inadequacy and apprehensiveness simply because they do not have even a basic knowledge of how to make contact or communicate with an individual who is deafblind.Perhaps the question most frequently asked is, "Where do you begin?"This study was conducted as an answer to the questions frequently asked by the parents of the children with deafblindness, “to what extent, my child can learn or educate in formal schooling system? How my child will be independent in his/her own life?” to a certain extent, the result of the study answers the above questions at some extent. No doubt, it is an eye opener to go deeper in further studies to develop tools and materials for other developmental areas for children with deafblindness with additional disabilities.

References

Costello, J. a. (2011). *A Guide for Students Who are Deaf-Blind Considering College .* United States of America : Helen Keller National Centre for Deafblind Youths and Adults.

Ingraham, C. L., & Andrews, J. F. (2010). Hands and Reading : What Deafblind Adults Readers Tell Us . *BRITISH JOURNAL OF VISUAL IMPAIRMENT, vol. 28, #2*, 130-138.

J., D. (2010). Congenitally Deafblind Children and Cochlear implants: Effects on Communication . *Journal of Congenitally Deafblind Children and Cochlear Implants*, 278-288.

Obretenova, H. P. ((2010)). More About Chchlear Implantation in Children with Charge Association. *Cochlear Implants International, Vol.11*, 187-191.

Pizzo, L., & Bruce, S. M. (2010). Language and Play in Students with Multiple Disabilities and Visual Impairments or Deaf-Blindness. *JOURNAL OF VISUAL IMPAIRMENT AND BLINDNESS vol. 104*, 287-297.

Ronnberg, J. & Borg, E. (2001).A Review and Evaluation of Research on the Deafblind from Perceptual, Communicative, Social and Rehabilitative Perspectives.Scandinavian Audiology, 30, 67– 77.

Rowland, C. (1990). Guide To Learning To Learn Model And Instructional Materials, Portland: Design To Learn.Http://Www.Designtolearn.Com

Rowland, C., Stillman, R. & Mar, H. (2009). Current Assessment Practices for Young Children Who Are Deaf-Blind. AER Journal: Research And Practice In Visual Impairment And Blindness, Vol. 3, #3, Summer 2010, Pp. 63-69.

Ryndak, D. & Alper S. (2003).Curriculum Content for Students with Moderate and Severe Disabilities In Inclusive Settings. Boston: Allyn and Bacon, spring, vol.8 Pp. 5-6.

Sauerburger, D. (1993). Teaching Deaf-Blind People To Communicate And Interact With The Public Critical Issues For Travelers Who Are Deaf-Blind Independence Without Sight Or Sound: Suggestions For The Practitioner Working With Deaf-Blind Adults. New York: Afb Press Volume 37, Number 3, Pages 109-116

Schalock M. (1990). Early Identification Of Infants Who Are Deaf-Blind (1990), National Consortium On Deafblindness, The American Journal Of Psychology.Vol. Iii, No. 3,

Scriven, M. (1967).The Methodology of Evaluation. In R.F. Stake (Ed.), American Educational Research Association Monography series: No.1. Curriculum Validation (pp. 39-83). Chicago: Rand McNally

Sense International, India, 2000, Disability Status India, Publish By Rehabilitation Council Of India, New Delhi

Shavelson, R. & Towne, L. (2002).Scientific Research in Education. Washington, Dc: National Academy Press. 17–19 Http://Books.Nap.Edu/Catalog/10236.Html

Shaw, H.& Sherry, S. (2005). Grandparent Involvement In The Communication Development Of Children Who Is Deafblind . Educational Gerontology, V31 N1 , 51-71

Siegel, C., Monmouth, E. & Bullis, M. (1989).Comparison of Intervention Strategies for Facilitating Non-symbolic Communication among Young Children with Multiple Disabilities. Research on the Communication Development of Young Children with Deaf- Blindness, Oregon State System of Higher Education.