



Foundational Literacy Skill And Its Achievement Among Children With And Without Hearing Impairment

***Ms. Deeksha Katyura**

Assistant Professor

**Jodhpur Badhir Kalyan Samiti,
Rajasthan**

**** DR. Suni M Mathew**

Lecturer

**Department of Education,
AYJNISHD(D), Mumbai**

Abstract

Foundational literacy skills, including reading, writing, and numeracy, are crucial for children's education and empowerment. The development of these skills is typically formal and is frequently acquired during the initial years of school education. The National Education Policy (NEP) 2020 places significant emphasis on attaining literacy among children at the very foundational stage itself. The National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN), Bharat (2021) provides grade-wise skills for students' mastery and aims at achieving basic foundational literacy skills by the end of grade 3. As four years are passed by, it is essential to reflect and bring out research based evidence as to whether the children, irrespective of their differences, are achieving the grade wise literacy skills as emphasised in NIPUN Bharat. The present researchers selected 'reading with understanding' from NIPUN Bharat guidelines as a representative foundational literacy skill for the study. The research design followed was of descriptive survey. The methodology chosen was to select two groups, namely 30 children with hearing impairment (Group – A) and 30 children without hearing impairment (Group – B) and to study the grade -I achievement level in 'reading with understanding' as per Nipun Bharat guidelines. The study further explored whether there exists a significant difference in achievement between the groups. The required data was collected through a test

developed by the researchers and validated by the field experts. Descriptive statistics and 't' test were administered, and the result of the study revealed no significant difference between the achievement of the groups in reading with understanding as per Nipun Bharat guidelines. However, the levels of achievement were not the same amongst the groups.

Keyword: Foundational literacy skill, achievement, children with hearing impairment, children without hearing impairment.

Introduction

Schools are the formal institutions that offer durable foundation for young ones in the beginning years. In its narrow sense, the primary goal of school education is to equip children with the foundational skills of literacy. A sound primary education facilitates children for pursuing secondary and college education. Primary education initiates skill development in various areas and prepares them for formulating strategies for addressing the micro and macro challenges that they might encounter in the coming years. India has made considerable progress in primary school education in terms of school access, infrastructure, pupil-teacher ratio, teacher salary, student enrolment, curriculum, teaching-learning strategies, etc, in the past two decades. The NEP (2020) brought out radical changes in the education structure and practices, altering the Indian Education System with a lot of emphasis on early

childhood care and education, during the foundation stage.

Amongst children, children with hearing impairment (CwHI) form a minority group among children and they have their own needs. Majority of the CwHI are in the educable bracket. The Government, being a signatory member of the United Nations Convention on the Rights of Persons with Disabilities (2006), BIWAKO Millennium Framework (2002) is committed to safeguarding the rights of disabled including their education. The Rights of Persons with Disabilities Act (2016) also promotes the education of CwHI. Many national and state agencies have been actively involved in promoting the education of CwHI in special as well as mainstream schools.

One of the goals of education during the foundational stage in all these schools is the development of literacy skills. An individual is considered to be literate s/he has attained the fundamental knowledge and abilities that allow

them to participate in all activities that require literacy for effective functioning in the society, and when their accomplishments in reading, writing, and math allow them to keep using those abilities for their own and the community's development (Anstey & Bull, 2018). The foundational stage in schools offers a strong base for literacy development.

Reading is a foundational literacy skill. Deciphering, comprehending, and applying written or printed symbols to generate meaning are the cognitive processes of reading. It involves recognizing and interpreting the individual letters, phrases, and sentences visually before understanding the information, narrative, or message that the text is attempting to express. Decoding the words is not the only step. It also involves understanding the text's context, making inferences, and interpreting it. The subskills of reading that are developed in the very early years of schooling include phonics, phonemic awareness, sight vocabulary, reading with comprehension, and expression. In 2021, the Ministry of Education (MoE) launched 'NIPUN Bharat' with the mission that every child should be proficient in foundational literacy skills, which includes reading with understanding, numeracy, and third writing by the end of grade-III. As per the guidelines, the skill development should be age and grade-wise

appropriate. The indicators included under reading skill for grade-I are (i) participates during read-aloud/storytelling session in an active way and answers questions during and after story session; acts out familiar story with props and puppets;(ii) uses sound-symbol correspondence to write words with invented spellings;(iii) child reads small sentences consisting of at least 4-5 simple words in an age-appropriate unknown text.

Trybus and Karchmer (1997) reported that by the end of high school, the reading ability of deaf is typically at a fourth-grade level only. In Asghar's (2009) study, it was revealed a significant disparity in reading literacy and comprehension of literal content between students with normal hearing and those who were completely hearing impaired. The study reported a notable difference in understanding information content between students with normal hearing and those with hearing impairment. Studying the foundational literacy skill of children who have completed grade-I is crucial for several reasons. This forms the basis to understand the status of achievement of each of these skills among both groups of children with and without hearing impairment. It will also help to understand the gaps if any between 'what is required' and 'what is achieved'. In the case of children who have not achieved mastery, remedial activities could be planned and initiated to

compensate for the loss before they complete grade-III. Hence, a survey was undertaken with the objective of studying and comparing the achievement levels of grade-I children with and without hearing impairment in 'reading with understanding' as per Nipun Bharat guidelines.

Method

Descriptive survey approach was considered to study and compare the achievement of Group-A & B in 'Reading with Understanding' based on the NIPUN Bharat guidelines for grade-I. Best and Kahn (2006) observed that a descriptive survey as a research design that aims at describing, recording, analyzing, and interpreting existing conditions that yield valid and reliable education research results. Hence, a descriptive survey was followed for the present study.

Participants

In order to study and compare the foundational literacy skill of 'Reading with Understanding' of children with and without hearing impairment of grade- I, 30 students with hearing impairment from special schools (Group-A) and 30 without hearing impairment from mainstream schools (Group-B) were randomly selected using lottery method as participants for the present study. All of them had completed grade-I and are enrolled in grade-II during the current

academic year. The researchers took permission from the principals of both special and mainstream schools in Mumbai prior to the selection of participants. Group -A had hearing loss of 60 dB or more in the better ear, while Group-B had hearing within the normal limits.

Tool

A teacher-made test was developed based on guidelines given by NIPUN Bharat for grade-I for data collection. The below table shows the foundational literacy skill, subskills included as a part of tool development.

Table 1. Planning of the test

Skill	Subskills	Mark s	Item s
Reading with Understan ding	Participates during read- aloud/storytelling sessions in an active way and answers questions during and after the story session; acts out the	20	20

familiar story with

props and puppets

Uses sound-

10

10

symbol

correspondence to

write words with

invented spellings

Reads small

10

10

sentences

consisting of at

least 4-5 simple

words in an age-

appropriate

unknown text

Total

40

40

Initially, a total of 65 items were developed for tool validation. The draft tool was validated with the support of 5 subject experts. From the items marked as 'relevant' by the majority of the judges, 40 items were finalised. Pilot study was carried out on two children with and without hearing impairment. The feedback received was reviewed and incorporated while finalising the test in Hindi and English. Thus, the final test was ready for use. The sample items are given in table 2.

Table 2. Sample items in the developed test**Sample items with subskills**

Subskill – 1 Evaluation of based on the storytelling

Items-

1. Give eye contact with the teacher while storytelling (Always, sometimes, Never)
2. Asks questions to the teacher while storytelling (Always, sometimes, Never)
3. Pays attention, when the teacher corrects his/her mistakes (Always, sometimes, Never)
4. Attempts to retell the story in his/her own way (Always, sometimes, Never)

Subskill – 2 Uses sound-symbol correspondence to write words with invented spellings.

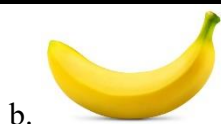
Items-

1. Show me the word that ends with /a/ (banana, ant, lion)
2. Show me the word that has /k/ in the middle (kite, donkey, chalk)
3. See the pictures and rearrange the alphabet accordingly



a.

R	E	T	E
---	---	---	---



N	A	B	N	A	A
---	---	---	---	---	---

iii) The boy is climbing ☐

iv) The boy is jumping ☐

4. Look at the picture and write the correct name.





5. Read and say aloud or sign

a. Monkey

b. Where is my pen?



i) The boy is at the hospital ☐

ii) The boy is at the hotel ☐

iii) The boy is at the school ☐

iv) The boy is at the home ☐

2. Read the given sentence and do as directed

a. Stand up and jump once

b. Clap your hands

c. Keep your pencil on the table

Subskill – 3 Reads small sentences consisting of at least 4-5 simple words in an age-appropriate unknown text.

Items-

1. Look at the picture and tick mark the correct sentence



i) The boy is running ☐

ii) The boy is walking ☐

Data collection

As a part of the data collection procedure, the first step carried out by the researchers was to contact the selected special and mainstream schools. Letter for permission was given to the respective school principals personally, and the schedule for data collection was finalized. Based on the schedule, the developed test was administered on both Group– A and B personally. All the 30 answer scripts of students with hearing impairment (Group – A) and 30 answer scripts of students without hearing

impairment (Group – B) were collected and evaluated. Descriptive statistics and 't' test were used for data analysis.

Results

Achievement of Literacy skill 'Reading with Understanding' among Group-A & B.

The 't' test for equality of means was applied for testing the null hypothesis. The calculated value of 't' was 0.823 and the corresponding 'p' value at degree of freedom (df) 58 was found to be 0.414, which was more than the standard value of 'p'(0.05). Thus, the result obtained was that there exists no significant difference between the achievement of children with and without hearing impairment in the foundational literacy skill of 'Reading with Understanding' of grade-I as per NIPUN Bharat guidelines.

Levels of achievement of Grade-I children with and without hearing impairment in 'Reading with Understanding'.

The researchers attempted to answer the question of what percentage of grade-I CwHI has (i) good (ii) average (iii) poor achievement in 'Reading with Understanding' as per NIPUN Bharat guidelines. The marks obtained by the CwHI (Group-A) on administration of the test were considered. In order to determine the levels of achievement, the researcher calculated the mean and standard

deviation of Group- A from the obtained scores. The obtained value of mean was '23.12' and the standard deviation was '8.43'. The obtained value of 'Mean + 1Standard Deviation' was 31.55 (32) and 'Mean - 1Standard Deviation' was 14. 69 (15). Those who obtained a score within the range 0-15 were considered as 'poor' achievers, and those who scored within the range >15-32 were considered as an 'average' achievers, and those who scored within the range >32-40 were considered as a 'good' achievers. The percentage of CwHI and their levels of achievement are mentioned in table 3.

Table 3. Levels of Achievement in 'Reading with

Understanding' of Group- A

From Table 3, it can be observed that out of the

Sample	Level of achievement		
30	Good (>32-40 marks)	Average (>15-32 marks)	Poor (0-15 marks)
Percentage of Children with hearing impairment	4 (13.33%)	22 (73.33%)	4 (13.33 %)

total number of CwHI (Group-A) participated in the study, the achievement in 'Reading with Understanding' of only 13.33% (4 children) were found to be 'good ', while the achievement of 73.33% (22 children) was found to be 'average' and the remaining 13.33% (4 children) was 'poor'. Thus, the result obtained was the achievement in 'Reading with Understanding' of 13.33% of grade-I CwHI was good, 73.33% average and the remaining 13.33% was poor.

In order to answer the research question of what percentage of grade-I children without hearing impairment has (i) good (ii) average (iii) poor achievement in 'Reading with Understanding' as per NIPUN Bharat guidelines, the marks obtained by the children without hearing impairment on the administration of the test were considered. The obtained values of mean (24.72) and the standard

deviation (6.51) were used for calculating the levels of achievement. Those who obtained a score within the range 0-18 were considered as a 'poor' achievers, and those who scored within the range >18-31 as an 'average' achievers and those who scored within the range >31-40 will be considered as a 'good' achievers. The percentage of children without hearing impairment and their levels of achievement are mentioned in table 4.

Table 4. Levels of Achievement in Reading with

Understanding of Group- B

Sample	Level of achievement		
30	Good (>31-40 marks)	Average (>18-31 marks)	Poor (0-18 marks)
Percentage of Children without hearing impairment	7 (23.33%)	17 (56.66%)	6 (20 %)

From Table 4, it can be observed that out of the total number of children without hearing impairment, the achievement of 7 children (23.33%) were found to be 'good' in reading with understanding while achievement of 17 children (56.66%) were found to be 'average' and the remaining 6 children (20%) were 'poor'. Thus, the result obtained was that the achievement in Reading with Understanding of 23.33% of grade-I children without hearing impairment was good, 56.66 % average and the remaining 20% was poor.

Educational implications

The philosophy and practices in education of children are undergoing significant changes in the modern era. The development of skilled manpower is a greater focus of modern education, which makes everyone more employable. A skill component is now necessary for all forms of learning at all levels. Literacy skills like reading during the foundational stage of schooling are the

basic and essential skills to be learnt by all children.

This is especially important for CwHI to get ready for independent living despite the challenges that come with their hearing loss. Therefore, skill development is highly emphasized in both special and mainstream schools from the very beginning of schooling. The present research study brought out the evidence that there is no difference in the achievement of literacy skills of reading with understanding among Group A & B. The result could be discussed in the light of the early identification and intervention of Group-A.

The impact of hearing loss on the early development of a child's language, cognition, and social-emotional competence can be pervasive. When CwHI of early onset, even of a relatively mild degree, the development is often delayed. Such delays adversely affect language development initially, if not prevented, and adversely affect communicative, academic, and social success of children. The only way to reduce the impact of hearing loss in children is to identify them at the earliest and offer early intervention. The importance of early intervention for CwHI is well documented in the literature. Research studies suggest that if children with hearing loss receive comprehensive intervention services by the age of 6 months or before, they can achieve language abilities similar to their hearing peers (Copley &

Friderichs, 2014). The research of Yoshinaga-Itano et. al (2000) indicates that children who receive late diagnosis of hearing loss tend to have poorer reading comprehension and language skills than those diagnosed before the age of six months. Since most of the CwHI (Group-A) had early intervention as a part of school readiness before their entry to standard one, they could perform equally with that of their hearing peers. Additionally, the teachers emphasize a lot on developing phonic skills, phonemic awareness, and sight vocabulary right from the start of the intervention. Early exposure to oral reading and reading from print helps the reading development in children at a very early stage. It may also be noted that teachers take follow-up lessons that facilitate not only language development but also early literacy skills like reading readiness. Some of the skills selected from Nipun Bharat guidelines are not very new to CwHI. In fact, they had been exposed to these skills at their early intervention centres before their entry to Grade-I and got reinforced when they entered Grade-I. Hence, group-A children could perform at par with Group-B in reading with comprehension.

In contrary to the above result, the levels of achievement of group-A & B in reading with understanding differed. The achievement of many of the children with and without hearing impairment is only at the average level. A small

percentage of the children in both groups performed poor in reading as compared with the other children who participated in the study. Thus, the trend observed in Group –A was more or less similar to that of Group-B.

Literacy development is one of the objectives of early childhood education. The school readiness programmes aim to prepare children with and without hearing impairment with the requisite reading readiness skills. Deafness drastically reduces both the quantity and the quality of linguistic input available and accessible to such children. Since reading is a linguistic activity, language delays or gaps negatively affect CwHI. Some of them compensate the loss through mediated instructions, thereby achieving skills in reading in primary classes, which might have turned their level of achievement as 'good'. On the other hand, a small percentage of CwHI continue to lag behind the other CwHI peers, which results in poor achievement. In the case of children without hearing impairment, there is no language delay in the majority of the cases. However, the pre-primary education designed for them does not give greater emphasis of reading readiness skills. Hence, some of these children in Group-B might have entered the primary classes with a weak foundation and are not ready to develop the requisite skills in reading. Hence, they could not perform as that of others in

Group-B. Reading skill development is also influenced by the quality of teaching-learning, parental support, nature and type of reading materials, abilities, and interest in children. All these might have influenced the result. Hence, all efforts need to be made by all stakeholders to achieve the mastery of foundation literacy skills like reading with understanding in all types of children studying in both special and mainstream schools as per NIPUN Bharat guidelines for promoting them to pursue higher education.

References

Anstey, M., Bull, G., (2018, May 3). Foundations of Multiliteracies. Routledge eBook.

<https://doi.org/10.4324/9781315114194>

Asghar, M., Khalid, L. (2021, May). Exploring Institutional Support for Inclusion of Hearing-Impaired Learners in Regular Primary Schools. *International Review of Social Sciences*, 9(5), (258-270). DOI: 10.13140/RG.2.2.12467.76328

Asian and Pacific decade of disabled persons, 2003-2012: Biwako millennium framework for action: towards an inclusive, barrier-free and rights-based society for persons with disabilities in Asia and the Pacific. (n.d.). ESCAP.

<https://www.unescap.org/resources/biwako-millennium-framework-action-towards-inclusive-barrier-free-and-rights-based-society>

Department of School Education & Literacy

Ministry of Education Government of India. (2021). *National Initiative for Proficiency in Reading with Understanding and Numeracy: A National Mission on Foundational Literacy and Numeracy.*

https://www.education.gov.in/sites/upload_files/mhrd/files/nipun_bharat_eng1.pdf

Itano, C., Sedey, A., Coulter, D., Mehl, A., (1998, November 1). *Pediatrics: Language of Early- and Later-identified Children With Hearing Loss.* 102(5), (1161-1171). The American Academy of Pediatrics.

<https://doi.org/10.1542/peds.102.5.1161>

Ministry of Human Resource Development,

Government of India. (n.d.). *National Education Policy 2020.*

https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Parliament. (2016). THE RIGHTS OF PERSONS WITH DISABILITIES ACT, 2016. In THE RIGHTS OF PERSONS WITH DISABILITIES ACT, 2016.

<https://www.indiacode.nic.in/bitstream/123>

[456789/15939/1/the_rights_of_persons_wi
th_disabilities_act%2C_2016.pdf](https://www.unicef.org/education/primary-education)

[https://www.unicef.org/education/primary-
education](https://www.unicef.org/education/primary-education)

Rottenberg, C.J. (2001, July 3). A Deaf Child

Learns to Read. *American Annals of the*

Deaf 146(3), 270-

275. <https://dx.doi.org/10.1353/aad.2012.0>

[107](https://dx.doi.org/10.1353/aad.2012.0)

Trybus, J., Karchmer, A., Robert, D. (1997, April).

American Annals of the Deaf: Educational

Programs and Services. 122(2), (61-172).

Gallaudet University Press.

<https://www.jstor.org/stable/44399687>

UNICEF, (2019). *Primary Education: Children*

need primary education to develop critical

foundational literacy and numeracy skills.

