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Sight Word Learning Approach To Enhance Speech And Language Skills In Children With Hearing Impairment

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Abstract

Children with hearing impairment often experience significant challenges in the development of speech and language skills due to limited auditory input, which affects vocabulary acquisition, sentence formation, and functional communication. Sight word learning has emerged as an effective instructional approach that supports visual recognition of frequently used words and facilitates meaningful language use. The present study aims to examine the effectiveness of a sight word learning approach in enhancing the speech and language skills of children with hearing impairment. A structured intervention program incorporating visual cues, repetition, flashcards, picture–word association, and functional language activities was implemented over a specified period. A pre-test and post-test research design was adopted to assess improvements in receptive and expressive language skills. The findings revealed a notable improvement in word recognition, vocabulary usage, sentence construction, and functional communication abilities among the participants following the intervention. The results suggest that sight word instruction plays a significant role in strengthening speech and language development in children with hearing impairment by promoting visual learning and consistent language exposure. The study highlights the importance of integrating sight word learning strategies into speech and language intervention programs to support effective communication and academic readiness in children with hearing impairment.

Keywords: sight word learning, hearing impairment, speech and language development, multisensory instruction.

Introduction

Hearing impairment significantly influences the development of speech and language skills in children, as auditory input plays a crucial role in the natural acquisition of spoken language. Children with hearing impairment often experience delays in vocabulary development, sentence structure, phonological awareness, and functional communication due to restricted or distorted access to spoken language **(Moeller, 2000; Paul & Whitelaw, 2011**). These challenges may persist even with amplification devices such as hearing aids or cochlear implants, especially when early and consistent language exposure is limited.

Speech and language deficits among children with hearing impairment can negatively affect academic achievement, social interaction, and overall quality of life. Difficulties in recognizing and producing words, forming grammatically correct sentences, and using language meaningfully in daily contexts are commonly reported (**Marschark & Hauser, 2012**). Therefore, there is a critical need for instructional approaches that are visually accessible, structured, and developmentally appropriate to support language learning in this population.

Sight word learning has emerged as an effective instructional approach for enhancing language outcomes among children with diverse learning needs. Sight words are commonly used, high-frequency words that are recognized instantly without the need for phonetic decoding. Instruction in sight words emphasizes visual recognition, repetition, and meaningful usage, making it particularly suitable for children with hearing impairment who rely heavily on visual cues for language acquisition (Browder et al., 2020). By strengthening direct word recognition, sight word learning supports vocabulary development, reading fluency, and expressive language skills.

Sight word instruction can facilitate improvements in functional communication, word comprehension, and expressive language when implemented through systematic and multisensory teaching strategies **(Alquraini & Gut, 2019**). For children with hearing impairment, pairing sight words with visual symbols, gestures, and contextualized practice can bridge the gap between word recognition and meaningful language use. This approach aligns with visual learning strengths and reduces dependence on auditory processing alone.

Despite growing evidence supporting sight word instruction for learners with intellectual and developmental disabilities, limited research has specifically examined its effectiveness in enhancing speech and language skills among children with hearing impairment. Given the visual accessibility and structured nature of sight word learning, further investigation is warranted to explore its potential as an intervention strategy for improving receptive and expressive language abilities in this population.

The present study aims to examine the effectiveness of a sight word learning approach in enhancing the speech and language skills of children with hearing impairment. By implementing a structured sight word intervention program, this study seeks to contribute empirical evidence to the field of special education and

provide practical insights for educators and speech-language professionals working with children with hearing impairment.

Review of Literature

Moeller (2000), through a longitudinal investigation of early language development in children with hearing impairment, concluded that limited auditory access significantly affects vocabulary acquisition and expressive language growth, emphasizing the need for visually accessible instructional approaches to support early word learning.

Mayer and Trezek (2018) reported that children with hearing impairment benefit substantially from visually based reading instruction, including sight word recognition, as it reduces reliance on phonological decoding and supports direct word identification, particularly for students with delayed spoken language skills.

Lederberg et al. (2019) found that deaf and hard-of-hearing students demonstrated improved word recognition and expressive language use when literacy instruction incorporated high-frequency sight words alongside visual supports and repeated exposure, highlighting the importance of structured and explicit teaching.

Antia et al. (2020), in a large-scale review of academic outcomes of students with hearing impairment, noted that functional reading skills such as sight word recognition play a critical role in classroom participation and communication, though instructional practices varied widely across educational settings.

Nittrouer et al. (2021) reported that children with hearing loss showed stronger receptive and expressive language outcomes when instructional methods emphasized visual word recognition rather than auditory-only phonological approaches, supporting the relevance of sight word-based strategies.

Robertson and Deacon (2022) demonstrated that visually supported word recognition instruction significantly improved vocabulary knowledge and sentence-level language performance among early elementary children with hearing impairment, suggesting that sight word learning contributes to broader language development.

Wang et al. (2023), using a quasi-experimental design, found that children with hearing impairment who received structured sight word instruction showed significant gains in functional vocabulary and expressive language compared to peers receiving conventional phonics-based instruction, underscoring the effectiveness of visual word learning approaches.

Marschark et al. (2023) reported that literacy interventions incorporating high-frequency sight words enhanced both reading fluency and communicative competence in deaf learners, particularly when instruction was embedded in meaningful, real-life contexts.

Deaf and hard-of-hearing students participating in a visual literacy intervention emphasizing sight word recognition demonstrated improved generalization of learned words to everyday communication situations, though variability in expressive speech outcomes was observed (Lund & Schuele, 2023).

Most recently, Spencer and Marschark (2024) concluded that sight word learning, when combined with visual scaffolding and contextual language use, supports language comprehension and expressive communication in children with hearing impairment; however, they emphasized the need for more intervention-based studies directly measuring speech and language outcomes.

Although existing studies support the effectiveness of sight word learning for literacy development in children with hearing impairment, limited research has explicitly examined its impact on speech and broader language skills, indicating a clear need for focused intervention studies in this area.

Objective of the study

1.To find out the current level of receptive and expressive language skills of children with hearing impairment

2.To evaluate the effectiveness of sight word learning approach to enhance the receptive and expressive language skills of children with hearing impairment.

Research question

RQ1.What is the current level of receptive and expressive language skills of Children with hearing impairment?

RQ2.To what extent sight word learning approach helps to enhance the receptive language skills

RQ3.To what extent sight word learning approach helps to enhance the expressive language skills

Methodology

Sampling design

Children with Hearing impairment

Gender	Male	5	10
	Female	5	
Age	6-8yrs	5	10
	9-11yrs	5	

Variables

Demographic variables: Gender (male, female), Age (6 -11yrs), moderate level hearing impairment.
Category: Children with Hearing impairment who has speech and language difficulties

Dependent variable: Improvement in speech and language skills (receptive and expressive)

Independent variable: Sight Word Learning Approach (SWLA)

Exclusion criteria: Children with profound and associated conditions and multiple disabilities

Research Design

This study employed a single- group, quasi-experimental design with a pre-test/post-test design to examine the effectiveness of a sight word learning approach on speech and language development in children with hearing impairment

Data collection procedure

Baseline assessment

The baseline assessment evaluated the existing receptive and expressive language age of children with hearing impairment. Using standardized tool REELS before the intervention to identify current performance levels and to measure progress after sight word instruction.

Intervention programme/plan

Procedure

The intervention was conducted over a period of 24 weeks, with assessments administered before and after the program to measure the improvements in receptive and expressive language skills of children with hearing impairemnt.

The sight word learning intervention was designed to build vocabulary, speech clarity and sentence formation. The following list of sight words (e.g., வா, போ, தா) were selected on the basis of curriculum relevance and the communicative needs of the children.

S.No	Sight words		S.No	Sight words	
1	ஆம்		11	நிறுத்து	
2	இல்லை		12	காத்திரு	
3	வா		13	பார்	
4	போ		14	கேள்	
5	தா		15	திற	
6	குடி		16	மூடு	
7	உட்கார்		17	இன்னும்	

8	நில்		18	முடிந்தது	
9	எடு		19	உதவி	
10	கொடு		20	இங்கே வா	

***Source**: Adapted from Dolch sight words (Dr.Edward William dolch 1936)*

Each session consists of 1 hour. This continues for five times per week. In total the sessions were conducted for 60 days as follows:

Week 1	ஆம் இல்லை வா போ தா	1 day*1hr*5days=5hrs
Week 2	குடி உட்கார் நில் எடு கொடு	1 day*1hr*5days=5hrs
Week 3	நிறுத்து காத்திரு பார் கேள் திற	1 day*1hr*5days=5hrs
Week 4	மூடு இன்னும் முடிந்தது உதவி இங்கே வா	1 day*1hr*5days=5hrs
Week 5 to week 12	Repeated the same 20 sight words	1 day*1hr*5days=5hrs 8weeks*5hrs=40hrs

Total =12*5hrs=60hrs

The intervention was carried with the following instructional aids:

a. Visual presentation of words using flashcards

b. Multisensory activities, such as matching games.

c. Use of low-tech aids, including flash cards and visual cues

Post test/evaluation

The post-test evaluated the receptive and expressive language skills of children with hearing impairment determine the effectiveness of the Sight Word Learning Approach among the samples.

Results and Discussion

Objective 1

To find out the current level of receptive and expressive language skills of Children with hearing impairment.

RQ.1What is the current level of receptive and expressive language skills of children with

hearing impairment?

Table 1: Baseline assessment of receptive and expressive language age of children with hearing impairment

Child	Gender	Age	Receptive language (RLA)	Expressive language (ELA)
Child 1	Male	6yrs	2.5yrs	2yrs
Child 2	Male	7yrs	2yrs	1.5yrs
Child 3	Male	8yrs	3yrs	2.5yrs
Child 4	Male	9yrs	4yrs	2.5yrs
Child 5	Male	10yrs	6yrs	3yrs
Child 6	Female	7yrs	3yrs	1.5yrs
Child 7	Female	8yrs	4yrs	2.5yrs
Child 8	Female	9yrs	4yrs	2yrs
Child 9	Female	10yrs	4.5yrs	2.5yrs
Child10	Female	10yrs	4yrs	3yrs

The baseline assessment indicates that all children exhibited receptive and expressive language abilities significantly below their chronological age. Receptive language age was consistently higher than expressive language age across participants, reflecting relatively better comprehension than verbal expression. These findings highlight a pronounced delay in expressive language development among children with hearing impairment, underscoring the need for targeted language intervention.

Objective 2

To evaluate the effectiveness of sight word learning approach to enhance the receptive and expressive language skills of children with hearing impairment

RQ 2. To what extent sight word learning approach helps to enhance the receptive language skills of children with hearing impairment

Table 2: Receptive language skills pre and post test scores for CwHI

Measure	Mean	Standard Deviation (SD)
Pre-test	6.50	2.51
Post-test	18.50	1.27
Difference (post−pre)	12.00	2.36

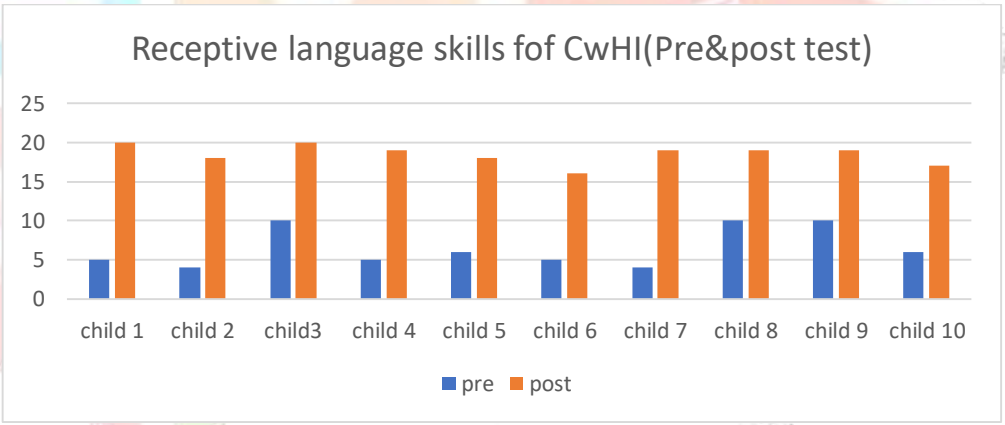

Figure 1: Shows the Pre and Post Scores of Receptive Languge Skills CwHI

The mean score increased from 6.50 in the pre-test to 18.50 in the post-test, indicating substantial improvement following the intervention. The mean difference of 12.00 reflects a marked gain in performance across participants. A reduction in standard deviation from pre-test to post-test suggests more consistent outcomes after intervention.

The graph shows a clear improvement in receptive language scores for all children from pre-test to post-test following the intervention. This consistent increase indicates that the intervention was effective in enhancing receptive language skills among children with hearing impairment.

RQ3.To what extent sight word learning approach helps to enhance the expressive language skills

Table 3: Expressive language skills pre and post test scores for CwHI

Measure	Mean	Standard Deviation
Pretest	5.90	1.20
Post test	14.70	2.16
Difference	8.80	1.62

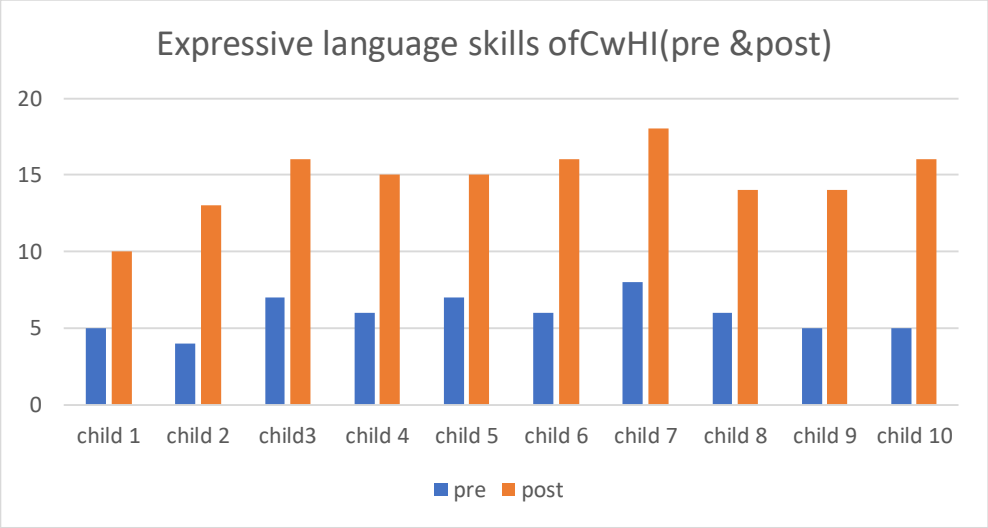

Figure 2: Shows the Pre and Post Scores of Expressive Languge Skills of CwHI

The mean score increased from 5.90 in the pre-test to 14.70 in the post-test, indicating clear improvement after intervention. The mean difference of 8.80 reflects a substantial gain across participants.

The graph shows a noticeable increase in expressive language scores for all children from pre-test to post-test. This improvement indicates that the intervention effectively enhanced expressive language skills among children with hearing impairment.

Analysis based on age wise of children with hearing impairment

To find out the effectiveness of sight word learning approach across age wise to enhance the receptive and expressive language skills of CwHI after intervention.

Table 4: Effectiveness of sight word learning approach across age wise

Age	Metric	Pre Scores	Post Scores
6-8yrs	Mean	5.6	19.4
	S.D	2.51	0.89
9-11yrs	Mean	6.0	19.0
	S.D.	2.07	0.71

Both age groups showed a substantial increase in mean scores from pre-test to post-test, indicating clear improvement following the intervention. The 6–8 years group improved from a mean of 5.6 to 19.4, while the 9–11 years group increased from 6.0 to 19.0, demonstrating effectiveness across ages. The lower post-test standard deviations suggest more consistent performance after intervention in both age groups.

Analysis based on gender wise of children with hearing impairment

To find out the effectiveness of sight word learning approach across gender wise to enhance the receptive and expressive language skills of CwHI after intervention.

Table 5: Effectiveness of sight word learning approach across gender

Gender	Metric	Pre Scores	Post Scores
Girls	Mean	6.0	19.0
	Std. Dev.	2.35	1.00
Gender	**Metric**	**Pre Scores**	**Post Scores**
Boys	Mean	6.0	19.4
	Std.Dev.	2.35	0.55

The results indicate that the sight word learning approach was effective in improving performance for both boys and girls. While both groups demonstrated significant gains, boys showed a slightly higher mean post-test score (19.4 vs. 19.0) and less variability (SD = 0.55), implying marginally better and more uniform progress compared to girls.

After intervention the language age of children with hearing impairment is tested using standardized scale REELS

Intervention after post-test of children with hearing impairment with regards to their age (both RLA and ELA)

Table 6: After intervention the receptive and expressive language age of CwHI

Child	Gender	Age	Receptive language (RLA)	Expressive language (ELA)
Child 1	Male	6yrs	3yrs	2.5yrs
Child 2	Male	7yrs	2.5yrs	2yrs
Child 3	Male	8yrs	3.2yrs	2.8yrs
Child 4	Male	9yrs	4.3yrs	2.8yrs

Child 5	Male	10yrs	6.4yrs	3.5yrs
Child 6	Female	7yrs	3.5yrs	2yrs
Child 7	Female	8yrs	4.3yrs	3yrs
Child 8	Female	9yrs	4.5yrs	2.5yrs
Child 9	Female	10yrs	5yrs	3yrs
Child10	Female	10yrs	4.5yrs	3.5yrs

The sight word learning approach/intervention enhanced receptive language more consistently than expressive language. Expressive skills showed individual variability; some children made strong gains. Younger children (6–8yrs) showed greater improvement in both RLA & ELAthan the Older children (9–10 yrs) had smaller receptive gains and little expressive gains. Receptive growth indicates better understanding of language and vocabulary. Expressive variability suggests the need for additional strategies (speech drills, multisensory expression, communication games) to support verbal output. The intervention resulted in notable improvements in receptive language across all participants, showing enhanced comprehension abilities.

Conclusion

The findings of this study support the effectiveness of the sight word learning approach combined with multisensory and low-tech strategies in enhancing speech and language skills among CwHI. (Luckner & Cooke, 2010; Paul & Wang, 2012), the approach leveraged visual strengths and reduced dependence on auditory processing, facilitating better word recognition and usage.

Improvements in receptive and expressive language highlight the critical role of sight word instruction in building foundational vocabulary and supporting sentence construction. This is particularly relevant for children with hearing impairment, who often experience delays in phonological processing and auditory discrimination (Marschark & Spencer, 2010).

The observed gains in speech intelligibility underscore the importance of multisensory engagement, including tactile and visual reinforcement, which likely contributed to improved articulation. These results align with Sharma et al. (2002), who emphasized the benefits of multisensory input in auditory and speech development.

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