Advancing Verbal Communication Skills in Children with Hearing Impairment through Collaborative Practices

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Abstract : People with normal hearing can easily perceive sounds, understand spoken language, and engage in communication. However, individuals with hearing impairments face challenges in hearing spoken words, which can hinder effective interaction and overall development. Hearing impairment affects speech and language development, academic success, and social integration. Early identification and intervention are crucial to addressing these challenges. Collaborative practices—combining the efforts of educators, speech therapists, and families—are essential to advancing verbal communication skills in children with hearing impairments. Adapting the curriculum to meet the educational needs of children with hearing impairments promotes inclusivity and supports both academic and non-academic skills. This study, conducted in a special school in Coimbatore with 15 participants, evaluated the impact of collaborative intervention on various factors such as age, gender, and the type and degree of hearing loss. The study aimed to assess children's verbal communication skills, create a tailored enhancement package, and measure its effectiveness in fostering communication development. The research tested whether verbal communication skills improved before and after the intervention, considering demographic variables. The findings revealed significant improvements in communication skills and overall development, demonstrating the effectiveness of collaborative intervention in advancing verbal communication. These efforts empower children with hearing impairments, enabling them to reach their full potential and thrive across various aspects of life.

Keywords: Hearing impairment, Verbal communication skills, Collaborative practices, Curriculum adaptation, Speech development, Total communication

Introduction

Individuals with normal hearing can easily perceive sounds, understand spoken language, and engage in communication. However, children with hearing impairments face significant challenges in hearing spoken words and engaging in effective interaction. Hearing loss is a unique disability that slows the process of inclusion, making communication more difficult. It can hinder the development of speech and language skills essential for fostering self-esteem, academic success, and future employment opportunities. If hearing loss is not detected early, it can alter how children speak, learn, and interact with others. In addition to speech and language delays, hearing impairment can also lead to social isolation, emotional difficulties, and reduced quality of life, impacting both children and adults. Delays in the development of receptive and expressive communication skills (speech and language) often result in learning difficulties and academic challenges. These communication barriers can lead to poor self-concept and social integration.

Importance of Curriculum Adaptation

Curriculum adaptation involves adjusting educational materials and teaching methods to meet the individual needs of students, especially in cases where students have hearing impairments. It enables teachers to tailor instruction to the goals outlined in each student's Individualized Education Program (IEP). The aim is to enhance students' abilities in both academic and non-academic activities. For children with hearing impairments, curriculum adaptation helps preserve their existing abilities while providing opportunities for growth. These adaptations strengthen motivation, improve problem-solving skills, and foster future progress. Using accessible resources and methods, children with hearing impairments can acquire essential concepts and skills, thus enhancing their overall educational experience.

Need for the Study

Currently, over 5% of the global population, or approximately 466 million people, experience disabling hearing loss. By 2050, it is estimated that over 900 million people will be affected. Hearing loss can significantly affect language and communication development, making it essential to address these issues, particularly in children. Verbal communication skills are crucial for success in daily life, social interactions, academic achievement, and emotional well-being. For children with hearing impairments, acquiring literacy and communication skills is especially important.

This study aims to develop a total communication approach to support children with hearing impairments at the primary school level, focusing on the enhancement of their communication abilities and overall development.

Statement of the Study

The study, titled "**Advancing Verbal Communication Skills in Children with Hearing Impairment Through Collaborative Practices,**" aims to enhance the verbal communication skills of children with hearing impairments. By implementing collaborative strategies, the study seeks to improve communication outcomes for these children and foster their holistic development.

Objectives of the Study

- To assess the level of verbal communication skills in children with hearing impairments.
- To develop an intervention package to enhance verbal communication skills in these children.
- To evaluate the effectiveness of the intervention in improving communication skills.
- To analyze the impact of the intervention on verbal communication with respect to individual characteristics such as age, gender, type of hearing loss, and severity of hearing loss.
- To determine the effectiveness of collaborative practices in enhancing verbal communication skills in children with hearing impairments.

Hypotheses

- There is no significant difference in verbal communication skills before and after the intervention package using collaborative practices.
- There is no significant difference in verbal communication skills across demographic variables (age, gender, type of hearing loss, and severity of hearing loss) after the intervention.

Limitations

- The study was limited to one school in the Coimbatore district.
- The study confined only with 15 students.
- The study focused solely on children with hearing impairment.
- The participants were from various age groups.

Review of Literature

Challenges faced by Children with Hearing Impairment :

Steve Graham, Paul Morphy and Karen R. Harris 2011, conducted a research on "**Teaching Spelling in the Primary Grades: A National Survey of Instructional Practices and Adaptations**". Primary grade teachers randomly selected from across the United Sates completed a survey (N = 168) that examined their instructional practices in spelling and the types of adaptations they made for struggling spellers. Almost every single

teacher surveyed reported teaching spelling, and the vast majority of respondents implemented a complex and multifaceted instructional program that applied a variety of research-supported procedures. Although some teachers were sensitive to the instructional needs of weaker spellers and reported making many different adaptations for these students, a sizable minority of teachers (42%) indicated they made few or no adaptations.

Dr. Ibrahim A. El-Zraigat and Dr. YahyaSmadi 2016, conducted a research on "**Challenges of Educating Students who are Deaf and Hard Of-Hearing**". The main aim of present study was to review current special education programs and curricula as they relates to deaf and hard-of-hearing students, and review them using Jordanian national standards. Qualitative data were collected throughout the study. The results showed that educating students who are deaf and hard-of-hearing is challenging. These challenges included a lack of remedial and educational programs, insufficient teachers, unequipped schools, and a lack of instructional and assessment tool. Discussion and recommendations were included.

Ge Vue 2017, **Curriculum Adaptation,** curriculum adaptation and adjustment infers a more prominent leave of change in accordance with the current educational programs may be an understudy whose learning incapacity avoids them for perusing at the rate. On the off chance that an understudy has progressively extreme inability, the educator may additionally alter that understudy's educational programs by changing their material at a calculated dimension.

Jia Wei Zhang2017, Curriculum Adaptation, may investigated from five viewpoints Instructional objectives, instructional substance, instructional procedures, instructional settings and understudy social needs that educational programs adjustment endeavors could assist understudies with inability.

Judith S. Gravel, Jessica O'gara 2003, Communication options for children with hearing loss, This article examines the communication options that are available for use within families of infants and young children who are hard-of-hearing or deaf. The need for language development, regardless of the specific communication mode, is stressed. The demands of the current environment of early identification and intervention often put families in a position of needing to decide among communication methods before they are fully knowledgeable and/or emotionally ready. Specific communication options are delineated and considered within a continuum of spoken and visual language.

Education of Hearing Impaired Children

There are many ways for the children with hearing loss for building their communication and language skills. Many states and communities already have educational

programs for infants and young children with hearing loss. Each program takes a different approach to communication.

The five educational programs :

i. Auditory – Oral
ii. Auditory – Verbal
iii. Bilingualism
iv. Cued Speech
v. Total Communication

The five educational programs (Auditory – Oral, Auditory – Verbal, Bilingualism, Cued Speech and Total Communication) emphasize different languages, communication strategies and other communication tools. Some educational programs use more ways to communicate than others. This does not mean one program is better than the others. It just means different programs emphasize different ways to communicate.

Methodology

This study employed a Q**uasi – Experimental design**, featuring a single experimental group. The investigation explored various independent variables, including age, gender, and the type and severity of hearing loss. These factors were examined to assess how they might influence the dependent variable: the verbal communication skills of children with hearing impairments.

The intervention was designed to support the development of speech and language skills in children with hearing impairments. In 2019, the investigator developed an Intervention Package Tool that included 13 key sentences aimed at improving verbal communication. This tool was specifically tailored to meet the speech and language needs of children with hearing impairments, enabling them to engage with content through both auditory and visual modalities.

The intervention focused on enhancing receptive and expressive language skills and promoting speech articulation and language comprehension. Collaborative practices, involving educators, speech-language pathologists, and caregivers, were integrated into the intervention to provide a holistic approach to improving communication competence and overall learning outcomes.

Result and Discussion

The researcher developed and administered the Speech and Language Skills Inventory to 15 children with hearing impairments across various levels of hearing loss. Both quantitative and qualitative methods were employed to analyze data related to speech and language challenges within the selected sample. A comprehensive discussion of the study's findings was conducted. After the pretest, a targeted intervention focusing on improving

verbal communication skills was successfully implemented. The assessment of the language development and communication progress made by the children was conducted, with the results presented as percentage scores in Table 1.

Table 1
Performance of Children with Hearing Impairment in Oral Mode

Testing	Raw Score	Mean	Std. Deviation	t – value	P – value
Pre Test	26	1.73	0.79	14.4053	<.00001
Post Test	103	6.87	1.12		

Significant at 0.05 level

- **Table 1** reveals that the performance of children with hearing impairment in oral communication showed a pre-test mean value of 1.73 and a post-test mean value of 6.87. The post-test responses are significantly higher than the pre-test responses, indicating positive improvements in verbal communication skills after the intervention.
- It is evident from the table that there is a significant difference in the pre- and post-test mean scores for the children with hearing impairment. The calculated t-value of 14.4053 further supports the statistical significance of the improvement in oral language skills and speech production after the intervention.

Table 2
Performance of Children with Hearing Impairment in Written Mode

Testing	Raw Score	Mean	Std. Deviation	t – value	P – value
Pre Test	33	2.20	0.77	13.28821	<.00001
Post Test	130	8.66	1.71		

Significant at 0.05 level

- **Table 2** reveals that the performance of girls with hearing impairment in written communication showed a pre-test mean value of 2.20 and a post-test mean value of 8.66. The post-test response is significantly higher than the pre-test response,

indicating positive improvements in oral expression and verbal communication skills following the intervention.

- It is clear from the table that there is a significant difference in the pre- and post-test mean scores of the children with hearing impairment. The calculated t-value of 13.28821 further supports the statistical significance of the improvements in speech production and language comprehension after the intervention.

Table 3
Performance of Children with Hearing Impairment in Sign Mode

Testing	Raw Score	Mean	Std. Deviation	t – value	P – value
Pre Test	47	3.13	0.91	16.4645	<.00001
Post Test	145	9.67	1.23		

Significant at 0.05 level

- **Table 3** reveals that the performance of children with hearing impairment in sign communication showed a pre-test mean value of 3.13 and a post-test mean value of 9.67. The post-test response is significantly higher than the pre-test response, indicating positive improvements in oral expression and verbal communication following the intervention.
- It is evident from the table that there is a significant difference in the pre- and post-test mean scores for children with hearing impairment. The calculated t-value of 16.4645 further supports the statistical significance of the enhancement in speech articulation and language skills after the intervention.

Therefore, the stated null hypothesis "**There is no significant difference in verbal communication skills before and after intervention package using collaborative practices**", is rejected, which demonstrates the effectiveness of the collaborative intervention package in improving speech articulation and language skills.

Table 4
Overall Performance of Children with Hearing Impairment between 8 – 13 years

Mode	Test	Age Group	Responding	Mean	Std. Deviation	t – value	P – value
Oral	Pre Test	8–13Years (9)	16	1.78	0.83	14. 794	<.00001
	Post Test	8–13Years (9)	59	6.56	1.01		
Written	Pre Test	8–13Years (9)	21	2.33	0.70	10.4171	<.00001
	Post Test	8–13Years (9)	79	8.77	1.71		
Sign	Pre Test	8–13Years (9)	27	3.11	0.86	17.7142	<.00001
	Post Test	8–13Years (9)	89	9.88	0.78		

- Table 4 illustrates the overall performance of children with hearing impairment in enhancing communication skills before and after the intervention. For children in the age group of 8–13 years, the pre-test mean score in oral communication was 1.78, with a post-test mean value of 6.56. In the same age group, the pre-test mean score in written communication was 2.33, with a post-test mean value of 8.77. For sign language communication, the pre-test mean score was 3.11, with a post-test mean value of 9.88 in the same age group.

The results indicate a significant difference in the performance of children with hearing impairment between the pretest and posttest. Before the implementation of the intervention package, the Null Hypothesis stating that "**There is no significant difference in verbal communication skills before and after intervention package using collaborative practices**", **is rejected**. Thus, it is concluded that the hearing impaired children demonstrated improved performance in the posttest compared to the pretest, confirming the effectiveness of the intervention package.

Table 5

Overall Performance of Children with Hearing Impairment between 14 – 19 years

Mode	Test	Age Group	Responding	Mean	Std. Deviation	T – value	P value
Oral	Pre Test	14–9Years (6)	10	1.67	0.81	9.5032	<.00001
	Post Test	14–9Years (6)	44	7.33	1.21		
Written	Pre Test	14–9Years (6)	12	2.11	0.89	7.6781	<.00001
	Post Test	14–9Years (6)	51	8.51	1.87		
Sign	Pre Test	14–9Years (6)	20	3.33	1.03	7.2289	<.00001
	Post Test	14–9Years (6)	56	9.33	1.75		

- Table no. 5 illustrates the overall performance of children with hearing impairment in speech articulation and language skills before the intervention, the mean score in Oral Communication is 1.67 and post test mean value is 7.33 between the age group 14 – 19 years respectively. The overall performance of children with hearing impairment in speech articulation and language skills before the intervention, the mean score in Written Communication is 2.11 and post test mean value is 8.51 between the age group 14 – 19 years respectively. The overall performance of children with hearing impairment in speech articulation and language skills before the intervention, the mean score in Sign Language is 3.33 and post test mean value is 9.33 between the age group 14 – 19 years respectively.

The results indicate a significant difference in the performance of children with hearing impairment between pretest and posttest. Before the implementation of the intervention package, the Null Hypothesis stating that **"there is no significant difference in verbal communication skills across demographic variables (age, gender, type of hearing loss, and severity of hearing loss) after the intervention" is rejected**. Thus, it is concluded that children with hearing impairment demonstrated improved performance in the posttest compared to the pretest, highlighting the effectiveness of the intervention package.

Conclusion:

This extensive study explores the performance of children with hearing impairment in advancing verbal communication skills through collaborative practices. The research compares the development of verbal communication skills before and after the intervention using collaborative practices. The study was undertaken to support the comprehensive development of verbal communication skills among children with hearing impairment through collaborative practices.

According to Clifford Woody, "research comprises defining and redefining problems, formulating hypotheses or suggesting solutions; collecting, organizing, and evaluating data; making deductions and reaching conclusions; and, at last, carefully testing the conclusions to determine whether they fit the formulated hypotheses. The study titled "**Advancing Verbal Communication Skills In Children With Hearing Impairment Through Collaborative Practices**" emphasizes the importance of developing instructional packages to assist teachers in providing effective training in speech and communication development. This will be helpful for the child in developing the language skills necessary for effective communication. With the growing trend of including children with hearing impairments in general education settings, the primary goal of schooling is to promote holistic growth, enabling these children to lead independent and fulfilling lives.

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