



RESEARCH PAPER

Role of Speech Language Therapy in Academic Achievements of Students with Hearing Impairment at Special Education Schools and Centers

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ABSTRACT

This study is conducted to explore the role of speech language therapy in academic achievement of students with hearing impairment at special education schools and centers. The central purpose of the study is to identify the effects of speech and language therapy on hearing impaired students' learning and on their grades. Highlight how speech therapy helps in communication development of H.I students. This study suggests some measures which may be helpful in overcoming the communication complications experienced by the hearing impaired students in classroom. It also provides a guideline to teachers how they can improve coordination with H.I students. A quantitative research was used to conduct this study. The population of study was comprised of the speech therapists and teachers of students with hearing impairment. A self-developed and validated questionnaire based on five-point Likert scale was used to collect data. Data was analyzed by SPSS. The results of the entire study concluded that speech and language difficulties have an impact on children with hearing impairments' academic performance and that speech therapists are essential for H.I students' academic performance. Each student receives the knowledge and opportunities necessary to realize their full academic potential from speech therapists. According to the information presented, speech therapists have employed a variety of techniques and therapies to help students reach their academic goals.

KEYWORDS

Academic Performance, Disability, Education, Speech & Language Therapy, Techniques, Therapies

Introduction

People with disabilities are acknowledged as a vulnerable population everywhere in the world. Disability is defined as an impairment of the structure or function of the human body, as well as activity constraints and participation limitations (WHO & World Bank, 2011). 360 million people in the globe have some sort of hearing impairment, with 91 percent of them being adults and 9 percent being children. This represents a significant 15 percent of the global population who live with disabilities (WHO & World Bank, 2011).

People with hearing impairment are often categorized as deaf or hard of hearing (D/HH) depending on the severity of their hearing impairment, which can range from mild hearing loss to profound deafness and may be permanent or fluctuating (Shemesh, 2010). However, hearing loss is the inability to hear sounds that are 25 dB or less in volume (Duthey, 2013; Alberta Education, 2004; Shemesh, 2010).

Assessing and treating speech and communication issues is what is done in speech therapy. SLPs, also known as speech therapists, who are specialized in speech-language pathology (SLP) carry out this function. To enhance communication, SLT strategies are used (Gillam, Olszewski, Fargo & Gillam, 2014). According to an SLP students who have difficulty reading and expressing themselves in written work may have a language-based learning problems. Children who have linguistic difficulties also have trouble understanding and obeying instructions. An SLP aids in developing these abilities. SLPs conduct assessments and collaborate with teachers to design language-rich classrooms in order to give direct treatment. Individual or small-group therapy with peers who experience comparable social and communication difficulties is both possible (NAD, 2015).

According to Cronin, Reeve, McCabe, Viney & Goodall (2020) we all learn a language, whether it's our first or second, by hearing, listening to, and comprehending the speech sounds made and the way that sentences are put together. Context, circumstance, and the appropriate use of language are all crucial components of language acquisition. However, hearing is the most significant method of language acquisition. The speech and language skills suffer the greatest when this is turned off.

To help clients with hearing problems improve their quality of life, speech pathologists employ speech therapy. They work on voice, articulation, fluency, resonance, and other factor-related interventions for speech difficulties. They also work together with audiologists to develop patient treatment strategies. Speech and language therapy will assist with the communication, language, comprehension, attention, and listening issues that might arise from a hearing loss or disability (Powell, 2018). For persons who have hearing loss or other hearing impairment, SLT is quite helpful. SLT can enhance a person's communication skills to lower anxiety and boost confidence. As communication techniques advance, doing so can open up more social and professional prospects for the person. Enhancing speech, communication, listening, and language abilities is the aim of speech pathology treatment for persons with hearing impairment. Speech therapists can intervene using a range of speech therapy strategies (Foster, Choo & Smith, 2023).

Literature Review

Speech or other linguistic expression is crucial for academic success because reading, writing, and verbal comprehension are all crucial components of the learning process as a whole. When a youngster starts school, they begin to take notice of their surroundings and socialize mostly with children of the same age. At this point, they start to distinguish their own speech from that of their peers. It may seem to children with speech difficulties that most of their peers are able to express themselves in a clearer, simpler way. The emotional impact of realizing that one sounds different may ultimately result in diminished confidence, which may adversely affect academic achievement (Gillon & Macfarlane, 2017).

Some people link "Speech Therapy" with a service that could improve their child's ability to pronounce certain sounds clearly or help their child talk more verbally. Despite the fact that this is unquestionably true, speech therapy can significantly improve a child's skills across a variety of areas, which will ultimately help the youngster succeed in the classroom (Zentall, & Lee, 2012). In a nutshell, speech therapy aids a child's communication skills. In addition, communication is essential for learning.

According to Suleman, McFarlane, Pollock, Schneider, Leroy & Skoczylas (2014) studies, children with speech and language disorders can achieve higher reading rates with

speech treatment. Delays in reading and spelling development in children can prevent them from achieving literacy milestones. Therapy, however, can prevent those delays through early intervention by educating children on alternate reading and speaking techniques that significantly raise literacy levels. Because of this, speech therapy is a crucial component of any literacy strategy for a school-age child who needs special education. The reading and spelling abilities of a youngster can also be enhanced with speech therapy. Children with developmental speech and language impairments are more likely to have reading difficulties, according to studies. Speech therapy can assist pre-readers and beginning readers in developing their phonological awareness skills, which are thought to be crucial for learning to read. Phonological awareness is the knowledge of sounds and how to manipulate them (Khan & Paddick, 2014)

Activities used in speech therapy frequently help kids understand language better. SLPs perform a specific set of roles depending on their specialized knowledge of language. They provide support in addressing the linguistic and metalinguistic underpinnings of curriculum learning for learners with impairments, as well as for those students who are at danger of failing their classes or who have difficulty in the classroom (Sugaya, Fukushima, Takao, Kasai, Maeda, Fujiyoshi & Nishizaki, 2019).

Speech and language therapy help in child comprehend grammar better, which will help them communicate better in language, comprehension, and literacy classes. SLPs help children and adults who struggle with social interaction by facilitating communication in a variety of settings, including the home, the classroom, and the workplace. SLPs may work one-on-one or in a group with clients (Blom, Segers, Knoors, Hermans & Verhoeven, 2019).

Material and Methods

A descriptive quantitative research design was used to conduct the study. The population of the study were teachers of students with hearing impaired, Speech Therapists in Punjab. An inferior version of the universe is referred to as a sample (leone, 2010). That is to say, a sample is a small population. Hundred H.I teacher and speech therapist were selected through convenient sampling techniques from the special education schools and centers in Punjab.

Researcher prepared questionnaire for teachers of students with hearing impairment & speech therapists as an instrument of study. A structured questionnaire was used to collect the data. One questionnaire was constructed after literature review and hypothetical framework. The Likert type Scale was used to collect the responses of teachers.

Results and Discussion

Table 1
Gender

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Female	59	59.0	59.0	59.0
Male	41	41.0	41.0	100.0
Total	100	100.0	100.0	

The above table shows that majority of respondents 59.0 percent female whereas 41% of the respondents were male.

Table 2**Age**

Respondents	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	40	40.0	40.0	45.0
26-30	45	45.0	45.0	85.0
30 years and above	15	15.0	15.0	100.0
Total	100	100.0	100.0	

The table shows that majority of respondents age fall in 26 to 30 years. That means majority of respondents were young.

Table 3
Qualification

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
BS	12	12.0	12.0	12.0
Masters	54	54.0	54.0	66.0
MPhil	30	30.0	30.0	96.0
MS	3	3.0	3.0	99.0
PhD	1	1.0	1.0	100.0
Total	100	100.0	100.0	

The table shows that 54.0% majority of qualification were Masters, 30.0% were MPhil, 12.0% respondents qualification were BS. Whereas, 3% percent were MS and 1% were PhD Qualified.

Table 4
Designation

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Special Educationist	72	72.0	72.0	72.0
Speech Therapist	28	28.0	26.0	100.0
Total	100	100.0	100.0	

The table shows that 72.0% majority of respondents were special educationist, whereas, 28% percent were speech therapists

Table 5
Frequencies of the responses

No	Items	Agree %	Dis agree %	Neutral %	Strongly Agree %	Strongly Disagree %
1	Is speech & language disorders affect the academic performance of students with hearing impairment?	50	2	3	17	28
2	Does speech therapy help H.I students to achieve their academic goals?	50	1	7	39	3
3	Does speech therapy help in communication development of hearing impaired students?	50	1	8	40	1

4	Does communication problem effect H.I student learning?	56	2	5	35	2
5	Does children with hearing loss and speech disorders feel difficulty in understanding words with multiple meaning?	53	3	9	33	2
6	Does H.I students able to produce comprehend and complex sentences after SLT?	46	11	27	12	4
7	Does speech and language therapeutic strategies improve independence and self-advocacy in H.I students?	68	2	10	19	1
8	Does speech therapy help H.I students in understanding abstract concepts?	43	13	25	18	1
9	Does communication development help students with hearing impairment in classroom activities?	70	4	1	24	1
10	Does speech therapy help hearing impaired students to understand and learn vocabulary?	59	4	9	27	1
11	Does audio-verbal therapy improve H.I learning?	51	8	9	31	1
12	Does H.I students can able to read paragraphs after speech therapy?	45	16	23	13	3
13	Is command following technique of speech therapy helps students of H.I in identifying objects and concepts?	66	3	11	19	1
14	Does SLT remove academic gaps of H.I students?	53	16	20	10	1
15	Does SLT affect grades of H.I students?	52	17	13	16	2
16	Does audio verbal therapy help students with H.I in complex sentences?	40	18	24	8	10
17	Does SLT strategies help to build confidence of H.I students in classroom?	59	2	12	26	1
18	Does SLT help peer's engagement in classroom?	53	7	11	20	9
19	Does SLT improve social skills of H.I students?	60	5	7	20	8
20	Does SLT effects psychological condition of H.I students?	57	13	11	10	9
21	Does SLT strategies help in development of receptive and expressive language skills of H.I students?	58	2	8	30	2
22	Does SLT improve coordination b/w H.I students and their teachers?	65	1	6	27	1
23	Does too much SLT activities distract H.I students mind from their curriculum?	35	27	24	10	4
24	Does SLT improve writing skills in H.I?	40	23	22	12	3
25	Does SLT help H.I students to understand & learn grammar and spellings?	51	14	17	16	2

Findings

1. Most of the respondent's 50 percent respond that speech & language disorders affect the academic performance of students with hearing impairment.
2. Most of the respondent's 50 percent respond that speech therapy help H.I students to achieve their academic goals.
3. Most of the respondent's 50 percent respond that speech therapy help in communication development of hearing impaired students.

4. Most of the respondent's 56 percent respond that communication problem affect H.I student learning.
5. Most of the respondent's 53 percent respond that children with hearing loss and speech disorder feel difficulty in understanding words with multiple meaning.
6. Most of the respondent's 46 percent respond that H.I students able to produce comprehend and complex sentences after SLT.
7. Most of the respondent's 68 percent respond that speech and language therapeutic strategies improve independence and self-advocacy in H.I students.
8. Most of the respondent's 43 percent respond that speech therapy help H.I students in understanding abstract concepts.
9. Most of the respondent's 70 percent respond that communication development help students with hearing impairment in classroom activities.
10. Most of the respondent's 59 percent respond that speech therapy help hearing impaired students to understand and learn vocabulary.
11. Most of the respondent's 51 percent respond that audio-verbal therapy improve H.I learning.
12. Most of the respondent's 45 percent respond that H.I students can able to read paragraphs after speech therapy.
13. Most of the respondent's 66 percent respond that command following technique of speech therapy helps students of H.I in identifying objects and concepts.
14. Most of the respondent's 53 percent respond that SLT remove academic gaps of H.I students.
15. Most of the respondent's 52 percent respond that SLT affect grades of H.I students.
16. Most of the respondent's 40 percent respond that audio verbal therapy help students with H.I in complex sentences.
17. Most of the respondent's 59 percent respond that SLT strategies help to build confidence of H.I students in classroom.
18. Most of the respondent's 53 percent disagree that SLT help peer's engagement in classroom.
19. Most of the respondent's 60 percent respond that SLT improve social skills of H.I students.
20. Most of the respondent's 57 percent respond that SLT effects psychological condition of H.I students.
21. Most of the respondent's 58 percent respond that SLT strategies help in development of receptive and expressive language skills of H.I students.

22. Most of the respondent's 65 percent respond that SLT improve coordination b/w H.I students and their teachers.
23. Most of the respondent's 35 percent respond that too much SLT activities distract H.I students mind from their curriculum.
24. Most of the respondent's 40 percent respond that SLT improve writing skills in H.I.
25. Most of the respondent's 51 percent respond that SLT help H.I students to understand & learn grammar and spellings.

Discussion

The study's major goal was to examine how speech-language therapy affects students with hearing impairments' academic performance in special education schools and centers. The results of the entire study concludes that speech and language difficulties have an impact on children with hearing impairments' academic performance and that speech therapists are essential for H.I. students' academic performance. Each student receives the knowledge and opportunities necessary to realize his or her full academic potential from speech therapists. According to the information presented, speech therapists have employed a variety of techniques and therapies to help students' reach their academic goals.

Conclusion

The research also came to the conclusion that a child's readiness for school and potential to succeed academically rely significantly on their speech, language, and communication skills. Children with decoding challenges can benefit from the work of speech-language pathologists who can help them develop their phonological awareness. Their capability to distinguish, remember, and retrieve these sounds and establish a connection to written language is improved by SLPs. Speech therapy can minimize or totally eradicate reading disabilities by fostering phonological awareness and language production. In language, comprehension, and literacy classes, speech and language therapy can improve a child's communication skills by assisting them in better understanding grammar. The cooperation of students and teachers with SLT also helps.

Recommendations

Based on the research findings, the following recommendations are made:

- H.I students should be encouraged by lectures, gifts, prizes and other types of motivation so that they can nicely behave towards their academic activities.
- Abstracts concepts should be explained with videos, models, charts, pictures etc.
- Environment & sitting arrangements should be according to student needs.
- Basic technologies must be use in every session according the needs of H.I students.
- Use visual aids as much as possible.
- Minimize audio interruptions (background noise).
- Enhance speech reading conditions (avoid hands in front of face, no gum chewing).
- Specialized lighting in the environment.
- Intervention & hearing detection should be on time.

- Students with hearing impairments should find constructive ways to deal with their mood swings.
- In order to help hearing-impaired who, show withdrawing behavior avoid anxiety, effective therapies and other positive activities must be implemented.
- Parents should support and motivate their children to achieve their goals.

References

- Andew, J. (2000). *The inclusive Classroom, Educational Exceptional Children*. (2nd ed.) U.S.A, Canadian Publisher Company.
- Bailey, J. & Plessis, D. (1998). An investigation of school principals' attitudes towards inclusion. *Australasian Journal of Special Education*, 22(1), 22-29.
- Baxter, S., Brookes, C., Bianchi, K., Rashid, K., Hay, F. (2009) Speech and language therapists and teachers working together, Exploring the issues. *Child Language Teaching and Therapy* 25, 215-234.
- Beck, I.L., McKeown, M.G., Kucan, L. (2013). *Bringing words to life, Robust vocabulary instruction*, Second edition, New York, NY, Guilford.
- Blom, H., Segers, E., Knoors, H., Hermans, D., & Verhoeven, L. (2019). Comprehension of networked hypertexts in students with hearing or language problems. *Learning and individual differences*, 73, 124-137.
- Capacity Building Series. (May 2013). *Inquiry-based learning*. Secretariat Special Edition, #32. Student Achievement Division, Ontario Ministry of Education
- Cirrin, F.M., Schooling, T.L., Nelson, N.W., Diehl, S.F., Flynn, P.F., Staskowski, M., Torrey, T.Z., Adamczyk, D.F. (2010). Evidence-based systematic review, Effects of different service delivery models on communication outcomes for elementary school-age children. *Language, Speech, and Hearing Services in Schools* 41, 223-264.
- Cronin, P., Reeve, R., McCabe, P., Viney, R., & Goodall, S. (2020). Academic achievement and productivity losses associated with speech, language and communication needs. *International Journal of Language & Communication Disorders*, 55(5), 734-750.
- Dixon, D. A. (2016). Missed session... What's really missing? *ASHA Leader* 21, 30-31.
- Ehren, B.J. (2000). Maintaining a therapeutic focus and sharing responsibility for student success; Keys to in-classroom speech-language services. *Language, Speech, and Hearing Services in Schools* 31, 219-229.
- Ehren, B.J., Nelson, N.W. (2005). The responsiveness to intervention approach and language impairment. *Topics in Language Disorders* 25, 120-131.
- Foster, M. E., Choo, A. L., & Smith, S. A. (2023). Speech-language disorder severity, academic success, and socioemotional functioning among multilingual and English children in the United States, The National Survey of Children's Health. *Frontiers in Psychology*, 14, 1096145.
- Gallagher, A.L., Chiat, S. (2009). Evaluation of speech and language therapy interventions for pre-school children with specific language impairment, a comparison of outcomes following specialist intensive, nursery-based and no intervention. *International Journal of Language and Communication Disorders* 44, 616-638.
- Gillam, S.L., Olszewski, A., Fargo, J., Gillam, R.B. (2014). Classroom-based narrative & vocabulary instruction, Results of an early-stage, nonrandomized comparison study. *American Journal of Speech Language Pathology* 45, 204-219.

- Gillon, G., & Macfarlane, A. H. (2017). A culturally responsive framework for enhancing phonological awareness development in children with speech and language impairment. *Speech, Language and Hearing, 20*(3), 163-173.
- Girolametto, L., Weitzman, E., Greenberg, J. (2012). Facilitating emergent literacy, Efficacy of a model that partner's speech-language pathologists & educators. *American Journal of Speech Language Pathology 21*, 47-63.
- Graner, P.S., Faggella-Luby, M.N., Fritschmann, N.S. (2005) An overview of responsiveness to intervention, What practitioners ought to know. *Topics in Language Disorders 25*, 93-105.
- Hughes, H. and Chen, O. (2011). Promoting effective working with parents with learning disabilities. *Child abuse review, 13*, 31-41.
- Iqbal, S., & Sharif, A (2006). A study of problems faced by children with hearing impaired in learning science of VIII grade. (Unpublished thesis), University of the Punjab, Pakistan.
- Justice, L.M., McGinty, A., Guo, Y., Moore, D. (2009). Implementation of responsiveness to intervention in early education settings. *Seminars in Speech & Language 30*, 59-74.
- Justice, L.M., McGinty, A.S., Cabell, S.Q., Kilday, C.R., Knighton, K., Huffman, G. (2010). Language & literacy curriculum supplement for preschoolers who are academically at risk, A feasibility study. *Language, Speech, and Hearing Services in Schools 41*, 161-178.
- Justice, L.M., Schmitt, M.B., Murphy, K.A., Pratt, A., Biancone, T. (2014). The 'robustness' of vocabulary intervention in public schools, Targets and techniques employed in speech – language therapy. *International Journal of Language & Communication Disorders 49*, 288-303.
- Khan, N., Paddick, S. (2014). First nations and Metis early literacy and language enrichment program. *Canadian Journal of Speech-Language Pathology and Audiology 38*, 194-205.
- Koutsoftas, A.D., Harmon, M.T., Gray, S. (2009). The effect of Tier 2 intervention for phonemic awareness in a Response-to-Intervention model in low-income preschool classrooms. *Language, Speech, and Hearing Services in Schools 40*, 116-130.
- Law, J., Lindsay, G., Peacey, N., Gascoigne, M., Soloff, N., Radford, J., Band, S. (2002). Consultation as a model for providing speech and language therapy in schools, A panacea or one step too far? *Child Language Teaching and Therapy 18*, 145-163.
- Liberante L. (2012). The importance of teacher-student relationships, as explored through the lens of the NSW Quality Teaching Model. *Journal of Student Engagement, Education matters 2012, 2* (1), 2-9.
- Lindsay, G., Dockrell, J. (2002). Meeting the needs of children with speech language and communication needs, a critical perspective on inclusion and collaboration. *Child Language Teaching and Therapy 18*, 91-101.
- Maina, E.N., Oracha, P.A., and Indoshi, F.C. (2011). Curriculum factors influencing performance of deaf students in Mathematics. *Education Research, 2* (3), 956-964.

- McCartney, E., Boyle, J., Ellis, S., Bannatyne, S., Turnbull, M. (2011). Indirect language therapy for children with persistent language impairment in mainstream primary schools, Outcomes from a cohort intervention. *International Journal of Language & Communication Disorders* 46, 74–82.
- Motsch, J., Riehemann, S. (2008). Effects of 'Context-Optimization' on the acquisition of grammatical case in children with specific language impairment, An experimental evaluation in the classroom. *International Journal of Language and Communication Disorders* 43, 683–698.
- Murphy, A., Franklin, S., Breen, A., Hanlon, M., McNamara, A., Bogue, A., James, E. (2016). A whole class teaching approach to improve the vocabulary skills of adolescents attending mainstream secondary school, in areas of socioeconomic disadvantage. *Child Language Teaching and Therapy*. 1–16.
- NAD (National Association of the Deaf). 2015. Community and culture – Frequently asked questions. <https://nad.org/issues/american-sign-language/community-and-culture-faq> (accessed December 21, 2015).
- Nippold, M.A. (2010). Back to school, Why the speech-language pathologist belongs in the classroom. *Language, Speech, and Hearing Services in Schools* 41, 377–378.
- Nippold, M.A. (2011). Language intervention in the classroom, What it looks like. *Language, Speech, and Hearing Services in Schools* 42, 393–394.
- Pershey, M.G., Rapking, C.I. (2003). A survey of collaborative speech-language service delivery under large caseload conditions in an urban school district in the United States. *Journal of Speech-Language Pathology and Audiology* 27, 211–220.
- Peterson, P. (2007). Promoting generalization and maintenance of skills learned via natural language teaching. *The Journal of Speech and Language Pathology – Applied Behavior Analysis* 2, 97–138.
- Powell, R. K. (2018). Unique contributors to the curriculum, From research to practice for speech-language pathologists in schools. *Language, Speech, and Hearing Services in Schools*, 49(2), 140-147.
- Prelock, P.A. (2000). Multiple perspectives for determining the roles of speech-language pathologists in inclusionary classrooms. *Language, Speech, and Hearing Services in Schools* 31, 213–218.
- Qi, S., and Mitchell, R. E. (2012). Largescale academic achievement testing of deaf and hard-of-hearing students, Past, present, and future. *Journal of Deaf Studies and Deaf Education*, 17, 1–18. doi,10.1093/deafed/enr028
- Ritzman, M.J., Sanger, D., Coufal, K.L. (2006). A case study of a collaborative speech-language pathologist. *Communication Disorders Quarterly* 27, 221–231.
- Sugaya, A., Fukushima, K., Takao, S., Kasai, N., Maeda, Y., Fujiyoshi, A., & Nishizaki, K. (2019). Impact of reading and writing skills on academic achievement among school-aged hearing-impaired children. *International Journal of Pediatric Otorhinolaryngology*, 126, 109619