



FILE DITERIMA : 22 Apr 2025

FILE DIREVIEW: 24 Apr 2025

FILE PUBLISH : 30 Nov 2025

Analysis of Language Disorders in the Deaf: Literature Review of Factors, Patterns, and Intervention Strategies

Arista Widyawati, Kartika, Sujarwanto

Universitas Negeri Surabaya

E-mail: aristawidyawati624@gmail.com

Abstract: Language disorders in deaf people include difficulties in phonological production, syntactic structure, and vocabulary mastery, which are rooted in auditory perception limitations. This study uses a literature review method to analyze various language learning approaches designed for deaf people. The results of the review indicate that deaf people often experience sound deviations such as insertion, omission, and substitution of vowels and consonants. In addition, they face difficulties in constructing simple and complex sentences due to limited exposure to spoken language patterns. Vocabulary mastery is also a major challenge due to minimal hearing experience, although visual-based learning media have proven effective in helping them understand and remember new words. The study also highlights the importance of pragmatic aspects in language, where deaf people often have difficulty adjusting language use to certain social contexts. Various learning methods, such as the use of visual media (BISINDO videos, magic trees), demonstration methods, and interactive learning models such as Make A Match, have been shown to improve the language skills of deaf people. In addition, family involvement and educator training are key elements in successful learning. In conclusion, effective learning interventions should include a holistic approach, which not only improves technical language skills, but also social skills. With innovative learning strategies and ongoing support from families, educators, and communities, deaf people have great potential to overcome their language barriers.

Keywords: language disorders, deaf, phonological, inclusive learning.

INTRODUCTION

Research on language disorders in deaf people is an important field in the study of applied linguistics and special education. Language disorders in deaf people cover various aspects, ranging from phonological production difficulties to vocabulary limitations. Research by Subihah et al. (2023) shows that although some deaf people are able to produce vowel and consonant sounds almost perfectly, there are certain deviations, such as insertion, deletion, and substitution of sounds. This phenomenon is associated with different sound perceptions during the language acquisition process. Efforts to improve the language skills of deaf people involve various approaches, including the use of innovative learning methods and media. Hamidah (2020) utilized the demonstration method to improve the ability of deaf students to write simple sentences. This study found that the demonstration method was able to significantly increase the percentage of student success, from an initial baseline of 43.75% to 100% in the intervention phase. These results show the importance of appropriate learning methods in supporting the development of language skills in deaf people.

In addition, learning media plays an important role in the teaching and learning process for deaf students. Herdian et al. (2023) in their literature review revealed

that visual media, such as BISINDO videos, are very effective in helping deaf people understand vocabulary and sentence structure. Clear visual representations make it easier for students to understand the concepts being taught. This study emphasizes the importance of developing technology-based learning media to accommodate the learning needs of deaf students. Arianti et al. (2023) also developed puzzle-based game media for Indonesian language learning. This study found that the use of this media not only attracted students' attention but was also effective in improving the cognitive, psychomotor, and affective abilities of deaf students. With the ADDIE development model, this media was declared valid, practical, and effective as a learning aid.

Game-based learning models have also proven successful in improving vocabulary mastery. Kadarusman et al. (2023) used the magic tree media and the Make A Match model to improve Indonesian vocabulary mastery in deaf students in grade II of SDLB. The results of the study showed a significant increase in students' abilities in various aspects, such as completing sentences and applying vocabulary. This underlines the importance of an interactive and fun learning approach for the deaf. In addition to media and method-based approaches, it is also important to understand the characteristics of language disorders

experienced by the deaf. These disorders can affect their verbal communication skills, thus requiring appropriate intervention strategies. Based on various studies, factors such as age of language acquisition, exposure to learning media, and teaching strategies are the main determinants of success in developing language skills in deaf students.

METHOD

This study uses the Literature Review method, which is a systematic approach to analyzing and synthesizing research results relevant to the topic of language disorders in the deaf. This method was chosen because it allows researchers to collect, evaluate, and compile data from various reliable sources, both in the form of scientific articles, research reports, and other publications related to the topic discussed. This approach provides a comprehensive picture of the conditions, factors, and intervention strategies that have been carried out previously, so that they can be the basis for recommendations for further research and practical implementation. The first step in this study is to identify relevant literature. This process is carried out through a literature search using academic databases such as Google Scholar, PubMed, and special education journals. The keywords used include “deaf language disorders,” “deaf learning media,” “deaf language learning methods,” and “phonological intervention strategies for the deaf.” In addition, an initial selection was carried out to select references that met the inclusion criteria, such as having a focus on language disorders in the deaf, using valid methods, and being published in the last five years to maintain data relevance.

After the literature has been collected, this study will compile a systematic analysis stage starting from identification, screening, selection, to inclusion of relevant articles. Each selected article is analyzed using a qualitative descriptive method, where data in the form of previous research results are described, compared, and grouped based on main themes, namely factors causing language disorders, common patterns of disorders found, and intervention methods that have been proven effective. As part of a systematic approach, researchers also evaluate the quality of sources using certain criteria, such as research design, data validity, and significance of findings. The analysis is carried out by comparing data from various sources to find consistent patterns or significant differences. With this approach, the study not only provides a descriptive picture, but also offers a comprehensive synthesis of various relevant findings.

The results of this literature review method are expected to provide in-depth insight into the condition of language disorders in deaf people and offer evidence-based recommendations for improving learning

strategies and interventions. In addition, this method helps identify existing research gaps, so that it can be a guide for further studies in the same field. Thus, this method is not only retrospective, but also prospective in contributing to the development of knowledge in the fields of special education and applied linguistics.

RESULT AND DISCUSSION

Patterns of Language Disorders in Deaf People

Language disorders in deaf people are mainly related to difficulties in phonological production, sentence structure, and vocabulary mastery. Research by Subihah et al. (2023) found that some deaf people showed near-perfect abilities in producing vowel and consonant sounds, but there were still deviations such as insertion, omission, and substitution of sounds. This is due to differences in sound perception experienced during language acquisition. This pattern of disorders often hinders the ability of deaf people to communicate effectively in verbal language. Deaf people also face difficulties in constructing sentence structures that are in accordance with grammatical rules. This is especially evident in the construction of simple and complex sentences. Research by Hamidah (2020) shows that deaf students often experience difficulties in placing subjects, predicates, and objects correctly. This difficulty is influenced by a lack of understanding of spoken language patterns that are usually acquired through the listening process. As a result, deaf people tend to use incomplete sentences or have inappropriate structures.

Another significant difficulty is in vocabulary mastery. Deaf children generally have limitations in understanding and remembering new vocabulary due to lack of experience in hearing and associating sounds with words. Research by Kadarusman et al. (2023) revealed that deaf students in grade II of SDLB had increased vocabulary mastery after using visual-based learning media such as the magic tree and the Make A Match learning model. This shows that creatively designed learning by utilizing visual aids can help enrich the vocabulary of deaf students.

Factors Causing Language Disorders

Language disorders in deaf people are influenced by various factors, such as limited access to sounds at an early age, minimal exposure to spoken language, and the use of ineffective learning methods. Hamidah’s study (2020) shows that limited auditory perception in deaf children causes difficulties in understanding and using simple sentence structures. Another factor is limited exposure to rich and contextual language. Children who cannot hear effectively tend to be less exposed to a variety of sentences, vocabulary, and language use in different social situations. This can cause their language acquisition to be limited to simple

sentences and limited vocabulary. The ideal language acquisition process requires intense social interaction, where children can learn not only from what is heard, but also from the context in which language is used. Without such interaction, deaf children are at risk of experiencing delays or disorders in language acquisition.

Interactive Learning Model

The use of interactive learning models, such as Make A Match with the magic tree media, shows very positive results in improving the mastery of Indonesian vocabulary in deaf students. Research by Kadarusman et al. (2023) shows that students who use this learning model experience an increase of up to 23% in terms of vocabulary mastery, completing sentences, and application in sentences. This proves that learning that involves active interaction can motivate deaf students to better understand and use language.

Language disorders in people with hearing impairments are complex conditions and are influenced by various factors, such as limited auditory perception, limited access to the language environment, and less than optimal learning methods. People with hearing impairments generally experience obstacles in phonological production, syntactic structure, and vocabulary mastery. Research by Subihah et al. (2023) revealed that phonological disorders in people with hearing impairments involve errors in the form of insertion, deletion, or replacement of vowel and consonant sounds. This disorder occurs due to different sound perceptions during the language acquisition period. This condition often prevents them from using verbal language effectively in everyday communication.

The difficulty in constructing sentence structures is a significant challenge for people with hearing impairments. They often have difficulty in placing sentence elements such as subjects, predicates, and objects correctly. According to Hamidah (2020), limitations in understanding simple and complex sentence patterns occur because people with hearing impairments do not have adequate exposure to spoken language. This is exacerbated by the lack of use of learning methods that can help them understand grammar more effectively. The use of demonstration methods, such as those used by Hamidah, shows positive results in improving the ability of deaf students to construct simple sentences. Vocabulary mastery is also an important aspect that must be considered in language learning for people with hearing impairments. Deaf children tend to have limited vocabulary due to lack of hearing experience and associating words with certain objects or concepts. Research by Kadarusman et al. (2023) shows that the use of innovative learning media, such as the magic tree with the Make A Match model, can increase vocabulary mastery by up to

23%. This media utilizes visual elements and direct interaction, which helps deaf students understand and remember new words more easily.

CONCLUSION AND SUGGUSETION

Conclusion

Language disorders in deaf people are the result of limitations in auditory perception that impact phonological production abilities, syntactic mastery, vocabulary, and pragmatic aspects. Research shows that deaf people often experience errors such as insertion, omission, or substitution of sounds in the pronunciation of vowels and consonants. In addition, limitations in understanding sentence structure and vocabulary mastery further worsen their ability to communicate verbally. Environmental factors, such as lack of access to inclusive educational resources, also contribute to these barriers.

Innovative learning methods, such as the use of visual-based media and interactive strategies, have proven effective in helping deaf people overcome these barriers. Hamidah's (2020) research shows that the demonstration method can improve the ability to write simple sentences. On the other hand, media such as the magic tree and BISINDO videos provide visual support that makes it easier for deaf students to understand vocabulary and language structures. This proves that a creative and contextual learning approach has a significant impact on their language skills. However, language disorders in deaf people are not only technical, but also involve social aspects. The ability to communicate pragmatically, including understanding social context and implied meaning, is often a challenge. Learning interventions that only focus on technical aspects without considering social skills may not be enough to empower deaf people in everyday life. Therefore, a more holistic approach is needed.

The gap between research and practice is also still a concern. Most studies focus on deaf children in formal school settings, while deaf adults or the context of language use outside of educational settings are still under-explored. In addition, the availability of inclusive learning media is not evenly distributed in various regions, especially in areas with limited access to education. This indicates the need for more attention to the development of media and methods that can be adapted to various conditions.

Suggestion

Further development of technology-based learning methods and media, such as mobile applications or interactive software, is needed to improve the accessibility of language learning for deaf people.

These media should be designed with individual needs in mind and utilize strong visual elements to support comprehension. Training for educators should be a priority, especially to improve their understanding of the special needs of deaf students. Educators need to be trained in innovative learning methods, such as the use of BISINDO videos, educational games, or interactive simulations, to create more engaging and effective learning.

REFERENCES

- Arianti, Fina, Beti Istanti Suwandayani, dan Innany Mukhlisina. "Pengembangan Media Permainan Fruit word puzzle pada Pembelajaran Bahasa Indonesia pada Siswa Tunarungu di SDN Mojorejo 1 Kota Batu." *EduInovasi: Journal of Basic Educational Studies* 4, no. 1 (2023): 423–39. <https://doi.org/10.47467/edui.v4i1.5355>.
- Beal-Alvarez, J., & Cannon, J. E. (2014). Technology intervention research with deaf and hard of hearing learners: Levels of evidence. *American Annals of the Deaf*, 158(5), 486-505.
- Borders, C. M., Bock, S. J., Giese, K., Gardiner-Walsh, S., & Probst, K. M. (2018). Interventions for students who are deaf/hard of hearing. In *Viewpoints on interventions for learners with disabilities* (pp. 75-105). Emerald Publishing Limited.
- Greenberg, M. T., & Kusché, C. A. (1998). Preventive intervention for school-age deaf children: The PATHS curriculum. *Journal of deaf studies and deaf education*, 49-63.
- Hamidah, Ida. "Penerapan Metode Demonstrasi dalam Pembelajaran Bahasa Indonesia untuk Meningkatkan Kemampuan Menulis Kalimat Sederhana Pada Siswa Tunarungu." *Jassi Anakku* 12, no. 1 (2013): 1–10.
- Herdian, Meivira Ashifa Nanda; Sarmita Anatasya; Wahyu Wahyu; Shifa Amelia Nur; Siti Hamidah. "Eksplorasi efektivitas Media-media Pembelajaran Bahasa Indonesia pada Anak Tunarungu: Kajian Literatur." *Angewandte Chemie International Edition*, 6(11), 951–952. 3, no. 2 (2017): 5–24. <http://repo.iain-tulungagung.ac.id/5510/5/BAB2.pdf>.
- Kadarusman, Guntur, dan Bambang Eko Hari Cahyono. "Penggunaan Media Pembelajaran Pohon Ajaib dengan Model Pembelajaran Make A Match untuk Meningkatkan Penguasaan Kosa Kata Bahasa Indonesia Siswa Tunarungu Kelas II SDLB Dharma Wanita Jiwana Kabupaten Madiun." *Linguista: Jurnal Ilmiah Bahasa, Sastra, dan Pembelajarannya* 2, no. 1 (2018): 61. <https://doi.org/10.25273/linguista.v2i1.2756>
- Marschark, M., & Knoors, H. (2012). Educating deaf children: Language, cognition, and learning. *Deafness & education international*, 14(3), 136-160.
- Marschark, M., & Wauters, L. N. (2008). Language comprehension and learning by deaf student (pp. 309-350). New York, NY: Oxford University Press.
- Moeller, M. P. (2000). Early intervention and language development in children who are deaf and hard of hearing. *Pediatrics*, 106(3), e43-e43.
- Pradipta, R. F., Dewantoro, D. A., Huda, A., Yasmine, L. Y., & Ariani, F. (2023, December). Analysis of the Use of Audiometers as an Assessment Instrument of Deaf Students in Preparation to Enter the World of Education: A Case Study of Deaf Students in Malang Raya. In *2ND International Conference on Educational Management and Technology (ICEMT 2023)* (pp. 215-223). Atlantis Press.
- Pradipta, R. F., Efendi, M., Huda, A., Dewantoro, D. A., & Yasin, M. H. M. (2021, November). Comparative study: Use of ICT media in learning for deaf students during the covid-19 pandemic in Malaysia and Indonesia. In *7th International Conference on Education and Technology (ICET 2021)* (pp. 182-188). Atlantis Press.
- Pradipta, R. F., Wahyuni, D., & Andrean, H. (2022, January). Android-based word game applications to increase the vocabulary of deaf children. In *2022 2nd International Conference on Information Technology and Education (ICIT&E)* (pp. 70-74). IEEE.
- Soukup, M., & Feinstein, S. (2007). Identification, assessment, and intervention strategies for deaf and hard of hearing students with learning disabilities. *American Annals of the Deaf*, 152(1), 56-62.
- Subihah, Odien Rosidin, Dese Erwin Juansah. "Analisis gangguan berbahasa pada penyandang tunarungu" 7, no. 1 (n.d.): 181–87
- Sulung Anugerah, Saida Ulfa, dan Arafah Husna. "Pengembangan Video Pembelajaran Bahasa Isyarat Indonesia (Bisindo) Untuk Siswa Tunarungu Di Sekolah Dasar." *JINOTEP (Jurnal Inovasi dan Teknologi Pembelajaran): Kajian dan Riset Dalam Teknologi Pembelajaran* 7, no. 2 (2020): 76–85. <https://doi.org/10.17977/um031v7i22020p076>.