



Original Article


Investigating the Status of Sign Language and its Interpretation in Communication Process: A Case of School-Going Deaf Children in Pakistan

Article history:


| | |
|-----------|----------------|
| Received | April 07, 2023 |
| Revised | May 05, 2023 |
| Accepted | May 10, 2023 |
| Published | May 31, 2023 |

Aqeel ur Rehman Hameed

Department of Special Education, University of Karachi - Pakistan

 aud.aqeel@gmail.com <https://orcid.org/0009-0006-3687-8132>**Nasir Sulman**

Department of Special Education, University of Karachi - Pakistan

 nsalman@uok.edu.pk**How to Cite:**

Hameed, A. ur R., & Sulman, N. (2023). Investigating the status of sign language and its interpretation in communication process: A case of school-going deaf children in Pakistan. *Academy of Education and Social Sciences Review*, 3(2), 182-189. <https://doi.org/10.48112/aessr.v3i2.497>

Publisher's Note:

International Research and Publishing Academy (iRAPA) stands neutral with regard to jurisdictional claims in the published maps and institutional affiliations.

Copyright:

© 2023 Academy of Education and Social Sciences Review published by International Research and Publishing Academy (iRAPA)



This is an Open Access article published under the Creative Commons Attribution 4.0 International (CC BY 4.0) (<https://creativecommons.org/licenses/by/4.0>)

Creative Commons Attribution (CC BY): lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honour or reputation.

Abstract

This study was conducted from January to July 2022 in fifteen special education schools for children with hearing impairment located in the city of Karachi. The study focused on challenges faced by Sign Language Interpreters within the school environment. Strategies to counter challenges were identified. Through interviews, observation, and communication analysis, interpreting strategies and motivation were discussed. Additional information was gathered from teachers, Deaf and hearing children on attitudes, relationships, and interpreter competence. Detailed interviews with participants about their cultural values provided a clearer understanding of the topic. Communication strategies, both verbal and non-verbal, were significant in interpreting information and occasionally led to misunderstandings among interpreters in their professional and social life at school. Interpreters shared their experiences and challenges working in a diverse environment with clients of varying backgrounds. Attitudes, strategies, backgrounds, and communication were key aspects identified. Needs of developing a good working environment, interpreter development, teacher training in Special Needs Education, School adaptation for Sign Language Interpreters, and future research to achieve inclusive education were identified.

Keywords: communication process, deaf children, hearing impairment, sign language

INTRODUCTION

Hearing impairment, also known as hearing loss or deafness, refers to the partial or complete inability to hear sound in one or both ears. It can be caused by a variety of factors, including genetic factors, exposure to loud noise, certain medical conditions, and the natural aging process (Stevens, et al., 2013). Lasak, et al., (2014) pointed out that hearing impairment can range from mild to profound, and it can affect individuals of all ages. Some common symptoms of hearing impairment include difficulty understanding speech, asking others to repeat themselves frequently, having to turn up the volume on the television or radio, and experiencing ringing or buzzing in the ears. About the treatment for hearing impairment, Van Eyken, et al., (2007) suggested that it depends on the underlying cause and the severity of the condition. It may include hearing aids, cochlear implants, medication, or surgery. In addition, communication strategies, such as speech reading and sign language, can also be helpful for individuals with hearing impairment.

The present study explored the factors that impeded efficacious provision of interpretation services in a secondary school setting. This specific investigation delves into the subject matter at hand. Settings demonstrate a high level of proficiency in understanding and expressing signed and spoken communication. These interpreters possess essential skills and knowledge to facilitate effective communication between deaf and hard-of-hearing students and their hearing counterparts. They possess a deep understanding of the linguistic, cultural, and social nuances of the communities they serve, and are skilled in adjusting their interpreting style to meet the unique needs of each student they work with. Additionally, they adhere to ethical principles and standards, ensuring that their interpreting practice is always professional and respectful. The contributions of Sign Language Interpreters in educational settings are invaluable in promoting effective learning environments and academic success for students with hearing loss.

LITERATURE REVIEW

Sign Language

Pfau (2012) defined sign language as a visual language that is used to communicate through hand gestures, facial expressions, and body language. It is used by people who are deaf or hard of hearing, as well as those who can hear but prefer to use sign language as their primary means of communication. There are many different sign languages used around the world, with American Sign Language (ASL) being the most widely used in North America. Other sign languages include British Sign Language (BSL), Australian Sign Language (Auslan), and International Sign (IS), which is used at international events and conferences.

Sign language is a complex and rich language that has its own grammar, syntax, and vocabulary (Rastgoo, et al., 2021). It is not simply a translation of spoken languages into gestures, but a distinct and unique language in its own right (Mayberry & Squires, 2006). People who are proficient in sign language can communicate effectively with others who use the same sign language, even if they are from different countries or regions (Sandler & Lillo-Martin, 2006; Cooper, et al., 2011; Napier, et al., 2016).

Brentari (2010) wrote that learning sign language could be a rewarding experience, as it can open up

new avenues of communication and understanding between people who might otherwise have difficulty communicating. There are many resources available for learning sign language, including classes, books, online courses, and video tutorials.

Sign Language Interpreter

Napier (2004) conducted an international comparison of sign language interpreter training, testing, and accreditation and noted that a sign language interpreter is a professional who translates spoken language into sign language or vice versa, in order to facilitate communication between deaf or hard-of-hearing individuals and hearing individuals. They are trained to understand the complexities of sign language and to convey messages accurately, while also being sensitive to cultural and linguistic differences. Sign language interpreters work in a variety of settings, including educational institutions, government agencies, healthcare facilities, courts, conferences, and business meetings. They may interpret for individuals or groups, and may work in-person or remotely through video conferencing.

To become a sign language interpreter, one typically needs to complete a formal training program, which may involve studying sign language, interpreting techniques, and deaf culture. In many countries, there are certification programs that test the interpreter's skills and knowledge. It is important for sign language interpreters to continually develop their skills and stay up-to-date with changes in the language and the communities they serve. Overall, sign language interpreters play a critical role in enabling deaf and hard-of-hearing individuals to fully participate in society and access the same opportunities as hearing individuals.

The provision of Sign Language Interpreting is a service rendered by individuals who have the ability to hear to a community comprising both individuals who are Deaf and those who possess the ability to hear, but do not share a common language (Thompson, 1993). In this particular setting, individuals who serve as sign language interpreters are generally those who possess hearing capabilities and undertake the task of converting the spoken language of a speaker or speakers into a signed or vocalized language that is comprehensible to those who are deaf. Additionally, these interpreters serve to bridge the communication gap between the deaf community and other linguistic groups who are able to hear. In order to exhibit competence, interpreters are required to possess bilingualism and expertise in certain languages and competencies essential for undertaking diverse interpreting scenarios (Thompson, 1993).

Pakistan Sign Language (PSL)

Pakistan Sign Language (PSL) is the primary language used by Deaf and hard-of-hearing people in Pakistan. It is a natural sign language, which means it developed spontaneously through interaction among the deaf community, rather than being artificially created (Sulman & Zuberi, 2000). Khan, et al., (2020) reported in their study that PSL is used by an estimated 2 million deaf and hard-of-hearing individuals in Pakistan, making it one of the country's most widely used languages. It is recognized as an official language of Pakistan, and efforts are being made to increase its use and visibility in society.

Raees, et al., (2016) took up a study on image-based recognition of Pakistan sign language. Their results indicated that PSL has its own unique grammar and syntax, and uses a combination of hand gestures, facial expressions, and body language to convey meaning. Like other sign languages, PSL is not based on spoken language and therefore is not a written language. However, there have been efforts to develop a written form of PSL using a modified version of the Urdu script. In recent years, there have been increased efforts to promote the use of PSL in education, media, and other areas of society. This includes the development of PSL dictionaries, textbooks, and other educational materials, as well as the provision of sign language interpretation services in public settings such as hospitals, courts, and government offices.

Zeshan (2003) stated that Pakistan Sign Language (PSL) is a visual language which is conveyed through manual, facial, bodily, and cranial articulations, as opposed to conventional oral communication methods. The manual signs are produced by the hands, whereas the non-manual features, including the head, body, face, eyes, and mouth, are utilized for communication in sign language. The non-manual features hold great significance as they also convey linguistic information that is crucial for effective communication between individuals who are deaf and those who have the ability to hear. Sign language demonstrates a close relationship with Deaf culture, encompassing its values, customs, as well as the historical context of the communities inhabited by Deaf individuals.

Sign Language Interpretation Services in Pakistan

In Pakistan, there is a significant need for sign language interpretation services, as there is a sizeable

population of deaf or hard-of-hearing individuals in the country. According to the Pakistan Sign Language Research and Development Center, there are an estimated 1.7 million people in Pakistan who are deaf or hard of hearing (Wasim, et al., 2018). Unfortunately, there is a lack of accessibility for deaf and hard-of-hearing individuals in many areas of Pakistani society, including education, healthcare, and employment. This lack of accessibility can create significant barriers for individuals who rely on sign language as their primary means of communication.

Therefore, sign language interpretation services can play a crucial role in improving the quality of life for deaf and hard-of-hearing individuals in Pakistan. These services can help to ensure that these individuals have access to the same opportunities and services as hearing individuals, such as education, healthcare, and employment. Moreover, sign language interpretation services can also help to raise awareness about the needs and rights of deaf and hard-of-hearing individuals in Pakistani society. By promoting greater accessibility and inclusivity, these services can contribute to a more equitable and just society for all.

In the context of sign language interpretation services, one perceives a structured mechanism whereby interpreters are readily available to provide assistance to the entire populace of D/deaf individuals residing within the nation. In Pakistan, the actuality diverges significantly from the aforementioned statement. The present scarcity of interpreters for individuals with hearing loss is illustrated by a ratio of one interpreter per 300,000 individuals with such condition (Abid, et al., 2020).

Sze, et al., (2018) offers an overview of sign language (SL) interpretation provision in 20 cities/countries in Asia, covering issues such as the availability of services, institutional support, and the challenges confronting the hearing and deaf interpreters. Finally, they concluded their study with remarks that "the sensation of intimidation and rejection is evoked among individuals when they perceive a sense of confinement and captivity in public arenas. This cohort of D/deaf individuals is confronted with multifaceted challenges, including social isolation, stigmatization, diminished literacy, reduced autonomy, academic ramifications, and suboptimal labor opportunities. This dilemma can be attributed, in part, to the prevailing dearth of certified sign language interpreters at the national level."

It means, the absence of familiarity with the language and customs of the deaf population within mainstream society, which is predominantly composed of hearing individuals, has resulted in a proliferation of communication impediments between the aforementioned groups. Unless appropriate and coordinated interventions are instituted to address this issue in a structured manner, the deplorable situation will inevitably result in further diminution of the existing pool of national sign language interpreters.

METHODOLOGY

The purpose of the current study is to furnish a descriptive analysis of the application of Sign Language primarily amongst the Deaf community within the linguistic milieu of Pakistan. The investigation was executed in two stages. The initial phase of the investigation involved conducting a pilot study to examine the lexicon and syntactic structure of the Sign Language utilized by individuals with hearing impairments. Upon arriving at the findings, certain adjustments were integrated into the methodologies employed for the purpose of soliciting indicators in the principal investigation. In this paper, the researcher only discusses the findings of the main phase of the study.

Participants

The present study employed a sample of thirty deaf signers, predominantly consisting of male signers within the age range of six to eighteen years. This cohort was selected to represent a diverse range of academic standards, which spanned from the first standard to the tenth standard. The selection of participants was based on the representation of various types and levels of hearing impairment that spanned from severe to profound degrees in both the mixed and sensorineural hearing loss cohorts. The participants were thoughtfully chosen to encompass a range of academic standards between the first and tenth grades. The twenty subjects who were used in the pilot study were also included in the main study. Table 1 shows the distribution of subjects of the main study.

Table 1

The Distribution of Subjects for the Main Study

| Grades | Type of hearing loss | | | No. of Students |
|--------------|----------------------|-----------|-----------|-----------------|
| | BPS | BPM | BSS | |
| I | 2 | 2 | 2 | 4 |
| II | 2 | 2 | 1 | 5 |
| III | 5 | 1 | 1 | 8 |
| IV | 2 | 1 | 1 | 5 |
| V | 3 | 1 | 2 | 8 |
| VI | 3 | 3 | - | 6 |
| VII | 2 | 3 | 2 | 7 |
| VII | 1 | 1 | 5 | 7 |
| IX | 1 | 5 | 2 | 6 |
| X | 1 | 2 | 1 | 4 |
| Total | 22 | 21 | 17 | 60 |

Where:
 BPS - Bilateral profound sensori-neural hearing loss
 BPM - Bilateral profound mixed hearing loss
 BSS - Bilateral severe sensori-neural hearing loss

Materials

The vocabulary list used for the main study consisted of 650 words which were selected after the pilot study. These 650 words represented the words related to:

- Body parts
- Dress and clothing
- Immediate environment
- Food items
- Education
- Profession
- Common animals/birds
- Physical world such as earth, sky, etc.

The lexis pertaining to verbs was demonstrated in a systematic manner, whereby association was utilized to group the verbs of action that are associated with various categories, encompassing body parts, culinary practices, athletic endeavors, academic pursuits, and vocational undertakings, among others. The present study utilized a visual aid in the form of a picture chart depicting a narrative of thirty crows to facilitate the elicitation of sign syntax. In addition, an observation was made of the occurrence of impromptu signing among deaf students with the purpose of gaining further insight into the syntactical principles of sign language within an unstructured context.

Strategies for Sign Elicitation

Based on the experience of the pilot study, some modifications were incorporated into the main study.

- Some words were not immediately signed when presenting the words. Then, the control pairs of words were presented.
- Some words needed additional clues, such as combinations of nouns and verbs to evoke verb symbols.
- Whenever the letters were not immediately apparent in the presentation of the written word, it was necessary to imitate the use of the object or action shown by that word or image.

Procedure

In the majority of circumstances, the signatories underwent individualized testing. The reception task involved the utilization of two signers in conjunction with a matching task. Similar to the pilot study, the principal investigation incorporated an assortment of tasks comprising expression and reception tasks.

Expression Task

The expression task encompassed the creation of visual representations for the lexicon components alongside the narrative articulation of syntax using sign language. During an unstructured situation, two or three individuals engaged in conversation, leading to the acquisition of syntactic data as observed. The assignment at hand did not entail a designated subject matter. The participants engaged in a discourse on diverse topics that piqued their personal curiosity. The discourse predominantly centered upon subjects pertaining to interpersonal relationships, academic pursuits, and retrospectively revisiting their hometowns.

Reception Task

During this particular task, one individual executed a signature while the other individual acknowledged the authenticity of the signature through recognition. Concurrently with the elicitation of signs, the examiner made contemporaneous recordings of written descriptions. In instances where sign movements were ambiguous for descriptive purposes, signers were required to execute the sign a second time to aid in the documentation of the sign's manifestation. The sign language interpreter who was employed by the educational institution provided assistance in transcribing the information conveyed through sign language during a session involving impromptu signing.

Analysis

Researcher used a descriptive method for sign description in this study. The data analyzed under the following four themes:

- Deaf sign language vocabulary study
- Phonology study of deaf sign language
- Study the Syntax of Sign Language of Deaf &
- Comparing sign language levels

RESULTS & FINDINGS

The Sign Language of the Deaf, upon scrutiny, reportedly exhibited a vocabulary that surpassed 650 words. The augment in lexical repertoire was observed to be commensurate with disparities in academic proficiency levels. The augmentation of academic standards has induced a commensurate elevation in the lexicon of sign language utilization. Several of the manual gestures detected in the Pakistan Sign Language (PSL) exhibit similarities with those observed in other sign languages such as American Sign Language (ASL). The phonological system of the PSL exhibited pronounced resemblance to the phonology of the sign languages under study. Whereas, two-handed signs were found in PSL. A very few of the signs in PSL required three hand-shapes. PSL syntax paralleled the syntax of the spoken language (Urdu) for the word order. Syntactic markers were absent in PSL. Nevertheless, on some, instances space was used as the marker for pronominal references. The results of the study indicate that PSL is a language with its own grammar.

CONCLUSION AND RECOMMENDATIONS

In order to provide ease of reference, the act of formalizing the signing system has been designated as Pakistan Sign Language (PSL) within academic discourse. The present study represents a pioneering attempt to conduct a comprehensive analysis of sign language through a descriptive lens. The present account does not endeavor to offer an exhaustive inventory of Public Sector Undertakings (PSL). Undoubtedly, further research employing tailored assessments designed to evaluate targeted constructs would prove beneficial. The investigation of grammatical operations pertaining to signing represents an area of significant scholarly inquiry. It is of paramount importance to conduct a thorough investigation of the academic attainment of students who exhibit superior scholastic performance as well as those who suffer from deafness in adulthood.

An exploration of discourse analysis pertaining to unscripted sign language may yield a greater understanding of the grammatical constructs utilized in sign language. Bilingual signing has the potential to yield data that could be of significant psycholinguistic relevance. The utilization of sign language as a means for systemic training endeavors within educational institutions is believed to potentially yield enhanced academic attainment. The acquisition of sign language proficiency by the general populace is deemed critical in facilitating their role as proficient interpreters. The investigation of the pragmatic aspects of sign language is necessary for a comprehensive comprehension of this mode of communication. The findings obtained from the present investigation suggest that PSL is a distinct language possessing a unique grammar system.

Further comprehensive investigations on Pakistani Sign Language (PSL) and comparative analyses of PSL with other regional sign languages are imperative to ascertain the status of PSL as the official sign language of Pakistan.

Competing Interest

The authors have declared no competing interest.

References

- Abid, K., Khan, N. S., Farooq, U., Farooq, M. S., Naeem, M. A., & Abid, A. (2020). A roadmap to elevate Pakistan Sign Language among regional sign languages. *South Asian Studies*, 33(2).
- Brentari, D. (Ed.). (2010). *Sign languages*. Cambridge University Press.
- Cooper, H., Holt, B., & Bowden, R. (2011). Sign language recognition. *Visual Analysis of Humans: Looking at People*, 539-562.
https://doi.org/10.1007/978-0-85729-997-0_27
- Khan, N. S., Abid, A., Abid, K., Farooq, U., Farooq, M. S., & Jameel, H. (2020). Speak Pakistan: Challenges in developing Pakistan sign language using information technology. *South Asian Studies*, 30(2).
- Lasak, J. M., Allen, P., McVay, T., & Lewis, D. (2014). Hearing loss: Diagnosis and management. *Primary Care: Clinics in Office Practice*, 41(1), 19-31.
<https://doi.org/10.1016/j.pop.2013.10.003>
- Mayberry, R. I., & Squires, B. (2006). Sign language acquisition. *Encyclopedia of Language and Linguistics*, 11, 739-43.
<https://doi.org/10.1016/b0-08-044854-2/00854-3>
- Napier, J. (2004). Sign language interpreter training, testing, and accreditation: An international comparison. *American Annals of the Deaf*, 149(4), 350-359.
<https://doi.org/10.1353/aad.2005.0007>
- Napier, J., Leeson, L., Napier, J., & Leeson, L. (2016). *Sign language in action* (pp. 50-84). Palgrave Macmillan UK.
https://doi.org/10.1057/9781137309778_3
- Pfau, R. (2012). *Sign language*. M. Steinbach, & B. Woll (Eds.). De Gruyter Mouton.
- Raees, M., Ullah, S., Rahman, S. U., & Rabbi, I. (2016). Image based recognition of Pakistan sign language. *Journal of Engineering Research*, 4, 1-21.
<https://doi.org/10.7603/s40632-016-0002-6>
- Rastgoo, R., Kiani, K., & Escalera, S. (2021). Sign language recognition: A deep survey. *Expert Systems with Applications*, 164, 113794.
<https://doi.org/10.1016/j.eswa.2020.113794>
- Sandler, W., & Lillo-Martin, D. (2006). *Sign language and linguistic universals*. Cambridge University Press.
<https://doi.org/10.1017/cbo9781139163910>
- Stevens, G., Flaxman, S., Brunskill, E., Mascarenhas, M., Mathers, C. D., & Finucane, M. (2013). Global and regional hearing impairment prevalence: An analysis of 42 studies in 29 countries. *The European Journal of Public Health*, 23(1), 146-152.
<https://doi.org/10.1093/eurpub/ckr176>
- Sulman, D. N., & Zuberi, S. (2000). *Pakistan sign language—a synopsis*. Sustainable Development Networking Programme, Pakistan | IUCN-The World Conservation Union.
- Sze, F., Wong, F., Lo, C. C. Y., Chew, S., Sun, R., & Yanai, Y. (2018). *The provision of sign language interpretation in Asia*. In *The Routledge Handbook of Sign Language Translation and Interpreting* (pp. 456-483). Routledge.
<https://doi.org/10.4324/9781003019664-36>
- Thompson, S. (1993). WFD survey of deaf people in the developing world. *Disability, Handicap & Society*, 8(4), 443-445.
<https://doi.org/10.1080/02674649366780451>

Van Eyken, E., Van Camp, G., & Van Laer, L. (2007). The complexity of age-related hearing impairment: Contributing environmental and genetic factors. *Audiology and Neurotology*, 12(6), 345-358.

<https://doi.org/10.1159/000106478>

Wasim, M., Siddiqui, A. A., Shaikh, A., Ahmed, L., Ali, S. F., & Saeed, F. (2018). Communicator for hearing-impaired persons using Pakistan Sign Language (PSL). *International Journal of Advanced Computer Science and Applications (IJACSA)*, 9(5).

<https://doi.org/10.14569/ijacsa.2018.090525>

Zeshan, U. (2003). Indo-Pakistani sign language grammar: A typological outline. *Sign Language Studies*, 157-212.

<https://doi.org/10.1353/sls.2003.0005>