

## PRACTICES AND CHALLENGES OF TEACHING PAKISTAN SIGN LANGUAGE (PSL): AN EXPLORATORY STUDY

**Alishba Jahangir**

MPhil (Linguistics), Dept. of English, Air University, Islamabad  
[alishbakhani164@gmail.com](mailto:alishbakhani164@gmail.com)

**Dr. Huma Batool**

Assistant Professor, Dept. of English, Air University, Islamabad  
[humabatool2019@gmail.com](mailto:humabatool2019@gmail.com)

**IkramUllah**

MPhil (Linguistics), Dept. of English, Air University, Islamabad  
[ikramkhan9021@gmail.com](mailto:ikramkhan9021@gmail.com)

### Abstract

*The study explores practices of teaching sign language to hearing impaired students and the challenges faced by teachers of Pakistan Sign Language. Focus group interviews of eight PSL teachers (n= 3M+5F) were conducted through semi-structured questions. The transcribed data was thematically analyzed for major themes. PSL is reported to lack grammatical and syntactical structures. Moreover, lack of a standard curriculum brings variation in teaching practices of PSL. The findings offer important implications for teaching policy and practice for hearing impaired students, and for devising effective methods by teachers. There is a dire need to have standardized sign language for effective inclusive education for all the stakeholders.*

**Keywords:** PSL, deaf people, challenges, teaching, learning, curriculum

### 1. Introduction

Sign language is a way of communication for deaf people all around the world. This type of communication is carried out using hand gestures, face expressions, and arm and body movements. The goal of the sign language recognition system is to make it possible for the deaf community to interact with the rest of society effectively. The human-computer interface (HCI) is provided through a highly structured symbolic set. For everyday communication, deaf individuals use sign language around the globe to communicate with others and to express themselves. It is a useful means for hard-of-hearing students in educational contexts and communication in general (Saleem & Bibi, 2016). Through facilitation and support, deaf individuals can not only integrate into the society but also play their productive role as an important member (Shah et al., 2021). Pakistan's National Institute of Special Education (NISE) recognized the need for a core sign language and organized a national workshop in 1991, which resulted in the publication of the Manual of Sign Language. The Pakistan Association of the Deaf (PAD), founded in 1987, developed and promoted PSL through seminars and research publications. Those initiatives aimed at empowering the deaf community, improving their communication, and enhancing their education in Pakistan; this resulted in the advancement of PSL as a primary language of communication among deaf people (Sulman & Zuberi, 2000).

Pakistan sign language (PSL) is a visual gestural language and has its own vocabulary, grammar and syntax. It is important to note that the various sign languages are influenced by their respective acoustic counterparts. For example, American Sign Exact English (SEE) is the result of American English and its counterpart American sign language (ASL), and the English signs of the British sign language (BSL) are adherent to the British English language. Similar to this, the Urdu alphabets—

the national language of Pakistan—are represented by the PSL alphabet gestures. A matching number of PSL signs are used to symbolize each of the 37 Urdu alphabets. These signs are employed in the exchange of brief communications (Shah et al., 2018).

Despite the efforts to advance sign languages, there is no all-inclusive or fixed sign language framework available and accessible to all deaf communities worldwide. The majority of people are unaware of sign language, resulting in a communication gap between the addresser and the addressee. According to the information provided on the official website of Pakistan Sign Language (<https://psl.org.pk/>), PSL is taught in terms of Urdu, English, and Pakistan native languages. However, majority of Pakistan sign language teachers are unaware of the signs used in different languages. This lack of knowledge creates a communication gap between teachers and deaf students. The communication gap arises because, like spoken languages, sign languages also have variations and dialects. In Pakistan, where multiple languages are spoken, it is crucial for sign language teachers to be well-versed in the specifics of these languages in order to facilitate students with accurate information. While significant research has been conducted on the development of communication tools and strategies for the deaf community (Hameed & Salman, 2023; Abbas et al., 2022), less attention has been paid to the standardization, translation and normalization of PSL.

Language learning and teaching has always been explored given the importance of language for communication in neurotypicals (Irshad et al., 2021; Kalsoom et al., 2021) and for neurodivergents (Batool et al., 2021; Batool et al., 2022) in both social and academic contexts. In the same way, language learning and teaching for sensory difficulties and disabilities have also been explored through different dimensions (Batool & Shehzad, 2018; Batool et al., 2021; Batool et al., 2022). Deafness is a sensory disability that requires gestures, signs and body movements as a means of communication. Teaching and learning of sign language comes with its own challenges that need to be explored. Therefore, this study tries to address the gap by exploring Pakistan Sign Language learning and teaching practices and challenges faced by language instructors in Pakistan. The study will review PSL from the perspective of teachers and examine the strategies they use to teach it, the challenges they face while teaching multilingual students, and the similarities and/or differences they notice between PSL and other sign languages like ASL and BSL. The lack of appropriate linguistic structure, including language contents, grammar, equipment, and services, is a significant problem for communication in the special community. This study's significance lies in the fact that it will provide valuable insights into PSL's teaching and learning practices and the challenges faced by teachers and learners. The study's findings can help policymakers and educators develop effective strategies and resources to improve PSL's standardization and translation, ultimately enabling the deaf community effectively and participate equally in social and economic activities.

## 1.2 Research Objectives

Following objectives guide the study:

1. To explore the strategies used by teachers to teach Pakistan Sign Language (PSL).
2. To investigate the challenges faced by sign language instructors in Pakistan regarding Pakistan Sign Language (PSL).
3. To compare PSL with British Sign Language (BSL) and American Sign Language (ASL).

## 1.3 Research Questions

The study is based on the following research questions.

1. Which teaching practices are employed by sign language instructors in Pakistan for teaching Pakistan Sign Language (PSL)?

2. What challenges do sign language instructors face when teaching PSL to multilingual students?
3. How does Pakistan Sign Language (PSL) differ from and/or similar to British Sign Language (BSL) and American Sign Language (ASL)?

## 2. Literature Review

Sign language is a fundamental means of communication for the deaf, which requires movements of the human body. Similar to the formal and natural language, sign language varies around the globe in terms of its forms. Pakistan sign language (PSL), inspired by the national language of Pakistan – Urdu – has 38 alphabet signs, out of which 36 are represented by the static hand gestures (Shah et al., 2018). There are numerous sign languages. Sign language, unlike spoken languages, is distinct and different in each country, even in countries that share the same spoken language. Sign language is not an interpretation of spoken language; it is the native or local language of a deaf person. It is a complete and natural language with its own grammatical structure. There are different sign languages across different regions of Pakistan; as a result, people from various regions cannot converse through sign language because of less attention to regional sign languages of Pakistan (Abid et al., 2018). According to World Health Organization (2021) – more than 460 million people which make around 5% of the world's population – is hard-of hearing. In other words, around the world are affected by hearing disability. Out of these, 432 million are adults while 34 million are children. In addition, by 2050, it is anticipated that more than 700 million people will suffer from the adverse effect of hearing loss. Furthermore, approximately 1.1 billion young people are at the verge of permanent hearing loss due to unavoidable listening practices. In terms of cost, this unaddressed hearing loss issue, annually, causes 750 US billion dollars. However, in Pakistan, 6.2% people are suffering from some form of disability, according to the UNDP report (Ali, 2022).

Khan et al. (2015) addressed the lack of research on Pakistani sign language and proposed an architectural framework for converting English or Urdu text or speech into Pakistan sign language. The aim was to improve the access of communication and information for the hearing-impaired people in Pakistan. After few years, Khan et al. (2020) addressed the lack of a substantial sentence-level corpus and written grammar rules in Pakistan Sign Language (PSL). Khan and colleagues compiled a corpus of 2000 sentences in English, covering varied syntactical structures. The sentences were carefully translated by native signers into PSL, who also provided a formal transcription of PSL's grammatical structure. To translate English text into PSL, they proposed a rule-based machine translation approach involving syntactic, morphological, and semantic analysis. In addition to existing word and gesture corpora, the research sought to improve PSL translation by creating a parallel corpus for PSL gestures.

Farooq et al. (2021) investigated the differences between spoken and sign language in terms of dictionaries, linguistic features, gestures and resources. It covered topics such as gestures, linguistic features, dictionaries, and sign language resources. Two-way translation systems, including natural language to sign language translation and gesture recognition, were discussed along with the use of avatar technology. A taxonomy of sign language translation systems was presented, and future research directions and challenges in the field were highlighted.

Pakistan Sign Language (PSL) has received little attention from authorities, whereas, main efforts were carried out by individual/group efforts, which besides its development resulted in regional variations of PSL. This results in communication barriers among deaf individuals when they

interact with deaf people from other regions from different regions. Furthermore, lack of awareness and understanding regarding PSL gestures/signs among the general population hinders communication between hearing individuals and deaf. To bridge the communication gap between deaf and hearing teachers, Abbas and Sarfraz (2018) created a prototype that translated text into Pakistani Sign language. Its efficacy was assessed by Naseem et al. (2020) and its viability was further determined by Abbas et al. (2022) who reported it as an effective addition to the educational technology for special education. Efforts like these not only highlight, but also encourage the need for a more inclusive education for them (Kanwal et al., 2023).

Wasim et al. (2021) described a two-way communication system based on Pakistan Sign Language. The system translates Basic English text into hand motions and vice versa, allowing both hearing-impaired individuals and average people to communicate more easily. The goal of the research was to integrate the hearing-impaired population into the larger culture. The system used image processing algorithms to detect hand gestures and convert them into text or speech.

Qurrat ul Ain (2021) examined socialization and communication difficulties among students with hearing impairments (SWHI) in both inclusive and segregated higher education institutes (HEIs). The aim was to ensure access and success for SWHI and make higher education more relevant to their lives. Teachers reported positive experiences, stating that SWHI were respected and supported by their classmates, and dropout rates were low. However, significant differences were reported in the opinions between the teachers and SWHI. The latter highlighted the challenges they face while socializing and communicating and their sense of feeling unsupported and unrecognized by the society. They also reported the lack of availability of sign language interpreters in HEIs, impacting their learning experience.

The existing literature has studied Pakistan sign language from different angles. However, there is still a need to involve the important stakeholders of PSL – learners and teachers – in the process of its evaluation and exploration. The best way is to explore its active use by PSL users and teachers to bridge the gap between theory and practice.

### 3. Methodology

The study employs a phenomenological qualitative approach (Vagle, 2018) to explore subjective experiences and perspectives of PSL teachers. The participants of the study were selected through purposive convenient sampling, based on their expertise and extensive experience in teaching PSL. A total of eight (five male & five female) PSL teachers willingly took part in the study. Through semi-structured focus group interviews, participants shared their experiences and perspectives, which allowed an in-depth understanding of the study, and enabled participant centered approach which is crucial for getting insights into research problems (Wilson, 2014). The audio-recorded responses were transcribed and field notes were also taken, to ensure a comprehensive understanding of the matter. Since thematic analysis provides a systematic and rigorous investigation (Nowell, 2017), the transcribed data was reviewed to look for the recurring yet meaningful themes.

#### 4. Analysis and Discussion

The themes that emerged from the analysis is presented under three dimensions: PSL teaching practices, PSL teaching challenges and PSL vs BSL & ASL. These three dimensions align with the three research questions that guided the study at hand. Following sections discuss major themes of the study

##### 4.1 Pakistan Sign Language (PSL) Teaching Practices:

###### *Use of Hand Signs*

In Pakistan, hand signs are used by sign language instructors as a primary method of teaching PSL. It's about hand signs, which are specific hand movements, configurations and placements, to represent words, phrases and concepts. These are visually expressive signs and help deaf people communicate. Students are taught by instructors the meaning and usage of various hand signs but are also told that the movements must be clear and precise in order to convey accurate messages.

###### *Lip-Reading*

PSL instructors also use another important teaching practice: lip reading. This is understanding spoken language by watching the movement and shape of the lips, jaw and facial expressions. As well as PSL signs, instructors teach students to focus on visual cues like what a person's mouth is doing or facial expressions, to help them understand spoken language. The ability to lip read gives people with hearing loss a boost to their communication skills, particularly when there's no sign language interpreter around.

###### *Pointing at Objects*

PSL is taught by instructors using pointing at objects. Another practice is directing students' attention to particular objects or aspects of their environment. Instructors point at objects to help students to link signs with real life referents. For example, in an example, when the instructor points to a chair and signs the corresponding PSL sign, the sign is reinforced as the sign for what the chair represents. Added vocabulary can be better understood and sign meaning can be associated better to its corresponding actions.

###### *Use of Visual Materials*

Videos and pictures are important visual materials in PSL teaching. These materials are used by instructors to supply visual context and language comprehension support. Students are able to watch native signers signing and observe their signing styles and expressions to inform their teaching. Videos demonstrate sign language conversations and interactions. Visual aids, pictures, demonstrate the concepts, actions or objects that are connected to certain signs. Visual materials enhance the learning experience by bringing a level of engagement.

###### *Integration of Technology in PSL Teaching Practices*

Technology to enhance communication and language acquisition for deaf students is recognized by Pakistan's sign language instructors. Part of their teaching practices is the use of platforms such as WhatsApp and Facebook. Through these platforms, students can practice PSL, have sign language conversations, and find other deaf who live online.

###### *Use of WhatsApp for Written Communication*

Deaf students are encouraged to use WhatsApp for written communication between instructors. The WhatsApp text messaging feature enables students to send written messages in PSL, so that they can practice writing and expand their vocabulary. Students can also participate in discussions via group chats and get peer feedback/question from their instructors or peers. The deaf learners who communicate in this form develop their language and feel the sense of community.

## **4.2 Pakistan Sign Language (PSL) Teaching Challenges**

### ***Absence of Sign Language for Newly Emerging Words***

The first challenge is that there is no sign language vocabulary for new words, for example, covid-19 or technological terms. PSL may not have these concepts established by signs and therefore instructors might have difficulties teaching new and developing ideas to their students in a way that makes them easily understandable. This communication barrier makes it difficult for the students to understand and participate in contemporary topics related discussions fully.

### ***Lack of standardized Sign Language Curriculum.***

There are few published books in PSL and a need for a standardized sign language curriculum for PSL presented a difficult challenge for sign language instructors. PSL instructors may have trouble locating fitting textbooks, teacher stands, and resources. This is because there is no standard curriculum, as such it presents challenges to the instructors to arrange the lessons in a meaningful way and ensure that the students can have a consistent experience. It is however lackluster on the part of PSL education because of the lack of standardization, which hinders the general progress and development of PSL education in the nation.

### ***Similarity between Urdu Alphabets and Confusion for Students.***

PSL shares Urdu alphabets, one of the main languages in Pakistan. When students don't understand the message clearly, this can cause confusion. Urdu and PSL signs look similar visually, therefore students can confuse or mix the two languages, which will affect their ability to understand and express themselves well in PSL.

### ***Marginalization and Limited opportunities for communication***

This results from the lack of a standardized sign curriculum, and the fact that resources are limited to help deaf people integrate into society. Because most of the public is unaware of sign language, deaf people outside their community face communication barriers. These limited communication and social pressure can result in building of psychological problems also and moreover, interrupt the learning process of deaf students. It can also lead again to isolation, frustration and lack of chances of social integration.

### ***Variation in Sign Language***

Variation changes in PSL across different regions is one of the challenges faced by sign language instructors. Just as spoken languages can vary with regional vocabulary, grammar and signing styles, sign languages can also vary as well. These variations need to be known by instructors so that they can adjust their teaching to the particular regional characteristics of PSL. Thus, it is not easy to produce standardized teaching materials and to achieve PSL education consistency.

## **4.3. Pakistan Sign Language (PSL) vs American Sign Language (ASL) and British Sign Language (BSL)**

### ***Recognition and Standardization***

BSL and ASL have been recognized and made official in their countries. In both of them they are recognized as official languages and agreed standards have been set in the vocabulary, grammar and usage of their respective languages. On the other hand, despite the acceptance of PSL as main sign language for Pakistan, it is still in the process of affordable acceptance and official recognition as main sign language for Pakistan. Vocabulary, grammar may vary from one PSL practitioner to another due to lack of standardization in PSL. Hence, communication become difficult between different PSL practitioners.

### ***Availability of Educational resources and research***

There is a lot of educational resources of BSL and ASL including textbooks, dictionaries, online

learning material etc. There has been research done on these sign languages and research was done to better understand the linguistic structure and educational mechanism. On the other hand, PSL has a shortage of educational resources for the language. PSL linguistics, acquisition, and cultural aspects have been little researched.

#### ***Monolingual vs. Multilingual Context***

Most BSL and ASL are used within a monolingual context; the deaf community shares a spoken language. This allows for a more focused and cohesive linguistic environment. Conversely, Pakistan is a multilingual country; PSL is taught in English and Urdu. In this multilingual context, PSL learners face unique linguistic challenges: they need to move from one language and its signs to another.

#### ***Accessibility and Deaf Education***

The systems for deaf education are relatively more established in BSL and ASL. There are specialized schools, trained teachers or special programs for deaf students. More widely available accessibility provisions, such as interpreters and captioning, are available. On the other hand, PSL is confronted with the problem of lack of qualified teachers who are proficient in the language, limited access to specialized schools for the Deaf and limited number of inclusive education programs that can appropriately meet the needs of the deaf.

#### ***Awareness and Community Support***

BSL and ASL have become more known and accepted in their own countries. Deaf communities and advocacy organizations work together to create awareness of people who are deaf, inclusivity of deaf people, as well as any accessibility required. On the other hand, PSL is not yet recognized and known among the general population in Pakistan. As a result, the deaf people's rights and needs may be ill understood by the community and limited community support may result.

#### ***Technology Adoption and Accessibility***

Later, BSL and ASL have come to terms with video relay services (VRS) and video remote interpreting (VRI). For instance, as per his VRS platform example in the UK, deaf people can make phone calls using BSL with Sign Video. Yet, such technologies have not been widely adopted in PSL.

#### ***Online Learning and Resources***

The online learning platforms of BSL include British Sign Language Academy and Sign world Learn BSL and offer interactive courses, video tutorials and quizzes to help learn and self-study. Online resources like Life print and ASL University offer ASL users all kinds of lessons and fingerspelling practice as well as a host of vocabulary development exercises. Although PSL has limited online learning resources, making it difficult for people to learn the language online.

#### ***Social media and Communication platforms***

People who use BSL make full use of social media sites such as Facebook, Twitter and YouTube, where sign language content is shared and the deaf community is accessed. They make sign language vlogs, educational videos and fight for deaf rights. The same thing goes for ASL users who are very present on Instagram and share ASL poetry, storytelling, and creative expressions of sign language. Still, PSL users may be less present and engaged on social media in general.

#### ***Assistive Technologies and Devices***

Deaf people using sign language have access to video phones to communicate directly with other deaf people. They can also use captioning tools in public spaces, or during video calls, for better accessibility. Using wearable technology such as smart gloves, ASL users also have the advantage of being able to convert hand gestures into text or voice for near immediate and real time communication with hearing others. Nevertheless, the availability and use of such assistive

technologies and devices in PSL may be limited, making communication for PSL users difficult. But first and foremost, it is worth paying attention to the fact that, though at a greater degree in BSL and ASL, technology and resources are limited in PSL. Technology is now being introduced into PSL education and communication, but their use may also, albeit in time, reach the level of accessibility and convenience that BSL and ASL have.

## 5. Conclusion

The findings of the study bring to light that PSL is not standardized sign language, and its regional variations need to be taken into consideration. Moreover, there is a need to establish fixed signs for certain words to address the difficulties PSL users face. Additionally, the absence of teaching and academic resources, specifically tailored to the needs of PSL, creates obstacles for teachers in planning and delivering their lessons effectively. Besides these, similar Urdu alphabets confuse the learners and further complicate the learning process for PSL students. This hinders the overall effectiveness of PSL education. Despite the challenges, PSL teachers used multiple teaching strategies that include object pointing, lip reading, hand signs and visual material. The challenges need to be addressed so that a comprehensive curriculum is developed for the students and standardized teaching resources are provided to the teachers.

This calls for increased awareness in society through campaigns and seminars. The starting point should be the institutes, where students and teachers are educated for a better understanding of the needs of hard-of-hearing people. Another important step can be to introduce Pakistan Sign Language as a compulsory subject in mainstream academic institutes of Pakistan. This will foster a healthy culture of inclusivity. The findings have also important implications for educational policy makers, since there is a need to train PSL teachers and to encourage inclusive educational programs with the aim to support and recognize deaf people as important component of the society. Future research in PSL should focus on its linguistic elements for better understanding and development of PSL curriculum and for declaring and documenting it as a standard sign language of Pakistan.

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