

FROM UNIVERSITY TO EMPLOYMENT: WORKPLACE COMMUNICATION BARRIERS FACED BY DEAF GRADUATES IN PAKISTAN

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ABSTRACT

Background: Despite possessing university qualifications, Deaf graduates in Pakistan continue to encounter communication-related barriers during recruitment, workplace participation, and career advancement. Limited access to Pakistan Sign Language (PSL) interpreters, spoken-language-based organizational practices, and inadequate workplace accommodations may restrict their ability to demonstrate professional competence and participate equally.

Objective: This study explored communication barriers experienced by Deaf university graduates during recruitment and employment, examined workplace communication challenges, and assessed the availability and effectiveness of PSL interpreters and other communication accommodations in Pakistan.

Methods: A qualitative exploratory, multi-perspective research design was employed. The sample comprised 28 participants, including 18 Deaf university graduates and 10 employers, human resource officers, or supervisors with direct experience of recruiting or working with Deaf graduates. Participants were selected through purposive and snowball sampling. Separate semi-structured interviews were conducted with both groups. Interviews with Deaf graduates were conducted in PSL with support from a qualified interpreter, while employer interviews were conducted in Urdu and English. Data were analysed using thematic analysis. The two datasets were initially analysed separately and subsequently compared through a thematic matrix.

Results: The analysis of Deaf graduates' interviews generated four major themes: communication barriers during recruitment, exclusion from workplace communication, limited and inconsistent communication accommodations, and restricted career progression accompanied by repeated self-advocacy. Employers' interviews produced five themes related to inaccessible recruitment practices, reliance on informal written communication, inconsistent provision of accommodations, limited organizational policies and awareness, and concerns regarding leadership and client-facing roles. Both groups identified telephone-based screening, absence of qualified PSL interpreters, inaccessible meetings and training sessions, and dependence on coworkers as major barriers. Although employers generally recognized the professional competence of Deaf graduates, accommodations were often informal, irregular, and insufficient for complex or confidential communication.

Conclusion: Workplace disadvantages experienced by Deaf graduates arise primarily from inaccessible organizational systems rather than from a lack of professional ability. Inclusive employment requires accessible recruitment procedures, qualified and confidential PSL interpretation, appropriate assistive technologies, Deaf-awareness training, dedicated accessibility budgets, formal organizational policies, and equal access to training, leadership, and promotion opportunities.

Keywords: Deaf graduates, workplace communication, Pakistan Sign Language, employment barriers, reasonable accommodation, inclusive recruitment, qualitative research

Introduction

Employment promotes financial independence, professional identity and social participation. However, Deaf and hard-of-hearing graduates continue to experience lower employment participation, fewer working hours and limited career opportunities despite having university qualifications (Ananian & Dellaferrera, 2024; Gupta et al., 2023; Elsendoorn et al., 2025).

Communication barriers often begin during recruitment because telephone screening, oral interviews and group assessments rely mainly on spoken language. Abbas et al. (2019) found that Pakistani employers faced difficulties related to communication, recruitment and workplace adjustment. Without interpreters, captioning or accessible alternatives, Deaf applicants may be evaluated according to speech ability rather than professional competence. These challenges may continue after employment. Meetings, training sessions and informal discussions can exclude Deaf employees from important information and decision-making. Chelius et al. (2024) identified accessible communication and organizational support as essential workplace resources, while Harrelson and Nicodemus (2022) noted that Deaf professionals often carry the additional burden of arranging interpreters and explaining their communication needs.

PSL interpreters can improve workplace communication, but their effectiveness depends on competence, confidentiality and knowledge of professional terminology (Hockaday, 2025). In Pakistan, existing studies have mainly focused on communication barriers in higher education, limited interpreter provision and low PSL awareness among hearing students (Ain, 2021; Hussain et al., 2023; Afzaal et al., 2024). Although disability legislation requires reasonable accommodation, practical implementation

remains limited (Government of Pakistan, 2020; ILO, 2023).

Therefore, limited research has examined the lived employment experiences of Deaf university graduates or compared their views with those of employers and HR professionals. The present study will explore recruitment and workplace communication barriers, assess PSL interpretation and other accommodations, and identify gaps between organizational practices and the actual needs of Deaf employees.

Literature Review

The transition from university to employment remains difficult for many Deaf graduates despite improvements in educational attainment. Garberoglio et al. (2019) found that higher education improves the employment prospects of Deaf individuals, but a substantial employment gap between Deaf and hearing populations remains. A systematic review by Morña and Biagiotti (2022) similarly concluded that graduates with disabilities often receive limited career guidance, work experience and transition support from universities. Thus, academic qualifications may increase employability without removing barriers within recruitment systems and workplaces.

Communication barriers may first arise during job searching and recruitment. Perkins-Dock et al. (2015) identified communication difficulties, employer misconceptions and inadequate workplace preparation as major barriers reported by Deaf jobseekers. Chomba et al. (2023) also found that limited access to career information and preconceived beliefs about the abilities of people with hearing impairment restricted their career choices. In Pakistan, Fatima et al. (2025) reported that teachers considered communication difficulties, insufficient vocational preparation

and limited employer awareness important barriers to employment for individuals with hearing impairment. However, these studies did not examine recruitment experiences directly from the perspective of Pakistani Deaf university graduates.

Communication challenges may continue after appointment because workplace interaction frequently depends on spoken language. Managers interviewed by Svinndal et al. (2020) recognized that employees with hearing impairment required individualized accommodations, yet uncertainty about hearing loss often made workplace adjustments difficult. Mangan (2024) likewise observed that Deaf professionals may be excluded from meetings, networking and professional activities when communication is not planned accessibly. Granberg et al. (2024) further found that supportive work climates and employee control were more important for sustainable employment than the type of occupation itself. These findings indicate that communication access influences both job performance and long-term career retention.

Appropriate accommodations can improve employment outcomes. Cuevas et al. (2021) found that vocational rehabilitation services, including job-placement assistance, counselling and workplace support, were associated with successful employment among hard-of-hearing individuals. However, accommodations must correspond to the employee's communication preferences. Sign-language interpretation, real-time captioning, visual instructions and accessible digital communication may be useful in different situations, while relying on only one method may not provide full access to meetings, training or informal workplace interaction (Mangan, 2024; Svinndal et al., 2020).

Evidence from Pakistan indicates that disability inclusion is developing but remains inconsistent. A corporate-sector analysis by the Pakistan Business Council (2023) found that persons with disabilities represented less than 1% of the workforce reported by participating companies. Communication gaps and unavailable assistive technology were also among the commonly identified inclusion challenges. Some

organizations offered sign-language training, virtual interpretation and disability-inclusive internships, but these were presented as individual organizational initiatives rather than standard workplace practices. Fatima et al. (2025) similarly identified inadequate workplace accommodations and limited employment preparation as continuing concerns in Punjab.

The reviewed literature establishes that Deaf people experience barriers during career preparation, recruitment and workplace participation. Nevertheless, previous studies have mainly used international datasets, broad disability samples, or the perspectives of teachers, rehabilitation professionals and managers. Little research has explored how Deaf university graduates in Pakistan personally experience job interviews, meetings, training and communication with colleagues. The availability and effectiveness of PSL interpreters and alternative communication accommodations also remain insufficiently documented. The present study addresses this gap by examining Deaf graduates' experiences and comparing them with the perspectives of employers, HR officers and supervisors.

Objectives of the study

1. To explore the communication barriers experienced by Deaf university graduates during job applications, interviews, and recruitment processes in Pakistan.
2. To examine the workplace communication challenges faced by Deaf graduates in meetings, training sessions, and interactions with supervisors and colleagues.
3. To assess the availability and effectiveness of Pakistan Sign Language interpreters and other communication accommodations in workplaces.

Research Questions

1. What communication barriers are experienced by Deaf university graduates during job applications, interviews, and recruitment processes in Pakistan?
2. How do Deaf university graduates experience communication challenges during

workplace meetings, training sessions, and interactions with supervisors and colleagues?

3. To what extent are Pakistan Sign Language interpreters and other communication accommodations available and effective in supporting Deaf graduates in the workplace?

Theoretical Framework

This study is primarily guided by the Social Model of Disability, which explains disability as the result of social, organizational and environmental barriers rather than an individual's impairment. From this perspective, Deaf graduates are not disadvantaged merely because they cannot hear; instead, barriers arise when recruitment interviews, workplace meetings and training programs rely exclusively on spoken communication and do not provide PSL interpreters, captioning or visual alternatives (Lawson & Beckett, 2021).

The study also draws on Communication Accommodation Theory, which explains how individuals adjust their verbal and non-verbal communication to meet the needs of others. In this study, accommodation may include using PSL interpreters, written instructions, captioning, visual materials and direct communication with Deaf employees. Failure by employers and colleagues to make such adjustments may result in communication exclusion, while appropriate accommodation can support participation and workplace inclusion (Giles et al., 2023).

Together, these theories will guide the analysis of how organizational barriers and communication practices affect Deaf graduates during recruitment and employment. They will also help assess whether workplace accommodations remove barriers and provide Deaf employees with equal opportunities for participation and career development.

Methodology

Research Approach and Design

The study employed a qualitative exploratory, multi-perspective research design to investigate the communication experiences of Deaf university graduates during recruitment and employment in Pakistan. Semi-structured interviews were

considered appropriate because they provided consistency across participants while allowing the researcher to explore individual experiences through follow-up questions (Kallio et al., 2016). Deaf graduates and employers were interviewed separately to obtain both employee and organizational perspectives.

Study Population and Sample

The study population comprised Deaf university graduates who used Pakistan Sign Language and had recruitment or employment experience, along with employers, HR officers and supervisors who had recruited or worked directly with Deaf graduates.

The sample consisted of 28 participants:

- 18 Deaf university graduates
- 10 employers, HR officers or supervisors

The sample size was considered appropriate for an in-depth qualitative study involving relatively specific participant groups. The adequacy of the sample was assessed by monitoring code and meaning saturation during data collection and analysis (Hennink et al., 2017).

Sampling Technique

Purposive sampling was used to recruit participants with direct knowledge and experience of the research problem. This technique is appropriate in qualitative research when participants are deliberately selected because they can provide relevant and information-rich data (Palinkas et al., 2015). Snowball sampling was also used to identify additional Deaf graduates through universities, Deaf associations, and participant referrals.

Inclusion and Exclusion Criteria

Deaf participants were required to:

- Be at least 18 years old
- Hold a bachelor's degree or higher
- Use PSL as a primary or preferred communication method
- Have experience of job applications, interviews or employment in Pakistan
- Provide informed consent

Employer participants were required to hold an HR, recruitment, managerial or supervisory

position and to have direct experience of recruiting, supervising or working with at least one Deaf graduate.

Deaf individuals without a university qualification or employment-related experience were excluded. Employers without direct experience of Deaf graduates and individuals who did not provide informed consent were also excluded.

Data Collection Instrument

Data were collected through separate semi-structured interview guides for Deaf graduates and employers. The questions addressed job applications, interviews, workplace meetings, training, communication with supervisors and colleagues, interpreter availability, assistive technology and organizational accommodations.

The interview guides were developed according to the study objectives and relevant literature. Kallio et al. (2016) recommended expert assessment and pilot testing when developing semi-structured interview guides. Accordingly, the guides were reviewed by experts in special education, qualitative research, Deaf studies and Pakistan Sign Language. Pilot interviews were conducted with two Deaf graduates and one employer who were not included in the final sample.

Data Collection Procedure

Participants were contacted through universities, Deaf associations, disability organizations, workplaces and professional networks. Accessible information about the study was provided before informed consent was obtained.

Employer interviews were conducted in Urdu or English according to each participant's preference. A total of eight interviews were conducted, after which data saturation was achieved, as no substantially new information or themes emerged. Each interview lasted approximately 35-45 minutes and was conducted either in a private, accessible setting or through a secure online platform. With participants' permission, interviews with Deaf participants were video-recorded to preserve signs, facial expressions, and other non-manual features, while employer interviews were audio-recorded. Field notes were

also maintained throughout the data collection process.

Employer interviews were conducted in Urdu or English according to each participant's preference. A total of six interviews were conducted, after which data saturation was achieved, as no substantially new information or themes emerged. Each interview lasted approximately 40-60 minutes and was conducted either in a private, accessible setting or through a secure online platform. With participants' permission, interviews with Deaf participants were video-recorded to preserve signs, facial expressions, and other non-manual features, while employer interviews were audio-recorded. Field notes were also maintained throughout the data collection process.

Translation and Transcription

PSL interviews were translated and transcribed into English. The researcher and PSL interpreter reviewed the recordings and transcripts to reduce loss of meaning during interpretation. Where necessary, a second PSL expert checked selected sections of the translated material. Employer interviews were transcribed verbatim, and Urdu interviews were translated into English.

Data Analysis

The data were analyzed through thematic analysis, which provides a systematic but flexible process for identifying patterns of meaning across qualitative data (Braun & Clarke, 2021). The analysis involved:

1. Familiarization with the transcripts
 2. Generation of initial codes
 3. Grouping codes into categories
 4. Development of preliminary themes
 5. Review and refinement of themes
 6. Definition and naming of final themes
 7. Interpretation and reporting of findings
- Data from Deaf graduates and employers were initially analyzed separately. A comparative thematic matrix was then used to examine similarities, differences and contradictions between the two groups. This process helped identify gaps between the accommodation's employers believed they provided and the

communication support experienced by Deaf graduates.

Trustworthiness

Credibility was supported through pilot interviews, repeated engagement with the data, comparison of two participant groups and the use of participant quotations. Dependability was maintained through an audit trail documenting recruitment, transcription, coding and theme development. Confirmability was strengthened through researcher reflexivity and peer review, while transferability was supported by describing the study setting and participant characteristics. These procedures are recommended for conducting transparent and trustworthy thematic analysis (Nowell et al., 2017).

Ethical Considerations

Ethical approval was obtained from the relevant institutional research ethics committee. Participants received information about the purpose, procedure, confidentiality and voluntary nature of the study. Consent information was made available in written form and PSL because accessible communication is central to the ethical participation of Deaf people in research (Krawczyk et al., 2024).

Participants were informed that they could refuse to answer questions or withdraw at any stage. Names of individuals and organizations were replaced with codes or pseudonyms. Recordings, transcripts and consent documents were stored securely and were accessible only to the research team. Particular care was taken to protect confidentiality because Deaf communities may be relatively small and participants may be identifiable through their workplaces or recorded signs (Krawczyk et al., 2024).

Results

Thematic Analysis of Deaf Graduates' Interviews

The interviews with Deaf university graduates produced four main themes: communication barriers during recruitment, exclusion from workplace communication, availability and effectiveness of communication accommodations, and career progression and workplace inclusion.

Each theme consisted of related subthemes reflecting participants' experiences.

Theme 1: Communication Barriers during Recruitment

Participants experienced communication barriers throughout the recruitment process, beginning with initial contact and continuing through interviews and final selection. Recruitment procedures were largely based on spoken communication and did not adequately consider applicants who used Pakistan Sign Language.

Subtheme 1.1: Inaccessible Initial Contact

Participants reported that employers frequently relied on telephone calls to confirm applications, communicate interview dates and conduct initial screening. This approach prevented Deaf applicants from responding independently and sometimes delayed their access to important information.

DG-07 explained:

"The company called me several times, but I could not answer. I only learned about the interview when they later sent an email."

Similarly, DG-12 stated:

"I clearly informed the HR department that text messages were my preferred way of communication. However, they continued to contact me through telephone calls. This made it difficult for me to receive important updates independently and on time."

These accounts showed that employers often ignored the communication preferences already provided by Deaf applicants.

Subtheme 1.2: Absence of PSL Interpretation during Interviews

The absence of qualified PSL interpreters created substantial difficulties during recruitment interviews. Participants relied on written responses, relatives or informal gestures when professional interpretation was unavailable.

DG-13 described the experience:

"I requested a sign language interpreter before the interview, but the organization informed me that this facility was unavailable. As a result, I had to communicate with the interview panel through

written notes. I read each question carefully and wrote my answers on paper. This made the interview process slower and more difficult for me.”

DG-04 reported:

“My brother interpreted for me during the interview, but I felt uncomfortable discussing personal matters in his presence. He also struggled to understand some of the professional terminology used by the interview panel.”

These experiences demonstrated that reliance on relatives compromised privacy, accuracy and professional communication.

Subtheme 1.3: Assessment Based on Communication Rather than Competence

Participants believed that interview panels focused more on their hearing status and communication method than on their education, experience and technical abilities.

DG-15 stated:

“Most questions were about how I would communicate with hearing employees. They asked very little about my degree or professional skills.”

DG-09 similarly explained:

“I felt that the interviewers had already assumed that communication would be a major difficulty. They seemed more focused on my hearing impairment than on my qualifications and skills. I was not given a fair opportunity to demonstrate my abilities. Their judgment appeared to be formed before the interview was completed.”

DG-03 reported that:

“I felt that the interview panel focused more on my disability than on my education and experience. They repeatedly asked how I would communicate with colleagues instead of discussing my professional skills.”

The findings showed that inaccessible recruitment procedures prevented Deaf graduates from demonstrating their professional competence on equal terms.

Theme 2: Exclusion from Workplace Communication

Communication barriers continued after participants secured employment. Deaf graduates experienced exclusion during meetings, training

sessions, informal discussions and social interactions with hearing colleagues.

Subtheme 2.1: Limited Participation in Meetings

Participants found it difficult to follow meetings where several people spoke at the same time or where discussions progressed rapidly without interpretation or captioning.

DG-17 explained:

“During meetings, my colleagues speak very quickly and frequently change the topic. I often struggle to follow the discussion without proper communication support. Sometimes, a colleague explains the conversation to me after a delay. By that time, the meeting has already moved on to another issue. As a result, I miss important information and cannot participate fully in decision-making.”

DG-02 stated:

“I usually receive a summary after the meeting, but I cannot ask questions or give my opinion at the right time.”

Receiving information after meetings did not allow participants to contribute to discussions or decision-making at the appropriate moment.

Subtheme 2.2: Inaccessible Training and Professional Development

Training sessions were often delivered through spoken presentations without captions, interpreters or sufficient visual support. Participants therefore received only partial information.

DG-05 reported:

“The trainer used slides during the session, but most of the information was explained verbally. I was able to understand the written points shown on the screen. However, I missed the detailed explanations and examples given by the trainer.”

DG-08 added:

“I was selected to attend the training, but the organization did not arrange a sign language interpreter. I tried to follow the written material, but much of the verbal discussion was inaccessible to me. After the session, a colleague explained some of the main points. However, I still missed many important details and examples.”

These accounts showed that physical attendance at training did not ensure meaningful access to its content.

Subtheme 2.3: Informal Social and Professional Isolation

Participants also experienced exclusion during workplace breaks, social gatherings and informal conversations. This reduced their access to professional networks and information shared outside formal communication channels.

DG-01 stated:

“My colleagues are friendly, but they talk among themselves during breaks. I often sit with them without knowing what they are discussing.”

DG-18 explained:

“Important information is often shared informally before an official announcement is made. Because I cannot easily follow these casual conversations, I usually receive the information later than my colleagues.”

Communication exclusion therefore affected task performance, workplace belonging, teamwork and access to informal organizational knowledge.

Theme 3: Availability and Effectiveness of Communication Accommodations

Participants described considerable differences in the availability, consistency and quality of PSL interpreters and alternative communication accommodations.

Subtheme 3.1: Limited and Irregular Interpreter Availability

Interpreters were generally provided only for important events, induction sessions or meetings attended by senior management. Routine workplace communication remained inaccessible.

DG-03 stated:

“An interpreter was arranged to support me on my first day at work. However, this assistance was not available on the following days. I had to communicate with my colleagues through text messages and written notes. This made everyday communication slower and sometimes caused misunderstandings.”

DG-14 reported:

“The organization provided an interpreter only when senior management attended. Routine team meetings were not interpreted.”

These findings showed that interpreter provision was occasional rather than integrated into everyday workplace communication.

Subtheme 3.2: Interpreter Competence and Confidentiality

Participants raised concerns regarding interpreters’ technical vocabulary, accuracy and confidentiality. Untrained interpreters sometimes failed to communicate specialized information correctly.

DG-11 stated:

“Sometimes another employee was asked to interpret for me. I felt uncomfortable discussing my performance or personal workplace concerns in front of a colleague. I was also worried that my information might not remain confidential.”

DG-09 explained:

“The interpreter knew everyday signs, but many technical terms were difficult to explain. I was not always sure that my answers were translated correctly.”

DG-16 stated:

“When I needed to discuss a sensitive issue with my manager, no professional interpreter was available. A coworker was asked to help, but I did not feel comfortable sharing private details. This prevented me from expressing my concerns openly.”

These experiences demonstrated that interpretation quality and confidentiality directly influenced participants’ trust and willingness to communicate openly.

Subtheme 3.3: Dependence on Alternative Communication Methods

In the absence of interpreters, Deaf graduates relied on emails, messaging applications, written instructions, visual materials and speech-to-text tools.

DG-17 reported:

“WhatsApp and email help me communicate independently because I can read the complete message and respond clearly.”

However, DG-14 explained the limitations of written communication:

“Written instructions are useful for routine work, but they are not enough during fast discussions or complicated training.”

Alternative methods supported routine communication but did not replace qualified interpretation during complex and interactive situations.

Theme 4: Career Progression, Self-Advocacy and Workplace Inclusion

Communication accessibility influenced participants’ access to training, promotion, leadership roles and professional development. Deaf graduates also carried the repeated responsibility of explaining their communication needs.

Subtheme 4.1: Restricted Training and Promotion Opportunities

Participants believed that communication barriers reduced their access to advanced responsibilities and promotion.

DG-09 stated:

“Some professional training programs were not accessible because no interpreter or suitable communication support was provided. As a result, I was unable to complete those courses. Later, the same training certificates became mandatory for promotion. This placed me at a disadvantage compared with my hearing colleagues.”

DG-17 narrated:

“I was capable of taking on greater responsibilities, but I was rarely given leadership opportunities. Management assumed that communication difficulties would affect my performance. I felt that my abilities were overlooked because of my disability.”

DG-02 explained:

“Some professional training programs were not accessible because no interpreter or suitable communication support was provided. As a result, I was unable to complete those courses. Later, the same training certificates became mandatory for promotion. This placed me at a disadvantage compared with my hearing colleagues.

These findings showed that inaccessible training indirectly restricted career advancement.

Subtheme 4.2: Burden of Repeated Self-Advocacy

Participants repeatedly explained their communication requirements to new managers and colleagues and personally arranged communication support.

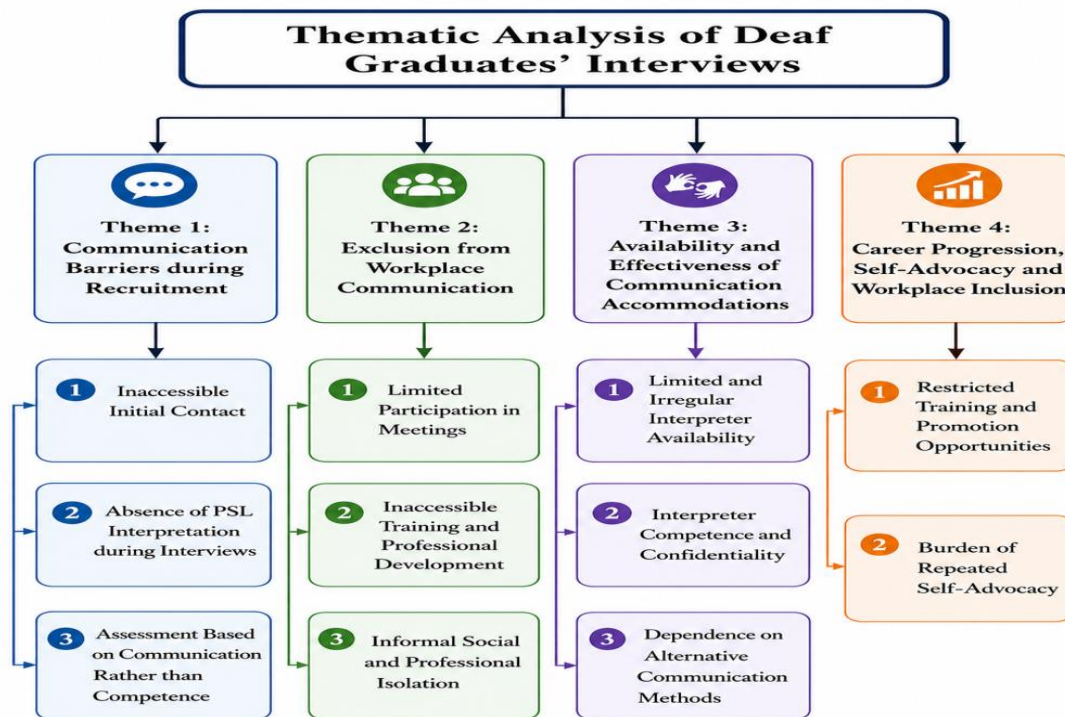
DG-11 reported:

“Every time a new manager joins, I have to explain again how to communicate with me and why an interpreter is necessary.”

DG-07 stated:

“I spend additional time arranging communication support, although this should be the organization’s responsibility.”

The repeated burden of self-advocacy added to participants' regular professional responsibilities and reflected the absence of established workplace procedures.



Four main themes and related subthemes identified from interviews with Deaf university graduates.

Figure 1: Flow chart of thematic analysis of Deaf graduates' interviews

Thematic Analysis of Employers' Interviews

The thematic analysis of employers' interviews generated five major themes: organizational experiences of recruiting Deaf graduates; communication practices within the workplace; provision and effectiveness of communication accommodations; organizational awareness, policies and capacity; and perceptions of performance, inclusion and career development. Collectively, these themes demonstrate that employers generally recognize the professional abilities of Deaf graduates. However, their inclusion is frequently affected by inaccessible recruitment procedures, limited organizational awareness, inconsistent accommodations and communication systems that continue to rely heavily on spoken interaction.

Theme 1: Organizational Experiences of Recruiting Deaf Graduates

Employers described recruitment as one of the first stages at which Deaf graduates encounter organizational barriers. In many organizations, recruitment procedures had been developed for hearing applicants and were not reviewed until a Deaf candidate applied. Employers reported limited previous experience of recruiting Deaf graduates, which resulted in uncertainty regarding accessible communication, interview arrangements and the assessment of job-related abilities.

Subtheme 1.1: Limited Applications from Deaf Graduates

Some employers reported that their organizations received very few applications from Deaf graduates. Consequently, accessible recruitment practices had not been formally incorporated into

their standard recruitment procedures. The limited number of applications appeared to reinforce the perception that accessibility arrangements were exceptional rather than a routine component of inclusive recruitment.

Employer E1 stated:

“We rarely receive applications from Deaf graduates, so our recruitment procedures were not specifically designed for them.”

Another employer explained:

“We had never interviewed a Deaf graduate before, so the recruitment team was not prepared. We had to decide everything after receiving the application.” – Employer E6

This indicates that limited exposure to Deaf applicants can contribute to a lack of preparedness and uncertainty among recruitment personnel.

Subtheme 1.2: Communication Difficulties during Initial Screening

Employers acknowledged that telephone-based screening was unsuitable for applicants who were Deaf or preferred written communication. Nevertheless, alternative procedures, such as email, text messaging or video communication with interpretation, were not always formally established.

HR-02 explained:

“Our normal process begins with a telephone call. We realized that this was not suitable when a Deaf candidate applied.”

Another HR representative added:

“The applicant had clearly requested communication by email, but one of our staff members still tried to contact him by telephone because that was our usual procedure.” – HR-05

These accounts demonstrate that accessibility problems may result not only from the absence of technology but also from rigid organizational routines. Although written alternatives were readily available, staff members continued to follow conventional telephone-based procedures. This could delay communication, disadvantage Deaf candidates and create an inaccurate impression that the applicant is unresponsive.

Subtheme 1.3: Uncertainty about Interview Accommodations

Employers also expressed uncertainty about arranging accessible interviews. Some participants were unaware of how to locate qualified Pakistan Sign Language interpreters or determine whether captioning, written questions or additional interview time would be appropriate.

HR-07 stated:

“We wanted to support the applicant, but we did not know where to find a qualified PSL interpreter.”

Another participant explained:

“We were willing to make adjustments, but no one in the organization knew what type of support should be arranged or who should arrange it.” – Employer E1

These responses reflect an absence of established procedures and external support networks. The willingness of individual employers was not always sufficient because they lacked practical knowledge regarding accessible recruitment. As a result, accommodations could depend on personal initiative rather than organizational policy.

Subtheme 1.4: Concerns about Assessing Job Requirements

Some employers found it difficult to distinguish between genuine job requirements and assumptions about the communication abilities of Deaf candidates. Communication difficulties experienced during an inaccessible interview were sometimes interpreted as evidence that the applicant might face difficulties in the workplace.

Employer E4 explained:

“The interview panel was unsure whether the communication difficulty would affect the actual work or only the interview.”

A further employer stated:

“The candidate had the required qualifications, but some panel members were concerned because the interview required more spoken interaction than the actual job.” – E9

This finding indicates that inaccessible interviews may fail to measure candidates' professional competence accurately. When recruitment procedures rely heavily on spoken communication, employers may assess an

applicant's ability to participate in a conventional interview rather than their ability to perform the essential duties of the job.

Theme 2: Communication Practices within the Workplace

Employers reported that communication with Deaf employees was commonly managed through written messages, email, mobile applications and support from colleagues. Although these methods enabled basic workplace interaction, communication arrangements were often informal and varied between departments. Organizations generally lacked a standardized communication system that could be applied consistently across meetings, training sessions and routine workplace activities.

Subtheme 2.1: Reliance on Written and Digital Communication

Written and digital communication was described as the most common method of communicating with Deaf employees. Employers frequently used email, WhatsApp, text messages and written instructions because these options were inexpensive and immediately available.

Supervisor E08 stated:

"Most communication is conducted through email and WhatsApp because these methods are easy and do not require additional resources."

Another participant commented:

"We usually provide instructions in writing, and the employee responds through messages. It works well for routine tasks." – Employer E06

Written communication appeared effective for straightforward instructions and daily updates. However, it could be less suitable for complex discussions requiring immediate clarification, detailed explanation or emotional sensitivity. Reliance on written communication alone may therefore provide basic access without ensuring full participation.

Subtheme 2.2: Challenges during Group Meetings

Group meetings were identified as particularly difficult to make accessible. Employers recognized that Deaf employees could follow one-to-one

conversations more easily, especially when communication was written or visually supported. In contrast, meetings involving multiple speakers, rapid discussion and frequent interruptions created considerable barriers.

Supervisor E10 explained:

"One-to-one communication is manageable, but group meetings become difficult because several people speak at the same time."

These quotations demonstrate that receiving a summary after a meeting is not equivalent to active participation. Delayed access may exclude Deaf employees from decision-making, reduce their opportunity to ask questions and limit their visibility within the team.

Subtheme 2.3: Dependence on Supportive Colleagues

Some organizations relied on supportive colleagues to explain discussions, summarize meetings or assist with communication between Deaf and hearing employees. Although this assistance was often appreciated, it was informal and depended on the availability and willingness of individual team members.

Employer E03 stated:

"A team member usually helps the Deaf employee understand what was discussed, although this arrangement is informal."

Another employer explained:

"One colleague has learned some basic signs and usually assists during meetings, but this support is not part of the colleague's official responsibilities."

– Employer E07

Dependence on colleagues may create inconsistency because support can become unavailable when the colleague is absent, transferred or occupied with other duties. It can also affect privacy when sensitive matters, such as performance evaluation, salary or personal workplace concerns, are communicated through another employee.

Theme 3: Provision and Effectiveness of Communication Accommodations

Employers described using a combination of interpreters, written communication, visual materials, captions and speech-to-text applications.

Nevertheless, the provision of accommodations remained inconsistent. The type and quality of support often depended on interpreter availability, financial approval, the nature of the event and the awareness of individual managers.

Subtheme 3.1: Limited Availability of Qualified PSL Interpreters

The limited availability of qualified PSL interpreters was identified as a significant challenge. Employers reported difficulties in locating interpreters, particularly in smaller cities or when meetings were scheduled at short notice. HR Officer E01 stated:

“Qualified interpreters are not easily available, particularly when a meeting is arranged at short notice.”

This shortage restricted the consistent use of professional interpretation. Consequently, organizations sometimes depended on colleagues, family members or unqualified individuals, which could reduce the accuracy, confidentiality and professionalism of communication.

Subtheme 3.2: Financial and Administrative Concerns

Some employers viewed interpreter services as an additional expense rather than a routine accessibility requirement. Requests for interpreter support often required separate authorization from senior management or the finance department.

Employer E05 explained:

“Interpreter expenses are not included in our regular budget, so every request has to be approved separately.”

These findings suggest that administrative procedures can delay accommodations even when managers acknowledge their importance. The absence of a designated accessibility budget makes support dependent on repeated requests and individual approval.

Subtheme 3.3: Use of Assistive and Digital Technology

Several employers reported using automatic captions, speech-to-text applications, online meeting platforms and visual presentations to

improve communication. These technologies were generally considered useful, particularly during online meetings, but their effectiveness was affected by technical limitations and language accuracy.

Supervisor E07 stated:

“We started using automatic captions during online meetings, although their accuracy is not always reliable.”

These experiences show that technology can enhance accessibility when combined with appropriate communication planning. However, automatic captioning should not automatically be treated as a complete replacement for professional interpretation, especially during complex or sensitive discussions.

Subtheme 3.4: Lack of Evaluation of Accommodations

Employers acknowledged that accommodations were often introduced without formally evaluating their effectiveness. Managers generally assumed that written communication or captions were sufficient if the Deaf employee did not raise a complaint.

HR Officer E10 stated:

“We assumed that written communication was sufficient, but we never formally asked the employee whether it met all communication needs.”

Another participant explained:

“We provided support according to what we thought was useful, but there was no regular meeting to ask the employee what was working and what needed to change.” – Employer E02

This demonstrates that accommodations were commonly based on employer assumptions rather than continuous consultation with Deaf employees. Without formal feedback, organizations may continue using arrangements that provide only partial access.

Theme 4: Organizational Awareness, Policies and Capacity

Employers’ responses indicated that workplace inclusion was influenced by the presence or absence of clear policies, trained personnel and designated responsibility. In many cases, organizations responded to Deaf employees’ needs

on an individual basis. Although some managers demonstrated supportive attitudes, institutional systems were often underdeveloped.

Subtheme 4.1: Absence of Formal Disability-Inclusion Policies

Some organizations did not have written policies specifically addressing the employment and communication needs of Deaf employees. Decisions about accommodations were therefore made separately in each case.

Employer E03 stated:

“We do not have a written policy for Deaf employees. Decisions are made according to each situation.”

Another participant reported:

“There is a general statement about equal opportunity, but it does not explain how accessible recruitment, meetings or training should be arranged.” – HR Officer E08

The absence of detailed procedures may produce inconsistent treatment across departments. One manager may provide extensive support, while another may consider accommodations optional because there is no formal policy requiring them.

Subtheme 4.2: Limited Deaf-Awareness Training

Employers reported that staff members had limited understanding of Deaf culture, Pakistan Sign Language and effective communication strategies. Where disability-awareness training existed, it was often general and did not provide practical guidance concerning communication with Deaf colleagues.

HR Officer E04 explained:

“Our staff received general disability-awareness training, but it did not include practical guidance about communicating with Deaf colleagues.”

Subtheme 4.3: Unclear Responsibility for Accommodation

Responsibility for arranging accommodations was frequently unclear. HR departments, supervisors and individual employees sometimes expected one another to identify and organize the required support.

Supervisor E01 stated:

“HR expects the department to arrange support, while the department expects the employee to explain what is needed.”

The absence of clearly assigned responsibility can delay support and place an unfair burden on Deaf employees. Employees may repeatedly have to explain their communication needs to different people instead of accessing an established organizational process.

Theme 5: Perceptions of Performance, Inclusion and Career Development

Employers generally described Deaf graduates as professionally competent and capable of performing their assigned duties. Difficulties were more often associated with inaccessible communication and organizational practices than with the employees’ technical abilities. However, employers also expressed hesitation regarding leadership, client-facing responsibilities and career advancement.

Subtheme 5.1: Recognition of Professional Competence

Employers reported that Deaf graduates performed effectively when communication was accessible and job expectations were clearly explained.

Supervisor E7 stated:

“The employee’s technical performance is excellent. The main difficulty is not ability but access to communication.”

Another participant explained:

“Once the instructions are communicated clearly, the quality of work is equal to, and sometimes better than, that of other employees.” – Employer E5

These responses challenge assumptions that deafness is associated with limited professional ability. They indicate that performance difficulties may arise from inaccessible workplace systems rather than from a lack of competence.

Subtheme 5.2: Concerns about Client-Facing and Leadership Roles

Despite acknowledging professional competence, some employers expressed hesitation about assigning Deaf employees to positions involving

clients, supervision or large teams. Such roles were often associated with frequent spoken interaction. Employer E1 stated:

“Management is comfortable assigning technical responsibilities, but there is hesitation about positions involving clients or large teams.”

These concerns suggest that leadership potential may be evaluated through conventional communication expectations. When spoken communication is treated as an essential feature of leadership, Deaf employees may be excluded from advancement without an objective assessment of whether the role could be performed through accessible alternatives.

Subtheme 5.3: Unequal Access to Training and Promotion

Employers acknowledged that Deaf employees did not always receive equal access to professional training. Training sessions frequently relied on lectures, verbal explanations and group discussions without interpreters or accurate captions.

HR Officer E9 stated:

“We realized that some training was not accessible, and this could affect the employee’s eligibility for promotion.”

These findings show that formal attendance does not necessarily represent equal access. When employees cannot fully participate in required

training, their eligibility for promotion may be affected even though the barrier originates in the organization’s inaccessible development practices.

Subtheme 5.4: Importance of an Inclusive Workplace Culture

Employers emphasized that supportive attitudes, communication planning and basic PSL awareness contributed positively to workplace inclusion. Small adjustments, including written agendas, visual materials, turn-taking during meetings and basic sign-language training, improved participation.

Supervisor E2 stated:

“When colleagues learned basic signs and started sharing written agendas before meetings, team participation improved considerably.”

Another participant explained:

“The employee became more confident when team members communicated directly instead of always relying on another colleague.” – Employer E10

These accounts demonstrate that inclusion depends not only on formal accommodations but also on everyday workplace culture. A supportive environment encourages colleagues to communicate directly, plan meetings accessibly and recognize **Deaf employees as equal members of the organization.**

Flowchart of Thematic Analysis of Employers' Interviews

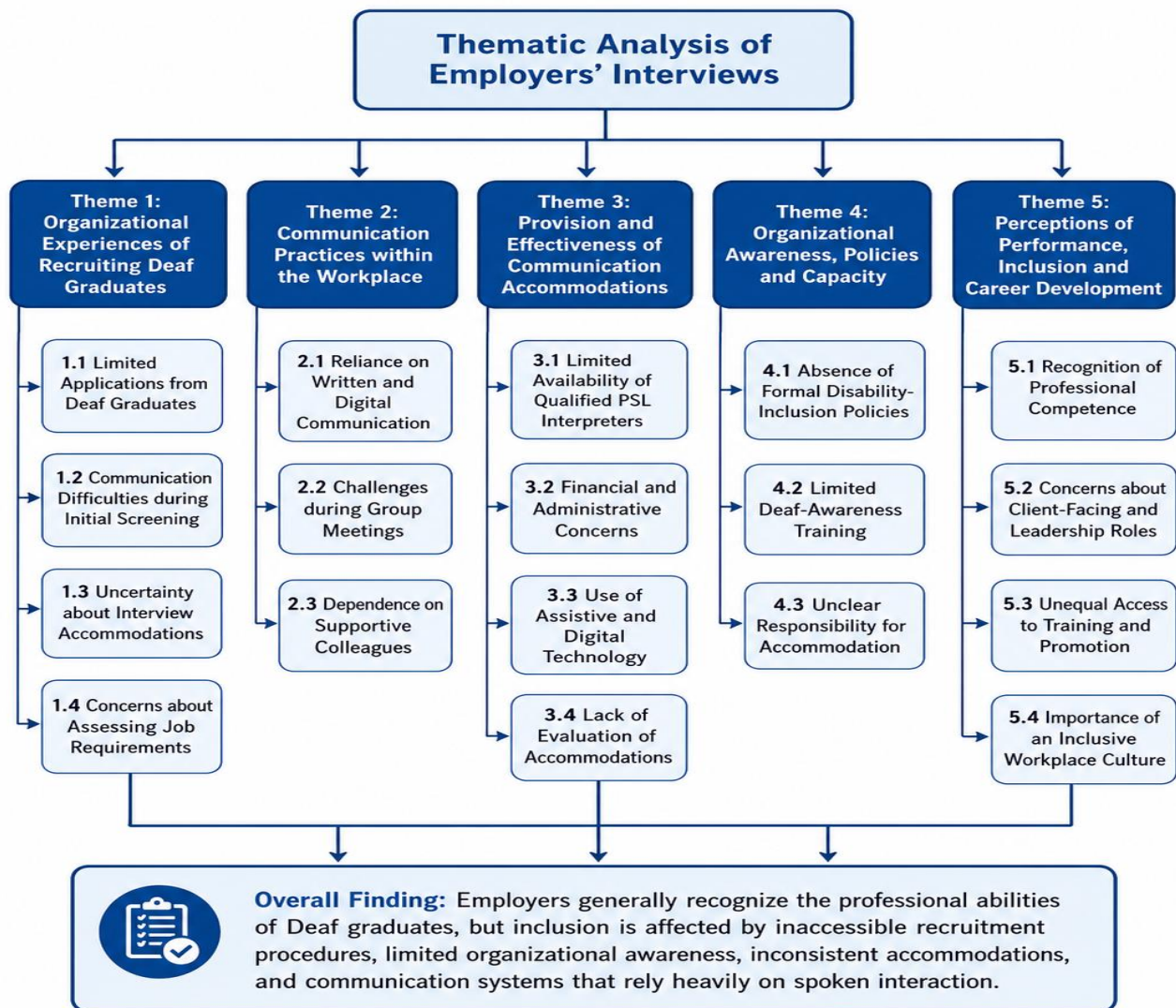


Figure 2: Flowchart of thematic analysis of Employers interview

Discussion

The combined thematic analysis demonstrates that workplace communication barriers experienced by Deaf graduates are primarily produced by inaccessible recruitment procedures, spoken-language-based workplace practices and weak organizational accommodation systems rather than by limitations in the graduates' professional abilities. Although employers generally recognized Deaf graduates as qualified and competent, their recruitment, participation and career development remained restricted by

communication systems designed mainly for hearing employees.

Both participant groups identified recruitment as the first major point of exclusion. Deaf graduates reported missed telephone calls, inaccessible screening procedures and interviews conducted without qualified Pakistan Sign Language interpreters. Employers similarly acknowledged that telephone screening and spoken interviews were standard practices and that alternative procedures were rarely established before a Deaf applicant applied. These findings support Perkins-Dock et al. (2015), Abbas et al. (2019) and Fatima

et al. (2025), who found that communication difficulties, employer misconceptions and limited organizational preparedness restrict employment opportunities for Deaf people. Importantly, the findings indicate that inaccessible interviews may assess spoken communication ability rather than actual job competence. This reflects the Social Model of Disability, because the disadvantage resulted from the recruitment environment rather than deafness itself.

The perspectives of the two groups also converged regarding workplace meetings, training and informal communication. Employers acknowledged that group meetings involving rapid discussion and multiple speakers were difficult to make accessible, while Deaf graduates described receiving delayed summaries instead of participating directly. Similarly, employers considered email, WhatsApp and written instructions useful for routine communication, but Deaf graduates explained that these methods were insufficient during complex discussions, training sessions and decision-making. This supports Svinndal et al. (2020) and Mangan (2024), who reported that written communication may provide partial access but cannot fully replace real-time interpretation, captioning or other individualized accommodations. Therefore, receiving information after a meeting should not be considered equivalent to meaningful participation.

A significant difference emerged between the accommodation's employers believed they provided and the access experienced by Deaf employees. Employers often viewed assistance from supportive colleagues, written messages or automatic captions as practical solutions. However, Deaf graduates experienced these arrangements as inconsistent, dependent on individual goodwill and unsuitable for confidential or technical communication. Reliance on coworkers also reduced privacy during performance discussions and personal workplace matters. These findings are consistent with Harrelson and Nicodemus (2022), who observed that Deaf professionals frequently carry the additional responsibility of arranging and explaining their own communication support.

They also support Hockaday (2025), who emphasized that interpreter competence, professional terminology and confidentiality are essential to effective workplace interpretation.

Both groups identified limited availability of qualified PSL interpreters as a major barrier. Employers highlighted difficulties locating interpreters, obtaining financial approval and arranging support at short notice, while Deaf graduates reported that interpreters were usually provided only for induction or important meetings. Routine communication therefore remained dependent on written notes, relatives, coworkers or informal gestures. This supports Hussain et al. (2023), who identified limited sign-language interpretation in Pakistani higher education, and the Pakistan Business Council (2023), which reported inconsistent disability inclusion and limited assistive support within corporate workplaces. The findings suggest that occasional interpreter provision cannot ensure inclusion unless communication support is incorporated into routine organizational planning and budgeting.

The analysis further revealed an important contradiction concerning professional competence and career advancement. Employers generally stated that Deaf graduates performed effectively when instructions were clearly communicated. Nevertheless, some remained hesitant to assign them leadership, supervisory or client-facing roles because these positions were associated with spoken interaction. Deaf graduates similarly reported being excluded from leadership opportunities and inaccessible training required for promotion. These findings support Granberg et al. (2024), who found that supportive workplace conditions are central to sustainable employment, and Moriña and Biagiotti (2022), who identified limited access to professional development as a barrier to the employability of graduates with disabilities. Thus, career inequality may continue even after successful recruitment because communication expectations are treated as fixed requirements rather than practices that can be accommodated.

The absence of formal policies, Deaf-awareness training and clearly assigned responsibility was

central across both analyses. Employers frequently responded to communication needs on an individual basis, while Deaf graduates repeatedly had to explain their requirements to new managers and colleagues. This finding indicates that goodwill alone is insufficient. Under Communication Accommodation Theory, meaningful inclusion requires employers and coworkers to adjust communication through PSL interpretation, captioning, visual materials, written agendas, structured turn-taking and direct consultation with Deaf employees. Failure to make these adjustments reinforces exclusion, whereas planned accommodation enables participation and professional confidence.

Overall, the combined findings show that the experiences of Deaf graduates and employers were largely consistent regarding the existence of communication barriers, but differed in their assessment of whether existing accommodations were sufficient. Employers often considered basic written or colleague-based support adequate, whereas Deaf graduates experienced these measures as partial and unreliable. Sustainable inclusion therefore requires accessible recruitment procedures, qualified and confidential PSL interpretation, regular evaluation of accommodations, inclusive training, clear organizational responsibility and equal access to

Conclusion

The study concludes that Deaf university graduates in Pakistan face persistent communication barriers during recruitment, workplace participation and career advancement. The combined perspectives of Deaf graduates and employers show that these difficulties arise mainly from spoken-language-based procedures, limited PSL interpretation, inaccessible meetings and training, and the absence of formal organizational policies. Although employers generally recognised the professional competence of Deaf graduates, existing accommodations were often irregular, informal and insufficient. Effective inclusion therefore requires accessible recruitment methods, qualified PSL interpreters, appropriate assistive technologies, Deaf-awareness training and clear organizational responsibility for communication

support. These measures can enable Deaf graduates to participate equally, perform effectively and access fair opportunities for professional growth.

Recommendations and Future Directions

- Organizations should replace telephone-based recruitment with accessible options such as email, text messaging and video interviews with Pakistan Sign Language interpretation.
- Qualified and confidential PSL interpreters should be arranged for interviews, meetings, training sessions, performance evaluations and other complex workplace discussions.
- Employers should develop formal disability-inclusion policies that clearly define procedures, budgets and staff responsibilities for arranging communication accommodations.
- Written agendas, visual materials, accurate captions, speech-to-text tools and structured turn-taking should be routinely used during meetings and training sessions.
- Deaf employees should be directly consulted to identify their preferred communication methods, and the effectiveness of accommodations should be reviewed regularly.
- Employers and HR professionals should receive practical training in Deaf awareness, Deaf culture, basic PSL and accessible workplace communication.
- Organizations should establish dedicated accessibility budgets so that interpreter services and assistive technologies do not depend on individual approval or managerial goodwill.
- Deaf graduates should receive equal access to professional training, promotion, leadership roles and client-facing responsibilities based on their competence rather than assumptions about communication ability.
- Universities should strengthen career counselling, workplace-readiness programs, internships and employer partnerships for Deaf students before graduation.
- Government institutions should monitor the implementation of disability-employment legislation and encourage public and private

organizations to adopt standardized accessibility practices.

- Future research should include larger and more diverse samples from different provinces, professional sectors, organizational sizes and urban and rural areas of Pakistan.
- Longitudinal studies should examine how workplace accommodations influence job retention, professional confidence, promotion and long-term career development among Deaf graduates.
- Future studies should evaluate the comparative effectiveness of PSL interpretation, real-time captioning, speech-to-text technology, written communication and blended accommodation models.
- Further research should explore the experiences of Deaf women, graduates with additional disabilities, self-employed Deaf professionals and individuals working in informal employment settings.
- Participatory research involving Deaf researchers and PSL users should be encouraged to ensure culturally and linguistically appropriate data collection, interpretation and recommendations.

REFERENCES

- Abbas, F., Anis, F., & Ayaz, M. (2019). Employment barriers for persons with hearing impairment in the job market: Employers' perspectives. *Global Social Sciences Review*, 4(3), 421-432. [https://doi.org/10.31703/gssr.2019\(IV-III\).53](https://doi.org/10.31703/gssr.2019(IV-III).53)
- Adjei, S. B., Sam, S. T., Sekyere, F. O., & Boateng, P. (2022). Sign language interpreter-mediated qualitative interview with Deaf participants in Ghana: Some methodological reflections for practice. *The Qualitative Report*, 27(1), 79-95. <https://doi.org/10.46743/2160-3715/2022.5087>
- Afzaal, H. M., Amjad, F., & Kanwal, A. (2024). Identifying basic sign language communication abilities among hearing students to communicate with their Deaf peers at university level. *Journal of Development and Social Sciences*, 5(3), 1-10. [https://doi.org/10.47205/jdss.2024\(5-III\)01](https://doi.org/10.47205/jdss.2024(5-III)01)
- Ain, Q. U. (2021). Inclusive education for students with hearing impairment in Pakistan: Communication and socialization challenges at higher education. *UMT Education Review*, 4(1), 80-94. <https://doi.org/10.32350/uer.41.05>
- Ananian, S., & DellaFerrera, G. (2024). *A study on the employment and wage outcomes of people with disabilities* (ILO Working Paper No. 124). International Labour Organization. <https://doi.org/10.54394/YRCN8597>
- Anderson, M. L., Riker, T., Gagne, K., Hakulin, S., Higgins, T., Meehan, J., Stout, E., Pici-D'Ottavio, E., Cappelletta, K., & Wolf Craig, K. S. (2018). Deaf qualitative health research: Leveraging technology to conduct linguistically and sociopolitically appropriate methods of inquiry. *Qualitative Health Research*, 28(11), 1813-1824. <https://doi.org/10.1177/1049732318779050>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.
- Chelius, S., Jonker, B. E., & Brouwers, M. (2024). Exploring the job resources experienced by employees with hearing impairment in South Africa. *SA Journal of Human Resource Management*, 22, Article 2786. <https://doi.org/10.4102/sajhrm.v22i0.2786>
- Chomba, R. M., Mandyata, J., & Muzata, K. K. (2023). Career choices for individuals with hearing impairment in higher learning institutions in Lusaka, Zambia. *Jurnal Ilmu Pendidikan*, 14(2), 99-117. <https://doi.org/10.37640/jip.v14i2.1552>

- Cuevas, S., Hansmann, S., Rodrigo, H., Saladin, S. P., & Schoen, B. (2021). Factors contributing to successful employment outcomes for individuals who are hard-of-hearing. *Journal of Vocational Rehabilitation*, 55(1), 43–60. <https://doi.org/10.3233/JVR-211145>
- Elsendoorn, B. C. H. M., Wauters, L., Tijsseling, C., van Klaveren, C. P. B. J., Cornelisz, I., & Heppe, E. C. M. (2025). Examining employment outcomes of Deaf and hard-of-hearing people in the Netherlands using non-public microdata. *WORK*, 80(2), 888–899. <https://doi.org/10.1177/10519815241289791>
- Fatima, S., Batool, S. B., & Sajjad, R. (2025). Challenges to employment opportunities for individuals with hearing impairment: Teachers' perspectives. *Academia International Journal for Social Sciences*, 4(3), 5089–5102. <https://doi.org/10.63056/ACAD.004.03.0776>
- Garberoglio, C. L., Palmer, J. L., Cawthon, S. W., & Sales, A. (2019). *Deaf people and employment in the United States: 2019*. National Deaf Center on Postsecondary Outcomes. <https://doi.org/10.26153/tsw/10053>
- Giles, H., Edwards, A. L., & Walther, J. B. (2023). Communication accommodation theory: Past accomplishments, current trends, and future prospects. *Language Sciences*, 99, 101571.
- Government of Pakistan. (2020). *Islamabad Capital Territory Rights of Persons with Disability Act, 2020*. National Assembly of Pakistan.
- Granberg, S., Widén, S., & Gustafsson, J. (2024). How to remain in working life with hearing loss: Health factors for a sustainable work situation. *WORK*, 79(3), 1391–1406. <https://doi.org/10.3233/WOR-230377>
- Gupta, S., Jaiswal, A., Sukhai, M., & Wittich, W. (2023). Hearing disability and employment: A population-based analysis using the 2017 Canadian Survey on Disability. *Disability and Rehabilitation*, 45(11), 1836–1846. <https://doi.org/10.1080/09638288.2022.2076938>
- Harrelson, P. B., & Nicodemus, B. S. (2022). “It felt like having a second job”: Perspectives from Deaf professionals on communication equity in the workplace. *Journal of the American Deafness and Rehabilitation Association*, 55(1), Article 2.
- Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research*, 27(4), 591–608. <https://doi.org/10.1177/1049732316665344>
- Higher Education Commission. (2021). *Policy for students with disabilities at higher education institutions in Pakistan*. Government of Pakistan.
- Hockaday, T. (2025). Exploring hearing people's experiences of working with sign language interpreters in the workplace. *Interpreting and Society: An Interdisciplinary Journal*, 5(1), 56–79. <https://doi.org/10.1177/27523810241297865>
- Hussain, M., Bukhari, S., & Riaz, S. (2023). The current status of sign language interpretation for hearing-impaired students in higher education: A small-scale survey in Lahore. *Global Educational Studies Review*, 8(1), 376–388. [https://doi.org/10.31703/gesr.2023\(VII I-I\).33](https://doi.org/10.31703/gesr.2023(VII I-I).33)
- International Labour Organization. (2023). *Decent Work Country Programme for Pakistan, 2023–2027*. International Labour Organization.

- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Khaliq, K., Riaz, M., & Anwar, S. (2023). Enhancing digital skills for the Deaf in Lahore: A study of training programme effectiveness. *Global Educational Studies Review*, 8(2), 598–613. [https://doi.org/10.31703/gesr.2023\(VII-I-II\).54](https://doi.org/10.31703/gesr.2023(VII-I-II).54)
- Krawczyk, T., Wasilewski, M., Pawlikowski, J., & Waligóra, M. (2024). Ethics of research engagement with Deaf people: A qualitative evidence synthesis. *The Journal of Deaf Studies and Deaf Education*, 29(4), 443–455. <https://doi.org/10.1093/jdsade/enae024>
- Lawson, A., & Beckett, A. E. (2021). The social and human rights models of disability: Towards a complementarity thesis. *The International Journal of Human Rights*, 25(2), 348–379. <https://doi.org/10.1080/13642987.2020.1783533>
- Mangan, J. (2024). Deafness in academia and the geosciences: Challenges and solutions. *Journal of Geoscience Education*, 72(3), 201–208. <https://doi.org/10.1080/10899995.2023.2275548>
- Moriña, A., & Biagiotti, G. (2022). Inclusion at university, transition to employment and employability of graduates with disabilities: A systematic review. *International Journal of Educational Development*, 93, Article 102647. <https://doi.org/10.1016/j.ijedudev.2022.102647>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16, 1–13. <https://doi.org/10.1177/1609406917733847>
- Pakistan Business Council. (2023). *Landscape analysis of disability inclusion in corporate Pakistan*. Centre of Excellence in Responsible Business.
- Pakistan Business Council. (2023). *Landscape analysis of disability inclusion in corporate Pakistan*. Centre of Excellence in Responsible Business.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed-method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Perkins-Dock, R. E., Battle, T. R., Edgerton, J. M., & McNeill, J. N. (2015). A survey of barriers to employment for individuals who are Deaf. *JADARA*, 49(2), 66–85.
- Perkins-Dock, R. E., Battle, T. R., Edgerton, J. M., & McNeill, J. N. (2015). A survey of barriers to employment for individuals who are Deaf. *JADARA*, 49(2), 66–85.
- Svinndal, E. V., Jensen, C., & Rise, M. B. (2020). Employees with hearing impairment: A qualitative study exploring managers' experiences. *Disability and Rehabilitation*, 42(13), 1855–1862. <https://doi.org/10.1080/09638288.2018.1541101>