



## LITERACY SKILLS OF VISUALLY CHALLENGED ESL LEARNERS IN INCLUSIVE EDUCATION SYSTEMS: A PHENOMENOLOGICAL STUDY OF NUML

**Zuha Talat**

Master of Philosophy in English Linguistics, National University of Modern Languages,  
Islamabad, Pakistan  
[zuhaatallat@gmail.com](mailto:zuhaatallat@gmail.com)

### **Abstract**

*This study explores the lived experiences of visually challenged ESL learners in an inclusive higher education setting in Pakistan. Using a qualitative hermeneutic phenomenological approach, data were collected through in-depth interviews with ten visually challenged students from the English Department at NUML and classroom observations of six selected classes. Guided by Oliver's (2013) Social Model of Disability and Gardner's (2010) Socio-Educational Model, the study examines the environmental and motivational factors influencing learners' literacy development. Data were analyzed using Braun and Clarke's (2006) thematic analysis framework. The findings reveal that inaccessible study materials, examination barriers, and pedagogical shortcomings significantly hinder the development and practice of literacy skills. Despite these challenges, participants demonstrated resilience and strong motivation by adopting various coping strategies to achieve their academic goals. The study highlights the need for accessible learning resources, inclusive teaching practices, flexible assessment procedures, and teacher training programs to create a more equitable educational environment for visually challenged ESL learners.*

**Keywords:** Visual Impairment, Inclusive Education, ESL Learners, Literacy Skills, Higher Education

### **1. Introduction**

The right to quality education remains inaccessible to many visually impaired learners, particularly in societies where inclusive educational practices are still developing. In Pakistan, the educational experiences of visually impaired students are often constrained by inadequate resources, socio-cultural barriers, and limited accessibility (Khalid et al., 2023). Despite these challenges, education remains a crucial means of empowerment (Shields & Mohan, 2008), especially for learners with visual impairments who encounter distinctive obstacles in their academic journeys (Attachoo & Sitthitikul, 2020). Recognizing this need, Pakistan has introduced several initiatives to promote inclusive education and ensure equal educational opportunities for students with disabilities (Graham, 2020; Gul, 2020). Although national policies and legislative measures advocate the provision of disability-friendly environments and accessible educational resources (Anjum et al., 2021; Government of Pakistan, 2006), their implementation in higher education institutions remains inadequate. Consequently, a significant gap persists between policy intentions and actual classroom practices.

Inclusive education extends beyond physical integration and requires acceptance, equity, and meaningful support for learners with diverse needs (Ashraf et al., 2017; Jardinez & Natividad, 2024). However, university students with visual impairments continue to encounter numerous barriers because institutions often fail to implement inclusive policies effectively (Fuller et al., 2004). Scholars argue that adaptive curricula and instructional strategies are essential for creating learning environments that value diversity and promote equal participation (Papadopoulos et al., 2009). In this regard, teachers play a critical role in addressing diverse learning needs by recognizing that learners possess varying abilities and characteristics. Gardner's (1993) theory of multiple intelligences further emphasizes that students cannot be taught effectively through a single instructional approach. Therefore, educators in inclusive settings should adopt diverse pedagogical practices and modify their teaching methods according to the specific needs and severity of students' visual impairments.

The development of literacy skills among visually impaired ESL learners presents a significant challenge within inclusive classrooms. Literacy, defined as the ability to comprehend and interpret written language (UNESCO, 2004; Liege, 2015), is fundamental to academic success, particularly in ESL contexts where language and literacy skills are closely interconnected. Nevertheless, instructional practices in many inclusive classrooms remain predominantly ophthalmocentric, limiting visually impaired students' participation in reading and writing activities (Papadopoulos et al., 2009). Limited access to Braille materials often compels students to rely on human assistance, restricting independent engagement with texts and adversely affecting vocabulary, grammar, and punctuation development (Lailiyah et al., 2020). Similarly, difficulties in writing, coupled with dependence on scribes and teachers' inability to read Braille, further constrain students' literacy development and reinforce their dependence on others.

These challenges underscore the distinction between impairment and disability. While impairment refers to a physical or sensory limitation, disability emerges when social and institutional structures fail to accommodate individuals' needs (Anastasio & Kauffman, 2013). In higher education settings, vision-oriented practices frequently exclude visually impaired learners from full academic participation, thereby transforming impairment into disability. Addressing these barriers requires the active involvement of teachers and administrators in creating genuinely inclusive learning environments. Nasution (2019) emphasizes that teachers play a pivotal role in facilitating learning by enabling students to develop reading, writing, and information-access skills. Furthermore, collaboration between language teachers and special education professionals, along with the integration of assistive technologies, can significantly enhance literacy development among visually impaired learners (Cárdenas & Inga, 2021). Such efforts, supported by adequate funding, teacher training, and institutional commitment, are essential for transforming inclusive education policies into effective classroom practices.

### **1.1 Statement of the Problem**

Equality is a prerequisite of an inclusive classroom; however, in the inclusive classroom, the presence of learners with diverse abilities is usually ignored. Inclusive education demands equal opportunities, but most often, classrooms are majority oriented. Resultantly, the needs of visually challenged students are compromised which affect their learning process as they cannot practice their literacy skills due to inaccessible study materials and exclusive methodological practices. In a language class, their literacy skills remain underdeveloped because the reading and writing material is inaccessible to them and that further deteriorates over time. The present study focuses on exploring the problems and underlying causes to improve English literacy skills of visually challenged ESL learners in an inclusive system at the University level. The current study narrows down its scope to the literacy skills of university going Pakistani visually challenged ESL learners. By highlighting localized educational challenges and situating the inquiry within an overlooked Pakistani context, the study advances existing literature.

### **1.2 Research Objectives**

Following are the objectives of this study:

1. To investigate the lived experiences of visually challenged ESL learners in learning literacy skills in inclusive classrooms.
2. To explore the reasons due to which visually challenged ESL learners face problems in practicing their literacy skills in inclusive classrooms.
3. To find out the ways that can be used to improve the literacy skills of visually challenged ESL learners.

### **1.3 Research Questions**

The research questions of this study are as follows:

1. What are the lived experiences of visually challenged ESL learners in learning literacy skills in inclusive classrooms?
2. Why do the visually challenged ESL learners face problems in practicing their literacy skills in inclusive classrooms?
3. How can the literacy skills of visually challenged ESL learners be improved?

#### **1.4 Significance of the Study**

This study is significant because it provides valuable insights into the lived experiences of visually challenged ESL learners in developing and practicing literacy skills within an inclusive education system. By foregrounding the voices and experiences of these learners, the study contributes to a deeper understanding of the challenges they encounter in higher education and highlights the need for more accessible and equitable learning environments. The findings may assist teachers in recognizing the specific educational needs of visually impaired students and in adopting appropriate pedagogical strategies to facilitate their active participation in the learning process. Furthermore, the study offers practical implications for educational practitioners, administrators, and policymakers by identifying areas that require institutional and policy-level reforms to ensure effective implementation of inclusive education. In the Pakistani context, particularly at the university level, the study provides evidence-based recommendations that may guide higher education institutions in enhancing support services and developing disability-inclusive policies. Ultimately, the study contributes to the broader discourse on educational equity, social inclusion, and equal opportunities, thereby promoting a more inclusive and harmonious society.

#### **1.5 Delimitation**

The study was delimited to a sample of participants with a visual impairment, holding or pursuing BS degree either in English linguistics or literature at NUML. Instead of focusing on language learning in general, the study investigates the literacy skills of visually challenged ESL learners in inclusive setups where the medium of instruction is English, and the engagement of the participants with the language is either through literature or linguistics.

### **2. Literature Review**

Existing literature has extensively documented the challenges encountered by visually impaired learners within inclusive educational settings. Studies conducted in Pakistan and other international contexts consistently reveal that visually impaired students face numerous academic, social, and institutional barriers that hinder their educational experiences. Research in Pakistan by Shaheed and Nazmeen (2023), Anjum et al. (2021), and Khalid et al. (2023) demonstrated that visually impaired university students experience inadequate access to assistive technologies, inaccessible learning materials, lack of trained scribes, transportation difficulties, and negative societal attitudes. Similarly, Fatima et al. (2014) reported that students enrolled in distance education programs encountered difficulties in note-taking, examination procedures, and accessing Braille and audio resources. International studies have echoed these findings. Morelle (2016) found that although visually impaired learners were physically integrated into mainstream schools, they remained socially and academically excluded due to inaccessible curricula, inadequate infrastructure, and insufficient teacher support. Likewise, El-Nabih (2014) identified significant challenges faced by visually impaired EFL learners in Palestine, including the absence of accessible learning materials, limited examination accommodations, and insufficient teacher preparedness.

The successful implementation of inclusive education has been identified as a critical factor in improving the educational experiences of visually impaired learners. However, several studies suggest that inclusive education remains inadequately implemented, particularly in developing countries. Ehsan (2018) reported that Pakistan continues to face substantial challenges in implementing inclusive education because of limited awareness, inadequate resources, and

insufficient teacher training. Similarly, Okoye and Adirika (2019) found that students with visual impairments in Nigerian universities experienced barriers related to inappropriate teaching methodologies, inadequate curricular materials, and untrained teachers. A systematic review conducted by Hanif et al. (2022) further highlighted that although inclusive education is gradually gaining acceptance in Pakistan, challenges such as lack of technical support, inaccessible infrastructure, financial constraints, and unsuitable pedagogical practices continue to impede its effective implementation. In addition, Martínez-Hernández and Bellés-Fortuño (2021) emphasized the necessity of adapting assessment practices for visually impaired learners by incorporating accommodations such as extra time, modified test formats, and assistive technologies to ensure equitable assessment.

Teacher preparedness and instructional practices constitute another important dimension in the education of visually impaired learners. Previous studies indicate that many teachers experience difficulties in addressing the diverse needs of students with visual impairments due to insufficient training and limited instructional resources. Acula et al. (2024) found that teachers frequently struggle with inaccessible curricula, inadequate teaching materials, and a lack of specialized pedagogical knowledge. Similarly, Zangi and Annie (2021) reported that teachers in inclusive classrooms encountered challenges related to insufficient infrastructure, limited teaching resources, and the absence of specialized training. To address these issues, scholars have proposed various instructional strategies. Nasution (2019) emphasized the effectiveness of student-centered approaches, guided reading, cooperative learning, and interactive reading aloud in facilitating language learning among visually impaired students. Likewise, Alkhalwaldeh and Khasawneh (2021) demonstrated that technology-supported instructional approaches, particularly flipped classroom strategies, significantly improved English language learning outcomes among visually impaired learners. Retorta and Cristovão (2017) further highlighted the transformative role of smartphones and mobile assistive technologies in enhancing learners' linguistic competence and social participation.

The role of assistive technologies and learner-generated coping strategies has also received considerable scholarly attention. Attachoo and Sitthitikul (2020) observed that visually impaired learners employ diverse strategies to facilitate English language learning and consider language proficiency essential for academic and professional advancement. Similarly, Susanto and Nanda (2018) found that students frequently rely on assistive technologies to support their language learning processes. Jaleel and Anis (2018) reported that although Braille remains fundamental for literacy development among visually impaired learners, preferences increasingly shift towards screen readers as students progress to higher levels of education. Furthermore, Papadopoulos et al. (2008) demonstrated that visual impairment negatively affects orthographic competence and spelling accuracy, although students using Braille tend to commit fewer spelling errors than those who do not. Despite these valuable contributions, existing studies predominantly focus on the general educational challenges of visually impaired learners or broadly examine inclusive education practices. Limited research has specifically explored the development and practice of literacy skills among visually impaired ESL learners within inclusive higher education settings. In the Pakistani context, this area remains particularly underexplored. Therefore, the present study seeks to address this gap by investigating the literacy-related experiences of visually impaired ESL learners in inclusive university classrooms, thereby contributing to both national and international scholarship on inclusive language education.

### **3. Methodology**

#### **3.1 Research Design**

This study employed a qualitative approach using a hermeneutic phenomenological research design to explore the lived experiences of visually challenged ESL learners regarding the

development and practice of literacy skills in inclusive classrooms. Hermeneutic phenomenology focuses on understanding and interpreting participants' lived experiences and the meanings they attach to them (Heidegger, 1962). This approach was appropriate because the study sought to investigate how visually challenged learners experience literacy-related challenges within an inclusive educational environment.

### **3.2 Participants and Sampling**

The participants were selected through purposive sampling. The inclusion criteria required participants to have a visual impairment that affected their ability to read and write through conventional print-based methods and to be enrolled in, or have completed, a BS English (Literature or Linguistics) degree at NUML, Islamabad. Ten participants met these criteria and participated in the study. Additionally, six classrooms involving visually challenged students were observed.

### **3.3 Data Collection**

Data were collected through methodological triangulation involving semi-structured interviews and classroom observations. Semi-structured interviews were conducted with ten participants to explore their experiences, challenges, and suggestions regarding literacy development in inclusive classrooms. Interviews were audio-recorded with participants' consent and transcribed using the clean verbatim technique.

Classroom observations were conducted as a non-participant observer to examine naturally occurring classroom interactions and teaching practices. Field notes were used to document observations related to literacy instruction, accessibility, and student participation.

### **3.4 Research Instruments**

Two instruments were employed: a semi-structured interview protocol and a classroom observation sheet. The interview protocol consisted of questions related to participants' demographic backgrounds, literacy experiences, challenges, and recommendations for improvement. The observation sheet was designed to record classroom practices, interactions, and accessibility-related issues relevant to the study objectives.

### **3.5 Theoretical Framework**

The study was guided by two theoretical frameworks: the Social Model of Disability (Oliver, 2013) and Gardner's Socio-Educational Model (2010). The Social Model of Disability conceptualizes disability as a result of environmental and institutional barriers rather than individual impairments. Gardner's concept of instrumental motivation was used to examine how learners' academic and professional goals influenced their efforts to develop literacy skills despite existing barriers.

### **3.6 Data Analysis Procedure**

The collected data were analyzed using thematic analysis following Braun and Clarke's (2006) six-step framework. Interview transcripts and observation notes were read repeatedly to achieve familiarity with the data. Initial codes were generated and subsequently grouped into broader themes and subthemes. The analysis was informed by the Social Model of Disability and the concept of instrumental motivation, enabling the researcher to interpret participants' experiences in relation to structural barriers and academic aspirations.

## **4. Data Analysis**

This section presents a condensed thematic analysis of data collected through semi-structured interviews and classroom observations involving visually challenged ESL learners in an inclusive university setting. The analysis is organized into two broad strands: interview data (Section 4.1) and observation data (Section 4.2), followed by a discussion that situates the findings within the Social Model of Disability (SMD) and Gardner's Socio-Educational Model of motivation. Within this study, literacy is understood as the ability to read and write (UNESCO, 2004), abilities that are conventionally structured around sighted norms. When

such norms are transplanted into inclusive classrooms without adaptation, visually challenged students are systematically disadvantaged, not because of their impairment but because of inaccessible curricula, inflexible methodology, and rigid examination practices (Barnes, 2002). The analysis below traces how these structural barriers manifest across study materials, examinations, and pedagogy, and how students persist despite limited institutional support.

#### **4.1 Analysis of the Interviews**

The interview data reveal recurring patterns across participants' lived experiences, which were grouped into three major themes: inaccessible study materials, examination barriers, and pedagogical shortcomings. Together, these themes describe an academic environment built for sighted students, within which visually impaired learners must constantly improvise.

##### **4.1.1 Inaccessible Study Materials**

Participants consistently reported that inaccessible study materials limited their independent engagement with course content, forcing reliance on classmates, family, or external organizations. Viewed through the SMD, these are institutional failures rather than consequences of impairment.

###### **4.1.1.1 Exclusion of Braille**

For students who attended specialized schools, Braille was their primary literacy medium, sometimes acquired only after a full year of dedicated training. In the inclusive university setting, however, Braille becomes functionally obsolete: teachers cannot read it, and Braille textbooks are not provided, leaving even Braille-literate students dependent on auditory materials.

###### **4.1.1.2 Human assistance for reading**

In the absence of pre-shared digital material, students often relied on classmates to read aloud, a practice complicated by limited class time, uneven reading styles, and the discomfort of repeatedly requesting repetition. One participant described the guilt of slowing down a peer who was reading for him, while another noted that human readers' speed and intonation rarely matched the pace students had grown accustomed to through assistive software.

###### **4.1.1.3 Discouragement from recording lectures**

Several teachers prohibited lecture recording, citing discomfort, which deprived visually impaired students of a revision tool readily available to sighted peers who could take notes. Where permitted, recordings still required laborious replaying to extract notes, so most students leaned more heavily on peer-shared notes once classroom relationships were established.

###### **4.1.1.4 Difficulty taking class notes**

Note-taking was hampered by slow typing speed, lack of Braille training, and the cognitive load of simultaneously processing screen-reader audio and live lecture content. Late-blind students without prior computer training were especially disadvantaged; one reported being unable to keep pace even when a teacher dictated slowly.

###### **4.1.1.5 Scarcity of audiobooks and soft books**

Audiobook access, common at the intermediate level, often disappeared at university, forcing students to approach NGOs such as the Pakistan Foundation Fighting Blindness, which frequently lacked required titles. Similarly, soft copies of notes were rarely shared; teachers routinely distributed hard copies, leaving visually impaired students dependent on classmates to read material aloud during group study. Participants recommended an institutional audiobook library, a dedicated budget line for accessible materials, and greater collaboration with librarians, several of whom were described as personally helpful in locating texts.

###### **4.1.1.6 Incompatibility with screen readers**

Tools such as JAWS, NVDA, Kurzweil, and mobile applications like Insta Reader and Voiceover allow text-to-speech access, yet scanned or image-based documents routinely defeated these tools. Students described elaborate workarounds, including one participant who

organized classmates to record an entire scanned book chapter by chapter, compiling the recordings into a personal audiobook he still keeps as a memento of that collective effort. The OCR conversion process itself was described as physically and psychologically taxing, requiring students to manually scan page by page, sometimes tearing books into loose leaves to feed a scanner, often producing overlapping text, incorrect spellings, and garbled formatting that undermined comprehension regardless of the effort invested in producing it.

#### **4.1.1.7 Limited examination preparation material**

Without accessible primary texts, students turned to supplementary sources such as YouTube summaries or film adaptations, which often used different language registers (frequently Urdu) and omitted nuance, leading some to be penalized for relying on memorized quotations rather than direct textual engagement. As one participant noted, after compiling explanations from multiple informal sources, he would "come up with his own explanation," illustrating resourcefulness amid inadequate institutional support.

#### **4.1.2 Examination Barriers**

Examinations emerged as the most consequential site of literacy practice, since unlike coursework, writing here is compulsory and high-stakes. Participants were broadly divided between those using human amanuenses and those using computers, each group facing distinct hurdles.

##### **4.1.2.1 Reliance on human assistance**

The university's failure to provide writers forced students to source their own scribes, often diverting preparation time toward this logistical task; one participant noted bluntly that while other students spent exam week revising, he spent it searching for a writer, a displacement he felt directly damaged his performance. Last-minute cancellations were common and distressing; one participant described losing an entire examination after her arranged writer became unreachable, with the teacher present taking no steps to inform the administration or offer an alternative. Where teachers personally intervened, securing a substitute writer from another class or, in one case, acting as scribe themselves, outcomes improved markedly, but such support depended entirely on individual goodwill rather than a systemic safeguard, meaning students with less proactive instructors remained exposed to the same risk repeatedly. Writers themselves frequently displayed unprofessional conduct, rushing through dictation or unilaterally inserting unsolicited suggestions that disrupted the student's train of thought; participants described well-meaning but disruptive interjections such as insisting questions be attempted in a fixed order. Incompetent writers compounded the problem through poor reading of the question paper, weak handling of punctuation, paragraphing, and spelling, with one participant recalling that good writers consistently produced good grades and poor writers poor grades, regardless of his own command of the content. Dictating punctuation and paragraph breaks proved especially difficult under time pressure, since pausing to specify a comma or a new paragraph disrupted the flow of ideas being composed mentally; several participants admitted they simply abandoned dictating punctuation altogether to save time, accepting the resulting loss of marks. Orthographic errors were further compounded by participants' own underdeveloped spelling skills, an effect attributed to limited visual or tactile exposure to written text rather than to ability or effort, several participants described elaborate self-taught strategies, including learning letter shapes from television, to compensate. Notably, participants who had learned Braille reported far fewer such errors in that medium, reinforcing the argument that orthographic weakness is structurally produced by the shift away from Braille rather than an inherent limitation.

Question design posed further difficulties: comprehension passages required repeated readings that were time-consuming with a human reader, while diagram- or image-based questions assumed visual access that several participants simply could not provide, sometimes requiring

teacher intervention to substitute alternative questions. Compounding these issues, extra time, though formally a policy entitlement, was inconsistently honored; several participants recounted being denied additional minutes outright, with one teacher insisting "it has not happened" despite established disability policy. Seating arrangements added a further layer of difficulty: students were often relegated to noisy corridors or staffrooms rather than quiet, dedicated spaces, undermining concentration and, in some cases, their dignity.

#### **4.1.2.2 Computer-based examinations**

Students opting for computers, often after negative experiences with unreliable writers, encountered a different set of obstacles. Transitioning to typed examinations required overcoming unfamiliarity and slower typing speeds, and even capable typists described leaving questions incomplete due to time constraints. Power outages were a recurring hazard in the absence of reliable backup systems, with one participant reporting the loss of ninety minutes of work after his laptop's battery failed. Accidental file corruption, formatting errors triggered by inadvertent keystrokes, and administrative mishandling of submitted files (including corrupted USB drives) created additional anxiety, prompting some students to adopt personal safeguards such as saving multiple files per question or emailing answers as backup. As with the human-assistance group, extra time was frequently denied to computer users under the assumption that typing requires no special accommodation, a position that ignored the additional cognitive burden of re-listening to previously written content to maintain coherence, a step sighted students accomplish through passive visual scanning.

#### **4.1.3 Pedagogical Shortcomings**

Classroom methodology emerged as a third major barrier, rooted in instructional practices designed around visual learning.

##### **4.1.3.1 Whiteboard use and demonstrative language**

Teachers frequently wrote on the whiteboard without verbalizing content, leaving visually impaired students without access to material their sighted peers absorbed visually. Even when verbalization occurred, the use of demonstrative words ("this," "that") rendered explanations meaningless without an accompanying referent. Several participants also reported difficulty retaining verbalized points, particularly when teachers declined to repeat them, leading some to feel embarrassed about repeatedly requesting clarification from classmates.

##### **4.1.3.2 Technical subjects**

Grammar and Syntax instruction relying on tree diagrams, and Phonetics and Phonology instruction relying on visual phonemic symbols, posed acute challenges, as teachers seldom employed tactile or verbal alternatives. Some teachers candidly admitted lacking the training to adapt; one drew phonemes on oversized paper for a student whose remaining eyesight was insufficient to perceive them, an effort participants described as well-intentioned but ultimately ineffective. Classmates often compensated by tracing symbols on students' palms or crafting tactile aids such as wire-shaped phonemes and hand-drawn charts, demonstrating peer collaboration that the institution itself did not formally support or replicate at scale. Examination papers in these subjects were rarely modified, requiring students to describe tree diagrams in prose, present them in tabular form, or guide writers through improvised verbal instructions, an approach that was workable but clearly suboptimal compared to a standardized accommodation, and one that several participants described as reducing a content-based exam into a guessing game between student and scribe.

##### **4.1.3.3 Foreign language instruction**

presented similar difficulties, as orthographic scripts in subjects like Spanish or Russian were entirely new to most participants; oral examinations were sometimes granted as an alternative, but only after considerable advocacy, including direct appeals to department heads, comparison

of academic transcripts to justify the request, and in one case escalation to the Rector's office before approval was secured.

#### **4.1.3.4 Discouraging teacher attitudes**

A subset of teachers responded to accommodation requests with outright refusal, in one case explicitly declining to alter teaching methodology, which participants described as demoralizing to the point of suppressing further requests for help. Conversely, encouraging teachers who acknowledged their own training gaps fostered more positive classroom dynamics, suggesting that attitude, independent of technical accommodation, significantly shapes student engagement and motivation.

### **4.2 Analysis of Observation Sheets**

Six classroom observations corroborated and extended the interview findings by capturing real-time pedagogical practice. Across observed sessions, teachers relied heavily on textbooks, whiteboards, and screen-projected diagrams without adapting delivery for visually impaired students physically present in the room.

#### **4.2.1 Accessing textbook material**

While teachers read assigned passages aloud, making content nominally accessible, sighted students simultaneously marked and highlighted key quotations in their physical texts, a practice the visually impaired student could not replicate without disrupting the lecture by running screen-reader software concurrently with the teacher's voice. No alternative notes were provided to compensate for this lost ability to flag salient material for examination preparation.

#### **4.2.2 Tables and diagrams**

Observed instruction on tabular content (e.g., semantic feature grids) and diagrams (e.g., articulatory and vowel charts) was rendered through verbal description, which approximated but did not equal the comprehension afforded to sighted students engaging both visually and aurally. In one phonetics session, the visually impaired student attempted to "feel" sound production by mimicking pronunciation cues rather than viewing the relevant diagram, illustrating motivated engagement constrained by an unsupportive material environment.

#### **4.2.3 Board access and deictic language**

Observations confirmed that teachers frequently failed to verbalize board content consistently, sometimes correcting student errors on the board without announcing the nature of the mistake, a missed opportunity for the visually impaired student to learn from peer errors. Demonstrative and deictic expressions ("this," "it") were used routinely without naming the referent, effectively excluding the student from in-the-moment comprehension.

#### **4.2.4 Note-taking and delayed learning**

Students without Braille literacy or sufficient typing speed were unable to take independent notes, relying entirely on post-class peer sharing. Braille-literate students fared better, transcribing lecture content directly when material was verbalized. A recurring pattern of delayed comprehension was also observed: when teachers wrote and only subsequently verbalized content, especially when listing categorized terms in a single linear sequence, the visually impaired student's understanding lagged behind that of sighted peers, who could immediately perceive groupings visually.

#### **4.2.5 Peer collaboration and participation.**

Observations showed sighted classmates assisting visually impaired peers, for instance guiding a partner to the whiteboard during paired activities and steadying him when he stumbled on the way back to his seat, though such support was contingent on lecture format and individual teacher style rather than institutional design. Participation by visually impaired students was generally quieter and more internally directed, evidenced by murmured responses or private practice of target sounds, indicating sustained motivation despite a learning environment not designed to register or reward such engagement. In at least one instance, seating at the back of

the classroom meant a student's correct but quietly voiced answers went unheard by the teacher altogether, suggesting that even basic classroom geography can compound the marginalization already produced by inaccessible materials and methodology.

### 4.3 Discussion

This phenomenological study, titled *Literacy Skills of Visually Challenged ESL Learners in 'Inclusive' Education Systems: A Phenomenological Study of NUML*, guided by the Social Model of Disability by Mike Oliver (2013) and the Socio-Educational Model by Gardner (2010), aimed to explore the lived experiences of visually challenged ESL learners. The primary objectives of the study were to explore the lived experiences of visually challenged ESL learners in practicing their literacy skills in inclusive classrooms, to investigate the reasons behind the challenges that they face in practicing their skills, and to identify ways that can be used to improve their literacy skills. This qualitative study used in-depth interviews and classroom observations as research methods to collect data revealing recurring themes.

The study's findings show that visually challenged ESL learners face barriers to practicing their literacy skills in inclusive classrooms. The exclusive methodological practices, inaccessible content, and rigid examination system are barriers in students' academic journey that obstruct their path. These disabling barriers are not caused by the impairments students face but by the exclusionary practices dominant in institutions. As Oliver (1996) states, disability is "wholly and exclusively social." Despite these barriers, the students pursue their journey with perseverance and endeavor to achieve their goal of performing to the best of their abilities, which shows their instrumental motivation driven by career- and academically related practical purposes (Gardner, 2005). The findings suggest that one of the problems which are experienced by the students is improper pedagogical practices prevalent in the institution. These practices are exclusive since they are predominantly vision-oriented. This finding aligns with the observations of Morelle (2016) and Hanif et al. (2022), who highlighted exclusive methodological practices employed in inclusive classrooms that ultimately became barriers to students' academic journeys.

In the current study, students report that whiteboards are common in their classrooms, but the content written on them is not verbalized to them, thereby excluding them from the learning process. They are further marginalized when teachers use deictic expressions to explain content on the board, which, in turn, contributes to delays in their learning. The students find it difficult to retain the information, even when it is verbalized. The problem intensifies when technical subjects like Grammar and Syntax, and Phonetics and Phonology are taught in the classroom since such subjects heavily rely on visual representation, and to teach these subjects, a whiteboard becomes a primary tool. El-Nabih (2014) documented a similar problem that the students face difficulty in subjects like Syntax, Phonetics, and Phonology due to improper methodological practices. Moreover, the teachers cannot teach the students with visual challenges even when they intend to due to absence of required training. Above all, the papers for such subjects are hardly modified to meet the needs of visually challenged learners, which puts them at a further disadvantage because they are expected to attempt questions they have not even been taught, making them unable to achieve high scores in the examinations and achieve their desired academic goals.

Additionally, the data show that some teachers have a discouraging attitude towards them, which demotivates them from pursuing their academic goals. On the contrary, the current study also observes that the students also have positive experiences with their teachers and their fellows. They highlight that there are teachers who encouraged them to participate and also admit the fact that they do not have adequate training to include them in the learning process. This aligns with the findings of Acula et al. (2024), who also reported that teachers considered themselves untrained in teaching visually challenged students.

Moreover, most of the students always receive support from their fellows. Their fellows help them to their own understanding. In particular, the students receive help from their peers in subjects such as Grammar and Syntax, Phonetics, and Phonology, which helps them understand the concepts to some extent. Comparatively, students always receive support from their peers. According to these results, both teachers and students were found to have a positive attitude towards inclusive education in the study conducted by Hanif et al. (2022). The present study further notes that visually challenged students should also be trained to guide others in resolving such problems. When visually impaired students can initiate support by clearly conveying their needs and instructing others on how best to help them, this often ensures successful assistance.

Like Okoye and Adirika (2019), this study also highlights that inaccessible study materials are another hurdle in students' academic pursuits. The students explain how the unavailability of braille text, the limited availability of audiobooks, and the limited provision of soft books hinder their academic engagement, resulting in adverse consequences. Comparably, Fatima et al. (2014) explained in their study that the study materials were not available for visually challenged students in braille, soft or audio form, and the reading materials were not modified considering their different needs. More specifically, the study also observes that the students do not have access to computers with a screen reader installed in the library. This also aligns with the findings of Fatima et al. (2014).

Like the present study, which posits that the use of Braille becomes obsolete at the higher education level, Jaleel and Anis (2018) noted that as students moved towards higher education, the use of Braille declined. In particular, the absence of braille is more than a matter of format; it reflects systemic neglect, especially for students who develop their literacy skills using braille at an early age. Participants' responses show that this neglect makes them dependent on others and marginalizes them, as they cannot engage with the text at multiple linguistic levels.

Furthermore, the prohibition to record lectures compounds the problem since it deprives them of critical classroom discussions because the students cannot take quick notes like sighted students due to various factors, such as lack of braille training, slow typing speed, use of whiteboard without verbalization, and the increased cognitive load resulting from the simultaneous processing of screen reader output and live classroom discussion. This finding aligns with the findings of Fatima et al. (2014), who found that students were allowed to record lectures but were unable to take notes.

In addition, the findings of the current study suggest that many books provided by the institution are not compatible with screen readers. Although technological tools like Insta Reader, Kurzweil, and OCR offer potential solutions, they do not provide error-free results. Khan (2023) also observed in his study that screen readers and assistive technology were supportive; however, they did not ensure optimal learning outcomes for his participants.

The present research further highlights that using human assistance for reading compromises their independence and poses the challenge of finding a good reader with whom they are compatible. The study also reveals that poor reading skills lead to cognitive fatigue and reduced comprehension. The situation worsens when these inaccessible materials deprive the students of the preparatory materials necessary for examinations. Khalid et al. (2023) also stated that students with low vision experienced multiple difficulties in their exam preparation compared to their sighted counterparts. This laxity marks the absence of different literacy modes, which leads to a broader failure of the institution to include students with visual challenges in the academic activities despite the growing emphasis on inclusive education.

Moreover, a rigid and inefficient examination system is the third prominent concern among the students. The research reports that students with different educational and medical backgrounds face different types of problems, as they have to choose between computer and human

assistance when completing their papers. Students with late-onset blindness or who lack proper technological training rely on human assistance to complete their papers. Due to the absence of a university-provided amanuensis, such students are forced to arrange their own writers who are often unreliable. The students report that their unprofessional attitude, substandard academic writing skills, and unsolicited suggestions lead to poor grades. The students further report that the writers make punctuation mistakes, orthographic errors, and improper paragraphing in their papers that compromise the quality of their answers and eventually lead to the deduction of marks. As El-Nabih (2014) does, the present study also suggests that students need an expert writer for examinations.

However, the students admit that their understanding of punctuation and orthography is suboptimal due to limited engagement with written texts, a consequence of systemic barriers that shape and sustain these cognitive gaps. Papadopoulos et al. (2008) also stated that vision plays an important role in literacy skills and acknowledged that students with visual impairments make orthographic errors; however, they observed that increases in education level result in a decline in the number of errors. In their study, students who used Braille made fewer mistakes than those who did not. This observation supports the particular finding of the present study. The participants report that they never experienced orthographic mistakes in their braille script because students who use braille interact with text at different levels, and when braille becomes obsolete, it leaves literacy skills underdeveloped.

Furthermore, certain types of questions in examinations are challenging for students to solve: visual and comprehension questions. Parveen et al. (2024), like the current study, found that students found it challenging to answer a question presented in the form of a diagram. The data of the present study also reveal that students face difficulty in solving comprehension passage questions since they cannot scan the information, and they need repetitive readings to solve them, which becomes challenging with a human assistant. The reader's reading style and pace also impact their comprehension, suggesting that scribes should not only possess strong writing skills but also enhanced reading skills. Moreover, inadequate seating arrangements also serve as an external environmental barrier for students, causing disturbances during the critical time of the examination. The institution does not realize that they need a quiet, separate place to attempt their paper, so they attempt it in the same examination room, in the corridor, or in the staffroom. Such arrangements demonstrate institutional failure as these arrangements are disruptive in nature: invigilators, while attempting their papers in the same room, silence the students, considering them a source of disturbance for the sighted students, teachers who are present in the staffroom ignore the presence of the student who is attempting his/her paper, and corridors lack the peaceful environment required for focused work.

Anjum et al. (2021) also reported similar results and explained that the institution did not ensure the provision of a separate room, extra time, or a writer, and that invigilators were reported to misbehave and interrupt the examination. As with Anjum et al. (2021), the present study also reports that students are not given extra time during examinations, which is their right. Additionally, the present research highlights that the extra time given to students rarely exceeds a few minutes and is most often left to the discretion of individual teachers.

This research also reveals that extra time is reserved only for students who use human assistance, while students who use computers are denied it on the assumption that they do not require extra time, as they do not seek assistance. However, the institution ignores critical factors such as the nature of his medical condition, his proficiency with a screen reader, and unpredictable problems such as power cuts and accidental file deletions. Tran and Pho (2020) suggested that visually challenged people with the same degree of vision loss can have different requirements, as these depend on various factors shaping their individual personalities, such as family support and intellectual abilities. Likewise, the present study posits that visually

challenged students should be treated with consideration for their unique circumstances, including their medical history and educational background.

To conclude, these barriers primarily stem from a lack of awareness among educationalists. The absence of teacher training programs focused on promoting inclusive learning environments leaves teachers unable to adapt their methodologies to meet students' diverse needs. In addition, the neglect of learners' unique challenges based on the nature of their impairments, combined with rigid academic structures, renders the institution unable to provide accessible study materials. Furthermore, the institution's lack of a student-centric approach to examinations and its failure to implement inclusive policies, in line with those of the Higher Education Commission, continue to obstruct students' academic progress.

In light of these findings, this study has certain implications for policymakers. To facilitate students, the institution should implement the inclusivity policies outlined in the handout policy for differently abled students uploaded on the university's official website, and it should make the examination system flexible by implementing the different modes of examination policy mentioned in the handout. This evaluation system, however, emerged inductively from the participants' responses as a barrier not identified in the Social Model of Disability adopted in the study, which provides the findings a theoretical weight. Moreover, the university should allocate a specific budget to meet students' needs and develop a comprehensive plan to raise awareness among educators, teachers, students, and staff about the needs of students with visual impairments. More precisely, targeted teacher training programs can equip teachers with adaptive techniques for use in inclusive settings.

This research, despite its substantial findings that provide insights into the lives of visually challenged ESL learners, has also certain limitations. The research involved a small, context-specific sample from a single institution, which limits the generalizability of the results to a larger population. Moreover, the research gave voice to the students through interviews complemented by classroom observations of teachers, yet it did not incorporate the perspective of administrators, which could have enhanced the scope of the study and enriched its findings. Although the research endeavored to explore the experiences of learners with diverse backgrounds, there is a need to capture the diverse spectrum of experiences across different degrees of impairment, different levels of technological proficiency, and educational background. Additionally, my personal experience as a visually challenged individual was likely to influence research findings, but through triangulation, I have tried to impart objectivity to my research.

## **5. Conclusion**

This study explored the lived experiences of visually challenged ESL learners in inclusive higher education classrooms at NUML. Guided by the Social Model of Disability and Gardner's concept of instrumental motivation, the study examined the challenges learners face in developing literacy skills, the factors contributing to these challenges, and possible strategies for improvement.

The findings revealed that visually challenged learners encounter significant barriers in accessing study materials, participating in examinations, and engaging with classroom instruction. Inaccessible learning resources, visually oriented teaching practices, and inflexible examination procedures limited their opportunities to develop literacy skills effectively. These challenges were not primarily caused by visual impairment itself but by institutional and pedagogical practices that failed to accommodate diverse learning needs.

Despite these barriers, participants demonstrated strong motivation and resilience in pursuing their academic goals. The findings highlight the importance of accessible learning materials, flexible assessment procedures, assistive technologies, and teacher training in creating a

genuinely inclusive learning environment. The study therefore supports the view that disability emerges largely from environmental and structural barriers rather than from impairment alone.

### 5.1 Major Findings

The study identified three major categories of barriers affecting the literacy development of visually challenged ESL learners:

1. **Inaccessible Study Materials:** Participants reported limited access to Braille resources, audiobooks, soft books, and screen-reader-compatible materials. The lack of accessible resources increased dependence on others and restricted independent learning.
2. **Examination Barriers:** Students experienced difficulties related to the absence of university-provided writers, untrained amanuenses, lack of extra time, inaccessible examination formats, and technological challenges during computer-based examinations.
3. **Pedagogical Shortcomings:** Teaching practices were largely designed for sighted learners. Common barriers included insufficient verbal descriptions, reliance on visual materials, difficulties in technical and foreign-language courses, and occasional discouraging attitudes from teachers.

Classroom observations further confirmed that visually challenged learners faced difficulties accessing textbook content, whiteboard information, diagrams, and note-taking opportunities. Although peer support partially reduced these challenges, accessibility largely depended on individual efforts rather than institutional support.

### 5.2 Implications and Recommendations

The findings suggest the need for stronger implementation of inclusive education policies in higher education institutions. Universities should provide learning materials in multiple accessible formats, improve access to assistive technologies, and establish accessible library services. Examination systems should offer flexible assessment modes, trained writers, extra time, and appropriate examination environments. Furthermore, teacher training programs should focus on inclusive pedagogical practices, effective verbalization strategies, and awareness of the diverse needs of visually challenged learners.

### 5.3 Recommendations for Future Research

Future studies may investigate:

- The role of assistive technologies in developing literacy skills among visually challenged ESL learners.
- Challenges faced by visually challenged students in learning foreign languages.
- Literacy experiences of learners with multiple disabilities.
- Comparative experiences of students with different degrees and types of visual impairment.

### References

- Acula, L. J., Regalia, M. R., & Carisma, R. D. L. (2024). Teachers' experiences in handling learners with visual impairment: Basis for a proposed program. *International Journal of Current Science (IJCS PUB)*, 14(4), 926–961. <https://rjpn.org/ijcspub/papers/IJCSPTH00046.pdf>
- Anastasiou, D., & Kauffman, J. M. (2013). The social model of disability: Dichotomy between impairment and disability. *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine*, 38(4), 441–459. <https://doi.org/10.1093/jmp/jht026>
- Alkhalwaldeh, M. A., & Khasawneh, M. A. S. (2021). The effect of flipped classroom strategy via smart phones in academic achievement in the English language for blind and

- visually impaired students. *Journal of Asian Multicultural Research for Educational Study*, 2(3), 1–10. <https://doi.org/10.47616/jamres.v2i2.203>
- Anjum, S., Gul, I., Naz, F. L., & Noureen, S. (2021). Challenges faced by special needs students in inclusive classrooms at the university level. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 18(18), 847-857. <https://archives.palarch.nl/index.php/jae/article/view/10605>
- Attachoo & Sitthitikul (2020). *A phenomenological study on English language learning of visually impaired students in Thailand* (No. 183874). Thammasat University. [https://ethesisarchive.library.tu.ac.th/thesis/2020/TU\\_2020\\_5921320023\\_12904\\_14002.pdf](https://ethesisarchive.library.tu.ac.th/thesis/2020/TU_2020_5921320023_12904_14002.pdf)
- Ashraf, S., Fatima, G., & Bashir, R. (2017). The acceptability level of ordinary school teachers towards the inclusion of children with visual impairment. [https://www.google.com/url?sa=i&url=https%3A%2F%2Ficevi.org%2Fwp-content%2Fuploads%2F2018%2F05%2FThe-Acceptability-level-of-ordinary-school-teachers%25E2%2580%25A6-by-Samina-Ashraf-WBU-ICEVI-Joint-Assembly-August-2016.doc&psig=AOvVaw241wmNKCIIguzZS7bDFRl2&ust=1751355565396000&source=images&cd=vfe&opi=89978449&ved=0CAYQrpoMahcKEwjAr\\_eE0piOAxUAAAAAHQAAAAAQBA](https://www.google.com/url?sa=i&url=https%3A%2F%2Ficevi.org%2Fwp-content%2Fuploads%2F2018%2F05%2FThe-Acceptability-level-of-ordinary-school-teachers%25E2%2580%25A6-by-Samina-Ashraf-WBU-ICEVI-Joint-Assembly-August-2016.doc&psig=AOvVaw241wmNKCIIguzZS7bDFRl2&ust=1751355565396000&source=images&cd=vfe&opi=89978449&ved=0CAYQrpoMahcKEwjAr_eE0piOAxUAAAAAHQAAAAAQBA)
- Barnes, C. (2002). 'Emancipatory disability research': Project or process? *Journal of Research in Special Educational Needs*, 2(1). <https://doi.org/10.1111/j.1471-3802.2002.00157.x>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cárdenas, J., & Inga, E. (2021). Methodological experience in the teaching-learning of the English language for students with visual impairment. *Education Sciences*, 11(9), 515. <https://doi.org/10.3390/educsci11090515>
- Ehsan, M. (2018). Inclusive education in primary and secondary schools of Pakistan: Role of teachers. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, 40(1), 40-61. <https://core.ac.uk/download/pdf/235050489.pdf>
- El-Nabih, H. (2014). Visual impairment and majoring in English as a foreign language. *Arab World English Journal*, 5(3). [https://iugspace.iugaza.edu.ps/bitstream/20.500.12358/26626/1/El-Nabih%2c%20Hassan\\_0.pdf](https://iugspace.iugaza.edu.ps/bitstream/20.500.12358/26626/1/El-Nabih%2c%20Hassan_0.pdf)
- Fuller, M., Healey, M., Bradley, A., & Hall, T. (2004). Barriers to learning: A systematic study of the experience of disabled students in one university. *Studies in Higher Education*, 29(3), 303-318. <https://doi.org/10.1080/03075070410001682592>
- Fatima, G., Bashir, R., Malik, M., Safder, M., & Nayab, D. (2014). Difficulties faced by students with visual impairment registered in open and distance learning programs of AIOU, Islamabad, Pakistan. *Academic Research International*, 5(3), 214–222. [http://www.savap.org.pk/journals/ARInt./Vol.5\(3\)/2014\(5.3-24\).pdf](http://www.savap.org.pk/journals/ARInt./Vol.5(3)/2014(5.3-24).pdf)
- Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. Basic Books.
- Gardner, R. C. (2005, May). *Integrative motivation and second language acquisition* [Conference presentation]. Canadian Association of Applied Linguistics/Canadian Linguistics Association. <https://publish.uwo.ca/~gardner/docs/caaltalk5final.pdf>
- Gardner, R. C. (2010a). *Motivation and second language acquisition: The socio-educational model*. Peter Lang Publishing, Inc. <https://www.peterlang.com/document/1135826>
- Graham, L. (2020). *Inclusive education for the 21st century: Theory, policy and practice*. Allen & Unwin. <https://doi.org/10.4324/9781003116073>

- Gul, R. (2020). Disability policies in Pakistan: The way forward. *Pakistan Journal of Applied Social Sciences*, 11(1), 57–72. <https://doi.org/10.46568/pjass.v11i1.436>
- Heidegger, M. (1962). *Being and time*. Harper. (Original work published 1927)
- Higher Education Commission (HEC), Pakistan. (2021). *Policy for students with disabilities at higher education institutions in Pakistan*. <https://file.pide.org.pk/pdfpideresearch/policy-for-students-with-disabilities-2021-amended.pdf>
- Hanif, S., Fazil, H., Basri, R., Hussain, G., Hanif, S., & Naz, T. (2022). Perspectives of inclusive education in Pakistan: Content analysis. *Journal of Contemporary Issues in Business and Government*, 28(3), 502–523. <https://doi.org/10.47750/cibg.2022.28.03.039>
- Jaleel, F., & Anis, F. (2018). Preferences of students with visual impairment between braille and screen reader's software. *Journal of Inclusive Education*, 2(1), 63-76. <https://www.researchgate.net/publication/364165895>
- Jardinez, M. J., & Natividad, L. R. (2024). The advantages and challenges of inclusive education: Striving for equity in the classroom. *Shanlax International Journal of Education*, 12(2), 57–65. <https://doi.org/10.34293/education.v12i2.7182>
- Khalid, A., Ahmed, F., & Anis, F. (2023). Challenges in accessibility: Exam preparation for students with low vision in Pakistan. *Global Sociological Review*, VIII(I), 350–358. [https://doi.org/10.31703/gsr.2023\(viii-i\).35](https://doi.org/10.31703/gsr.2023(viii-i).35)
- Khan, G. Z. (2023). *English language learning by blind and visually impaired students in Pakistan: A qualitative study of the experiences, challenges and solutions* [PhD dissertation, National University of Modern Languages Islamabad]. <https://norr.numl.edu.pk/repository/filedownload/1903>
- Lailiyah, N., Iswahyuni, I., & Lintangari, A. (2020). English spelling errors committed by the blind. *IJDS Indonesian Journal of Disability Studies*, 7(1), 66–71. <https://doi.org/10.21776/ub.ijds.2019.007.01.7>
- Martínez-Hernández, A., & Bellés-Fortuño, B. (2021). Accommodating the syllabus to visually impaired students in the English language classroom. *International Journal of English Studies*, 21(1), 75–92. <https://doi.org/10.6018/ijes.438891>
- Morelle, M. (2016). Challenges experienced by learners with visual impairment in two mainstream primary schools in Klerksdorp, Dr. Kenneth Kaunda District. <https://uir.unisa.ac.za/handle/10500/23125>
- Nasution, Y. I. S. (2019). *A teacher's strategies in teaching English to visually impaired students at Yaketunis Junior High School: A case study research*. <https://dspace.uui.ac.id/handle/123456789/13336>
- Nthama, K., & Annie, P. (2019). Theoretical and conceptual frameworks: An investigation on the hurdles learners with visual impairment face academically due to the introduction of inclusive education in two selected secondary schools in Itezhi-Tezhi district of Zambia. *International Journal of Research -GRANTHAALAYAH*, 7(1), 396–404. <https://doi.org/10.29121/granthaalayah.v7.i1.2019.1068>
- Okoye, F. O., & Adirika, B. N. (2019). The challenges of implementing inclusive education for visually impaired undergraduates in Nigerian tertiary institutions. *European Journal of Education Studies*. <https://doi.org/10.46827/ejes.v0i0.2435>
- Oliver, M. (1996). *Understanding disability: From theory to practice*. St Martin's Press. <https://doi.org/10.1007/978-1-349-24269-6>
- Oliver, M. (2013). The social model of disability: Thirty years on. *Disability & Society*, 28(7), 1024–1026. <https://doi.org/10.1080/09687599.2013.818773>

- Papadopoulos, K. S., Arvaniti, E. K., Dimitriadi, D. I., Gkoutsioudi, V. G., & Zantali, C. I. (2008). Spelling performance of visually impaired adults. *British Journal of Visual Impairment*, 27(1), 49–64. <https://doi.org/10.1177/0264619608097746>
- Parveen, Z., Mukhtar, S., & Jameel, M. (2024). Exploring the accessible modes used by students with visual impairment in university examination system: Challenges and prospects. *Pakistan Social Sciences Review*, 8(2-S), 248–258. [https://doi.org/10.35484/pssr.2024\(8-II-S\)21](https://doi.org/10.35484/pssr.2024(8-II-S)21)
- Retorta, M., & Cristovão, V. (2017). Visually-impaired Brazilian students learning English with smartphones: Overcoming limitations. *Languages*, 2(3), 12. <https://doi.org/10.3390/languages2030012>
- Shaheen, A., & Nazmeen, S. (2023). Challenges faced by visually impaired students in higher education. *MDSRIC*. <https://uow.edu.pk/ORIC/MDSRIC/Publications/8th%20MDSRIC-149.pdf>
- Shields, C. M., & Mohan, E. (2008). High-quality education for all students: Putting social justice at its heart. *Teacher Development*, 12(4), 289–300. <https://doi.org/10.1080/13664530802579843>
- Susanto, S., & Nanda, D. S. (2018). Teaching and learning English for visually impaired students: An ethnographic case study. *English Review: Journal of English Education*, 7(1), 83-92. <https://doi.org/10.25134/erjee.v7i1.1530>
- Union of the Physically Impaired against Segregation. (1976). University of Leeds. <https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/UPIAS-UPIAS.pdf>
- Vlieghe, J. (2015). Traditional and digital literacy: The literacy hypothesis, technologies of reading and writing, and the ‘grammatized’ body. *Ethics and Education*, 10(2), 209–226. <https://doi.org/10.1080/17449642.2015.1039288>
- Zangi, J. K., & Annie, P. (2021). Barriers of inclusive education to learners with visual impairment in an inclusive classroom setting: The experiences of teachers and visually impaired learners in Sefula, Mongu Zambia. *International Journal of Research and Innovation in Social Science (IJRISS)*, V(VIII), 767–774. <https://rsisinternational.org/journals/ijriss/Digital-Library/volume-5-issue-8/767-774.pdf>