

## **Understanding Listening Disorders in Technology-Mediated English Classrooms: A Review Study of Evidence and Practice**

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### **ABSTRACT**

This study explores the nature, causes, and consequences of listening disorders among learners in the digital English classroom, a rapidly expanding instructional setting shaped by technological integration. Because online learning environments rely largely on auditory communication, students who struggle with listening face exacerbated barriers including low quality audio, rapid speech, foreign accents, and lack of supportive nonvocal cues by speakers. These are all things that degrade understanding, reduce involvement, and increase mental effort. Implications also address the ways in which environmental distracters, small vocabulary reserves, and multitasking on digital interfaces exacerbate listening obstacles. The consequences of listening deficits are wide ranging and can impact on academic performance, confidence, active engagement in the classroom and longer-term language development. Descriptive analysis in the study calls attention to the pressing demand for responsive pedagogical practices, better-managed digital audio design, and tailored support structures that enable inclusive learning. There is a pressing need to understand listening disorders in digital contexts that are linked to the development of effective interventions for improved comprehension and equitable EL outcomes.

**Keywords:** *Listening Disorders, Digital English Classroom, Comprehension Barriers, Online Learning Challenges.*

### **1. Introduction**

Listening is a fundamental yet often underdeveloped skill in second and foreign language acquisition, and its importance has grown sharply in today's technology-driven learning environments. In the computer-mediated English context of online text lecture, presentation mode narrative audio-lecture

and graphic animation, e-conference discussion and transcript reading (which are classall activity types) is reguired of learners that they need to listen to spoken language with a high degree of accuracyand with relatively rapid speech rate for protracted pitches during every lesson. Yet, a lot of students have substantial listening derangements or afflictions that interfere with their ability to process digital input efficiently. These could be hearing processing issues, shorter attention spans, slow speech interpretation abilities or under developed accent recognition or cognitive overload with complex digital stimuli. These are aggravated when learning is done online and in hybrid arrangements; learners tend to grapple with the following factors such as bad audio, distractions in their environment, unreliable internet connection, and less visual cues which traditionally help make sense of lessons inside a physical classroom. This makes students with listening weaknesses often slow to catch up in relation to comprehension, participation and general language advancement. Therefore, investigations of the nature, causes and effects of listening disorders in digital English learning spaces are necessary for designing inclusive pedagogies, creating supportive digital tools, and guaranteeing equitable access to meaningful English language learning. This paper explores these new challenges, looking at how digital spaces mediate the act of listening and advising ways that learners might be able to work through barriers to aural comprehension (*Kao and Kuo 2023; Suwannasit 2019*).

### **1.1 Listening Challenges in Digital English Learning**

Listening challenges in digital English learning have become increasingly prominent as technology reshapes how language instruction is delivered. In virtual classrooms, learners are often more reliant on auditory input than in face-to-face contexts with limited interaction with a teacher's physical presence as in gestures, facial expressions, and immediate repair. This increased reliance on sound alone poses challenges, in particular when speech is rapid, contains unfamiliar words or phrases and uses a wide range of regional and international accents. Most learners have difficulty breaking down spoken language, and adapting to fluid vs robotic audio can reduce confidence in the text and raise levels of irritation. These difficulties are compounded by technical considerations. Low-quality sound, background noises and weak internet connections also often interrupt listening flow, making learners lose key information or trail off the lesson. Digital interface can add to cognitive load, as kids are trying to navigate interfaces, multi-tasking and keeping eyes on the prize amid potentially distracting surroundings at home. In the absence of a scaffold, such obstacles can be de-motivating and result in decreased participation and poor language learning. Solutions to listening difficulties in digital English learning need to be deliberately planned at the pedagogical level, such as offering scripts, providing repeated exposure of listening materials, selecting clear audio materials and incorporating visual information as well as creating tasks which train students' step-by-step listening abilities (*Al-Shuwaidi 2023; Suppasetserree et al. 2023*).

### **1.2 Impact of Listening Disorders**

Listening disorders have a profound impact on learners' overall academic performance, especially in language-focused environments such as English classrooms. When L2 learners have a difficult time accurately processing the spoken input, they are seriously impeded in following directions and

explanations as well as being engaged participants in classroom interaction. These challenges can result in multiple misunderstandings, slower comprehension and poor memory retention on important concepts. Therefore, students can feel unsure about speaking out in class or building up their communicative prowess.

The Listening Disorder is especially magnified in digital learning environments. Online classes are audio based and learners with listening issues experience more challenges in the form of unclear sound, difficult to understand and intermittent dialogues/noises alongside missing visual references that aid comprehension. These hurdles can have an impact on anxiety, motivation and learners' feeling of isolation as they are unable to keep up with the lesson. Extended problems with listening can contribute to withdrawal, lowered academic success and language difficulties.

It is crucial for educators and researchers to be aware of the consequences of listening disorders in order to provide efficient support structures. Approaches such as multimodal teaching, listening activities with better audio quality, access to individual support, and guided listening practice may support in reducing these barriers and supporting more inclusive learning environments (*Sutrisno et al. 2023*).

## 2. Background Study

Listening has long been recognized as a core yet challenging component of second and foreign language acquisition, and this difficulty has become more pronounced with the rapid expansion of digital English classrooms. Earlier research consistently establishes that listening is cognitively demanding, requiring learners to process speed, accent, vocabulary, and contextual meaning simultaneously (Suwannasit). With the shift toward online, blended, and technology-mediated instruction, these inherent difficulties are now compounded by digital constraints such as audio quality, connectivity issues, and increased cognitive load.

Recent studies have emphasized that traditional assessment methods often fail to capture the underlying nature of learners' listening problems. Kao et al. demonstrated that learners who achieved similar test scores frequently exhibited fundamentally different listening difficulties when examined through computerized dynamic assessment. Their findings highlight how digital tools can reveal hidden listening disorders—particularly in inference and overview listening—by diagnosing learners' mediated performance and learning potential rather than relying solely on static outcomes (Kao et al.). This insight is crucial in digital English classrooms, where learners' listening disorders may remain unnoticed due to standardized testing practices.

Parallel research has explored the role of digital audio and multimedia resources in addressing listening challenges. Sihombing et al. found that online podcasts delivered through platforms such as Spotify marginally improved listening proficiency compared to traditional methods, suggesting that digital audio exposure can support listening development, though not without limitations. Similarly, Ekinci et al. and Metruk emphasized that authentic audiovisual materials accessed via mobile applications and online videos enhance exposure to real-life language, thereby strengthening aural comprehension. However, these studies also imply that increased exposure alone does not fully resolve listening disorders, especially among learners with low proficiency or attentional difficulties.

The COVID-19 pandemic further intensified the reliance on digital learning environments, bringing listening disorders into sharper focus. Suppaseteree et al. reported high levels of behavioral, cognitive, and emotional engagement among Thai EFL learners using online Personal Learning Environments, yet learners still encountered challenges related to time management and unstable internet connectivity. These findings echo Aldina et al., who categorized listening difficulties in virtual learning into internal factors—such as limited vocabulary, rapid speech processing, and reduced motivation—and external factors, including poor audio quality and distracting home environments. Together, these studies suggest that digital English classrooms may inadvertently exacerbate existing listening disorders while simultaneously offering tools to mitigate them.

Beyond technological factors, affective and psychological dimensions of listening have also been explored. Al Abiky et al. demonstrated that reduced social anxiety through short-term immersion in English-speaking environments significantly improved learners' listening confidence and comprehension. This finding underscores the interaction between emotional states and listening ability, a relationship that becomes particularly relevant in online classrooms where learners may experience isolation, anxiety, or reduced interaction. Al-Shuwaidi further reinforced that active listening practices enhance cognitive processing and overall language control, emphasizing that listening disorders are not merely technical issues but deeply linked to cognitive and affective engagement.

From a pedagogical perspective, multimodal and strategy-based instruction has been identified as a promising response to listening challenges. Sutrisno et al. highlighted that multimodal literacy integrating visual, auditory, and digital elements enhances engagement and critical thinking in ESL/EFL classrooms. Likewise, Edy Waloyo et al. and Rakhman et al. revealed that learners actively employ metacognitive and cognitive strategies, supported by digital platforms such as YouTube, podcasts, and learning apps, to cope with listening difficulties. These findings suggest that listening disorders are multifaceted phenomena shaped by learner strategies, instructional design, and digital habits.

Earlier foundational studies further contextualize the persistence of listening difficulties. Izzah et al., Şakiroğlu et al., and Rerung et al. collectively emphasize that limited exposure to authentic language, grammar-focused instruction, and insufficient communicative practice hinder listening development. Even when learners adopt self-directed and technology-assisted strategies, structural limitations within instructional systems continue to affect listening outcomes.

Taken together, the reviewed literature indicates that listening disorders in digital English classrooms are not isolated problems but the result of an intricate interaction among cognitive limitations, affective factors, technological constraints, and pedagogical practices. While digital tools, multimodal resources, and authentic materials offer significant potential to enhance listening instruction, they also introduce new challenges that may intensify listening disorders if not carefully designed and supported. This body of research therefore establishes a strong rationale for the present study, which seeks to examine listening disorders among learners in digital English classrooms in a holistic manner, integrating technological, cognitive, and instructional perspectives to inform more inclusive and effective English language pedagogy.

### **3. Cause of Listening Disorders in Digital English Classroom**

**Poor Audio Quality and Technical Issues:** Digital learning heavily depends on technology, and factors such as low-quality microphones, background noise, echo, and unstable internet connections can distort speech. When learners repeatedly hear unclear audio, their ability to decode words weakens, leading to listening fatigue and comprehension problems.

**Fast Speech and Varied Accents:** Online learning often exposes students to teachers, speakers, or recorded materials using different accents and rapid speech. Learners who are not accustomed to such linguistic variations struggle to recognize sounds and patterns, increasing cognitive load and causing listening difficulties.

**Lack of Visual Cues and Nonverbal Support:** In traditional classrooms, learners rely on facial expressions, lip movements, gestures, and contextual cues to aid comprehension. Digital environments especially audio-only or poor-quality video sessions remove these supports, making it harder for students to interpret meaning.

**Cognitive Overload from Digital Platforms:** Managing digital tools, navigating interfaces, and dealing with notifications or multitasking increases mental strain. This divided attention negatively affects auditory processing, particularly for learners with limited working memory or pre-existing listening challenges.

**Inadequate Listening Training and Strategies:** Many learners enter digital English classrooms without structured instruction in listening skills. When listening tasks are not scaffolded such as pre-listening activities or guided practice students become overwhelmed, leading to persistent listening difficulties.

**Environmental Distractions at Home:** Unlike controlled classroom environments, online learning takes place in diverse home settings where noise from family members, televisions, or external sources can interfere with concentration. Such distractions prevent learners from fully focusing on spoken input, weakening listening comprehension.

### **4. Implication of Listening Disorders**

**Poor/Mute Comprehension:** Students can have poor ability to understand spoken language without an auditory processing disorder such as difficulties understanding instructions or following lessons. This impacts not only the students' understanding of main concepts, but also reflects poor performance in tests, tasks, oral instructions for activities.

**Limited Classroom Participation and Engagement:** Because of their inability to hear, students become reluctant to ask questions or participate in discussion, group work, or answer questions. Being concerned with misunderstanding of spoken language or making mistakes affect their confidence, even argument passive learning and reluctance from interactive digital classroom.

**Anxiety and Cognitive Overload:** This may cause the student with a listening disorder to feel anxious, unsure, or cautious when dealing with very rapid speech, following complicated instructions/tasks. In a digital medium, additional distractions and technical problems add to cognitive load and cause listening activities to be more demanding in terms of stress and negative emotions.

**Communication Problem and Social Withdrawal:** Problems in understanding speaking language also limit students' capacity to communicate with teachers and friends. Eventually this could contribute to feelings of isolation, decreased exposure to peers, and diminished social ties all critical elements for language development and learning together.

**Slower Development of Language and Skills:** Listening is the groundwork for vocabulary expansion, pronunciation development and speaking skills, therefore, when there are communication disorders it stalls the overall growth of language. Ensuing difficulties in developing speaking, reading, and writing skills are reinforced by the fact that listening comprehension is a foundation for these important language competencies.

## 5. Conclusion

Listening disorders present significant challenges for learners in digital English classrooms, where audio-based instruction forms the core of communication and comprehension. Now, however, home-based learning is adding its own challenges on top of that with bad audio quality, few visual cues, various accents and home distractions. Students of listing sensitive tend to have decreased comprehension, less participation, more anxiety, and slower language development. Not only do these obstacles influence students' learning performance but they also limit students' confidence and their willingness to engage in the tasks of learning English. Listening impairments need to be addressed in order to create inclusive digital learning opportunities. Teachers must use supporting strategies, including multimodal resources, a more pedagogical instruction design, listening opportunities and adaptive tools. Through recognizing and addressing these challenges, institutions can ensure an equal playing field for all learners regardless of their listening ability in the online English classroom.

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