

# Enhancing Students' Listening Skills through Technologically-Assisted Dictations in English as a Second Language (ESL) Classrooms: A Narrative Review

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## ABSTRACT

Listening is a sensory skill that transmits linguistic input from the environment to the listener's brain. When the input reaches the brain, mental operations occur to process language understanding. Overall language development, including speaking, writing, and reading, is developed from the understanding gained through listening. Hence, dictation practices that have long been implemented in language classrooms are explored with educational technologies to improve their effectiveness in listening instruction for overall language development. This narrative review highlights the use of technologically-assisted dictations as a means to enhance students' listening skills in English as a Second Language (ESL) classrooms. This study aims to explore earlier findings on how technology features can assist the transmission of linguistic input from various media resources to support students' cognitive processes. Insights from this study may serve as a guideline for teachers in implementing technology-based listening lessons in ESL classrooms. Listening practices in ESL classrooms often focus on surface-level responses with minimal emphasis on targeted listening sub-skills. Consequently, students often struggle with listening comprehension because the cognitive processes involved in understanding spoken language are not sufficiently practised. The discussion indicates that technologically assisted dictation practices provide multimodal learning input, repeated exposure to authentic language, structured support, and clarity of listening for students. This study also highlights the challenges that teachers faced in implementing technologically assisted dictation practices based on previous findings. These challenges include background noise, poor internet connection, visual aids distraction, and accent difficulty. Overall, this study contributes to the ongoing effort to improve the quality of listening instruction in ESL classrooms.

**Keywords:** Technologically assisted dictations; Listening skills; ESL Classrooms; Listening Challenges

## INTRODUCTION

### The Importance of Listening Skills

Telaumbanua (2024) emphasised that students should focus more on mastering listening skills to build language understanding before developing their speaking, writing, and reading skills in ESL learning. The emphasis on listening skills provides language information for smooth expression in speaking and reinforced language structure for reading and writing (Khaydarova & Kholmurodov, 2024). According to Khaydarova and Kholmurodov (2024), the key to learning listening skills is repetition of input that supports listeners' cognitive development. Repetitive linguistic input from effective dictation can contribute to students' cognitive development (Saragih, 2022). However, it is noticeable that concrete practices in ESL classrooms only include writing format, common expressions in speaking, and reading comprehension. Teachers minimally addressed the importance of listening skills for overall ESL learning (Al-Rashidy & Alsabbagh, 2023). Common listening practices do not reflect the nature of real-life communication or the demands of academic listening assessments,

such as exposure to games and songs. Students may participate in these activities without achieving measurable benefits in listening comprehension, and hinder overall language development.

According to Fua, Janggo, and Sina (2025), comprehending spoken English requires refined listening skills. Listening involves retaining input, identifying information, interpreting meaning, and assessing messages to generate comprehensive responses to a spoken language (Paris et al., 2024). Listening comprehension performance is fundamental to overall language learning because it underpins listeners' understanding of authentic language use (Khaydarova & Kholmurodov, 2024). ESL students often struggle with listening comprehension because listening skills require cognitive effort (Khaydarova & Kholmurodov, 2024). Thus, this study proposes that students' cognitive engagement is a causal effect of technologically assisted dictations on the improvement in ESL students' listening skills.

The research questions for this article are:

- a) How do dictation practices with a technology approach influence students' listening skills in ESL classrooms?
- b) What are the challenges faced by the teachers in the implementation of technologically assisted dictations practices in the ESL classrooms?

## LITERATURE REVIEW

### Listening Skills and ESL learning

Practicing listening skills involves cognitive processes, top-down processing (TDP), and bottom-up processing (BUP) (Jose, 2022). TDP involves students' prior knowledge as a baseline context to guess information from spoken language (Jose, 2022). For example, a student will use existing information about the movies they have watched to understand a conversation about movie topics. On the other hand, BUP involves decoding ability through phoneme patterns to conceptualise spoken language, distinguishing the sounds of spoken words to identify information (Jose, 2022). To be precise, BUP makes sense of spoken language, guiding students to rely on the linguistic patterns. Students' listening comprehension is more affected by a lack of BUP-focused practice compared to TDP (Jose, 2022). Indeed, students are expected to demonstrate competence in listening comprehension even when they have limited background knowledge, which may not always be available.

In a language classroom, the main listening sub-skills are listening to points, listening to specific information, and listening in detail (Latupono & Nikijuluw, 2022). Listening to a point involves students' understanding of the general idea (Latupono & Nikijuluw, 2022). For example, when listening to a school announcement on sports days, students can identify key words such as "event" and "sports" without paying attention to every word to gain a general idea of the announcement. Listening for specific information requires students to identify specific words that provide information (Latupono & Nikijuluw, 2022). In the same announcement, students can focus on words related to days and ignore other irrelevant words to determine when the sports day will be held. Lastly, listening in detail involves paying close attention to each word to understand the message as accurately as possible (Latupono & Nikijuluw, 2022). If the announcement states, "The sports day will be held on Friday instead of Saturday," there are two words related to days. By listening to details, students determine which day is the correct one for the sports day event. Indeed, listening in detail helps students to infer. For example, students can infer that the sports day was moved from Saturday to Friday due to circumstances.

### Principles of Teaching Listening

In the teaching of listening, Latupono and Nikijuluw (2022) mentioned that effective listening lessons incorporate the central listening task with activities before and after it. The flow begins with pre-listening, followed by the main listening activity, and post-listening. Teachers can adhere to established principles of teaching listening skills in dictations. The principles of teaching listening skills suggest that the teacher should familiarise students with the listening process, use relevant materials connected to students' real-life experiences, expose students to authentic language, provide a variety of speakers and contexts, encourage comprehension through instruction, and familiarise students with the audio before introducing any visual support (Brown, 2007,

as cited in Latupono & Nikijuluw, 2022). These key principles can be categorised into two main aspects: instructions and materials.

In the listening instructions, the principles first suggest that the teacher should familiarise students with the material before they begin listening. This approach provides students with a basic understanding of the actual task content. Indeed, learning is enriched through familiarity with the topic (Malik, 2021). For instance, the teacher can introduce the meaning of unfamiliar words and demonstrate how to pronounce them during the pre-listening stage. The teacher should also provide clear instructions that encourage comprehension for the listening task. This approach sets clear expectations to help students know exactly what they need to do in the lesson. Third, the teacher should avoid displaying the visualised material before students have listened to it. This encourages students to focus on the audio first and engage fully with sounds as a familiarisation strategy to spoken input.

In terms of materials production, the principles suggest choosing materials relevant to students' real lives. Materials that reflect real-life communication are useful outside of the classroom, such as using audio in everyday conversations with friends. The teacher should also maximise the use of authentic language material in listening practices. This approach ensures students adapt to the natural setting of language for trustworthy pronunciation, language structures, and grammar more than inauthentic exposure. Lastly, the teacher should provide materials that reflect a variety of speakers and contexts, including differences in gender, age, dialect, accent, topic, speed, background noise, difficulty level, and genre, to maintain students' interest and support their ability to process the listening content effectively.

### **Dictation as a Language Technique**

Dictation is a language teaching technique that has been used for many years in language classrooms. According to Podhorská (2022), dictation helps learners focus on listening carefully and writing what they hear. Dictation was originally used to improve students' spelling, grammar, and sentence structure in earlier language classrooms (Podhorská, 2022). Over time, teachers have noticed that dictation also supports listening comprehension and vocabulary learning. The study explains that dictation is not only about copying words but also about understanding language patterns and language meaning (Podhorská, 2022). During dictation, students attentively listen to words to construct sentences. Through sentence parsing, students enhance their language structure. They also notice linguistic features in the English language, as they need to write each output accurately.

Podhorská (2022) emphasised different types of dictation that a teacher implements in a language classroom. Traditional dictation involves the teacher reading a text aloud while students write down what they hear. This approach is known as a teacher-led dictation. In a teacher-led dictation approach, the teacher has the full authority to conduct dictation practice. As expressed by Podhorská (2022), traditional dictation is often teacher-centred because the teacher controls the dictation speed, content, and repetition of the text. On the other hand, modern approaches include exercises, such as partial dictation, where students fill in missing words, and focused dictation (Podhorská, 2022). These approaches focus on student-centered learning to target specific language features. These approaches are innovative in making dictation more flexible for various learning goals. By the end of the lessons, students are expected to listen for details and understand sentence structure.

In a study by Podhorská (2022), the author presents several benefits of dictations on findings from classroom observations and a questionnaire survey. To start, dictation encourages students to focus on word sounds and sentence structures. Focusing on language forms during dictation practice can support their grammar and vocabulary range. Dictation also promotes students' concentration and attention to detail. Such a concentration allows students to process what they listen to before they can write it correctly. The study also highlighted that students who practiced dictation regularly showed improvement in sentence context and overall language accuracy. Moreover, dictation can support memory and retention. When students listen and write, they remember words and phrases more effectively because they use multiple senses during dictations. The study also observed that dictation can boost learners' confidence over time. This is because the repeated practice helps them become familiar with sentence patterns and word usage.

Despite its benefits, Podhorská (2022) presents several limitations of traditional dictations. Some students reported feeling stressed or anxious because they are afraid of making mistakes, and the practice is time-consuming. These negative feelings may lead students to fatigue or lose focus. From the observation, students with lower listening skills struggled to keep up with the pace of dictation. These mixed-abilities students in a classroom can reduce the effectiveness of dictation as a listening practice and discourage them from following up on the practice. Therefore, effective dictation through technology integration is discussed in this study to reduce the limitations. Further segments reviewed literature on technological tools and platforms from previous studies that can be integrated into dictations.

### **Technology Integration in ESL Listening Instruction**

Learning is easier with the help of technology (Dogan et al., 2021). The use of technology to support learning is known as technologically assisted learning. Technologically assisted learning is divided into application and instructional software (Dogan et al., 2021). Application software refers to a computer program that performs a task (Dogan et al., 2021). On the other hand, instructional software is a type of application software that aids teaching instruction (Dogan et al., 2021). A computer program can be both application and instructional software. For example, Canva is an application software that a teacher uses to prepare slide tasks. Then, the slides aid classroom presentations as instructional software. Meanwhile, application software performs tasks but does not aid teaching. To be precise, application software includes playing video games and listening to songs on YouTube, without any educational value.

Mayer (2005) emphasised in multimedia learning theory (MMLT) that effective learning does not occur when texts are used alone, but rather with instructional technology to activate active cognitive processes. The use of technology in dictations may be a practical strategy to ensure smooth language learning in future ESL classrooms. According to MMLT principles, technology can provide contiguous input to auditory and visual channels through various media platforms to facilitate language learning (Mayer, 2005). Hence, enhancing students' listening skills through the implementation of technologically assisted dictations in ESL classrooms can include text and picture elements to facilitate language understanding, including videos in native speakers' accents, photos of unfamiliar words (nouns/verbs), or emphasis on complex language structures using computers, a projector, a speaker, and media resources rather than using texts alone to deliver the linguistic input effectively to students' brain.

Modern technological approaches can be implemented in dictation through Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL). A study by Varedi and Khomeijani Farahani (2025) investigated the use of self-assessed CALL and semi-instructed CALL among 100 school students using computers, American English Learning software, and headphones in listening and speaking lessons. The use of computers in technologically assisted dictations allowed students to practice listening comprehension skills through interactive gap-filling exercises, and headphones provided clearer audio input of spoken language features during listening (Varedi & Khomeijani Farahani, 2025). Students also shadowed the native speaker's speech and received immediate feedback on their speaking performance when American English Learning software was used in classrooms (Varedi & Khomeijani Farahani, 2025). Based on a questionnaire survey, it was found that the implementation of self-assessed CALL in technologically-assisted dictations allowed students to work independently with digital materials, and semi-instructed CALL allowed students to engage with digital materials independently, while seeking guidance from the teacher (Varedi & Khomeijani Farahani, 2025). Overall, technology integration in dictations helped students understand spoken English through structured support from technological sources and the teacher's guidance.

On the other hand, MALL involves using smartphones and tablets to assist language learning. A study by Sabani et al. (2025) explored teachers' perspectives on the use of MALL in English learning. It was found that MALL allows flexible learning opportunities because students can easily access listening materials (Sabani et al., 2025). Based on teachers' interviews, MALL provided students with digital access to WhatsApp, Instagram, Google, and Hemingway Editor (Sabani et al., 2025). Such platforms helped students discuss videos posted by teachers, correct their grammar, and become expressive in writing (Sabani et al., 2025). Both CALL and MALL indicate the potential of technologically assisted dictations in improving students' listening skills. When language

software is introduced through CALL in classrooms by a teacher, students can use similar language software outside of the classroom to practice their listening skills.

### **Technologically Assisted Dictation and Teacher-Led Dictation**

Modern technological approaches to dictation can enhance students' listening skills by guiding them through gradual, structured stages in an engaging manner. When technology is integrated into dictation practices, students are motivated to engage in activities with digital aids beyond printed materials. A survey by Serajuddin (2023) investigated students' perceptions of technological tools in listening instruction. The findings showed that students were more interested in engaging in listening activities when modern technological approaches were used (Serajuddin, 2023). However, teachers' guidance played a key role in enhancing their motivation to learn through technology (Serajuddin, 2023). A study by Sattarova (2024) also found that students' engagement with modern technological approaches was higher than in traditional ones. Students were observed to focus on memorising language patterns during the traditional Audiolingualism method, neglecting meaning for real listening practice (Sattarova, 2024). However, students' engagement increased with modern technological approaches, such as Communicative Language Teaching (CLT) and Task-Based Learning (TBL). CLT encouraged students to practise language meaningfully, while TBL promoted active participation for group discussions, role-plays, and project-based tasks (Sattarova, 2024).

These findings indicate that technology integration promotes active students' participation. The traditional approach results in students learning passively because the teacher has full authority over the lesson and is the primary source of knowledge (Sattarova, 2024). In contrast, teachers act as facilitators, guiding students throughout the learning process and allowing them to engage independently with various media aids in the modern approach (Sattarova, 2024). Hence, technologically assisted dictations have more potential to promote students' comprehensive responses to spoken language than passive, teacher-led dictation.

As suggested by the principles of teaching listening, teachers should also maximise the use of authentic language from multiple listening contexts with supporting visual aids. Authentic materials refer to resources that feature real communication by native speakers on digital platforms, such as conversations, interviews, or media (Maftuh et al., 2021). However, the traditional approach has limited access to authentic language because the teacher is the main source of input, making it difficult for students to be exposed to different English speakers and contexts with visual support. As mentioned by Maftuh et al. (2021), authentic listening materials with visual aids in a modern technological approach can improve students' listening skills. For example, the use of audiovisual materials by native speakers increased students' average score from 58.38 in the pre-test to 70.15 in the first post-test (Maftuh et al., 2021). Hence, technologically assisted dictations have the potential to support dictation practices by providing students with authentic language exposure from multiple listening contexts.

In addition, songs can be used as listening materials in dictations. According to Tasnin (2022), rewriting song lyrics or fill-in-the-gap activities after listening to songs helps students become attentive to language features. However, implementing songs for dictations only supplies linguistic input to the auditory channel. Hence, the use of video-based materials in dictation can lead to higher comprehension scores than when auditory input is used alone. Indeed, students who experienced audio-visual listening with technological tools tend to perform better in listening comprehension after intervention than students who experienced the teacher's voice or audio during listening lessons (Acuña-González & Díaz-Larenas, 2025). In presenting the audio-visual aids, technological tools such as a speaker and LCD projector are used in classrooms. Such tools are important in producing greater learning outcomes. Audio-visual materials for dictations can be obtained through online platforms, such as YouTube. An observation by Ignasia et al. (2025) found that using the YouTube platform improved students' listening comprehension, motivation, and engagement because learners saw and listened simultaneously in listening practices. Such a platform is not used in teacher-led dictation.

Moreover, headphones are available in technologically assisted dictations to facilitate clearer input (Varedi & Khomeijani Farahani, 2025). Mawaddah (2022) emphasised that effective listening required minimal background noise and self-paced listening control. Without using headphones, students in traditional teacher-led dictation are exposed to background noise, which hinders effective listening. Equipment such as a speaker can

also be used to facilitate clearer input (Datta & Roy, 2024). However, students are required to follow a controlled listening pace by the teacher when a speaker is used. Thus, the use of headphones allows for more personalised listening to students' listening abilities than the use of a speaker in technologically assisted dictations.

### **Cognitive Load Learning Theory**

Cognitive load learning theory explains why students struggle when too much information is presented at once. According to Sweller's model, humans have a limited working memory capacity at any one time (Sweller, 2024). The theory highlights three types of loads. These are intrinsic load, extraneous load, and germane load. Intrinsic load refers to the inherent difficulty of the content, extraneous load comes from how information is presented, and germane load is the mental effort dedicated to learning and understanding (Sweller, 2024). A high cognitive load can occur when students are exposed to too much unfamiliar spoken language. Indeed, listening tasks demand real-time processing of spoken input. When students listen to long or rapid speech, the working memory may be overloaded. This may reduce comprehension and retention. Recent research emphasises that managing cognitive load can improve listening comprehension if learning materials are structured to avoid students feeling overwhelmed (El-Ghotmy, 2025). Structured materials lower unnecessary cognitive load and increase the learners' ability to focus on important language structures.

The understanding of cognitive load learning theory supports the use of technology in teaching listening. Technological devices such as computers can present language features more slowly, visually, and interactively. When learners face fewer unnecessary demands, they can allocate more attention to understanding the spoken language. Indeed, slow-played audio and repeated visual cues in technologically assisted dictation help manage cognitive load by providing students with multiple ways to process the input. These features provide ESL students with more processing time at a personalised pace. Technology also offers visual reinforcement to support listening comprehension and reduces listening difficulty through visual aids from media resources.

### **Multimedia Learning Theory (MMLT)**

Multimedia Learning Theory (MMLT) emphasises the information processing that takes place in human minds and was developed by Richard Mayer. MMLT is a cognitivism-based theory that focuses on technological abilities to facilitate learning, which emerged from cognitive psychology (Mayer & Moreno, 1998). Based on the theory of cognitivism, we acknowledge that learning occurs in learners' minds after their brains have received input to process information. According to the cognitive process, Richard Mayer extends theoretical learning on cognitive channels that supply input for information processing (Mayer & Moreno, 1998). The effective use of technology has the potential to enrich learning (Mayer & Moreno, 1998). Thus, MMLT was designed to guide the use of technology to support learning. The use of technology in dictations may be a practical strategy to ensure smooth language learning in future ESL classrooms. According to MMLT, technology can provide contiguous input to auditory and visual channels from various media resources to facilitate language understanding (Mayer, 2005).

Three assumptions about information processing in learners' minds led to MMLT (Çeken & Taşkın, 2022). The assumptions are the dual-channel assumption, the limited capacity assumption, and the active processing assumption (Çeken & Taşkın, 2022, as cited in Mayer, 2005). According to Mayer (2005), effective learning occurs when learners create a mental representation through the visual and auditory inputs because learners have a limited capacity to process information in each channel (Mayer, 2005). Thus, it is relevant to provide inputs from multiple sensory channels to facilitate extensive thinking (Mayer, 2005). In accordance with these assumptions, MMLT emphasises technologies as a potential strategy to enrich learning (Mayer, 2005).

Multiple representation and contiguity are among the principles of multimedia learning theory. A combination of contiguous texts and pictures that correspond to a similar understanding through visual and auditory representation makes information processing extensive (Mayer, 2005). Texts can be spoken or printed; meanwhile, pictures can be represented by photos, videos, animations, and illustrations (Mayer, 2005). It was found that students who learned through narration and diagrams scored better than students who learned only through narration in transfer tests of pumping a bicycle tyre (Mayer & Anderson, 1992, as cited in Mayer, 1998). Using these principles, technology can assist dictation by including text and picture elements to facilitate

language understanding. The use of devices in dictation enables pause, replay, and slow functions to adjust the speed of listening to fast native speech.

### Sociocultural Learning Theory

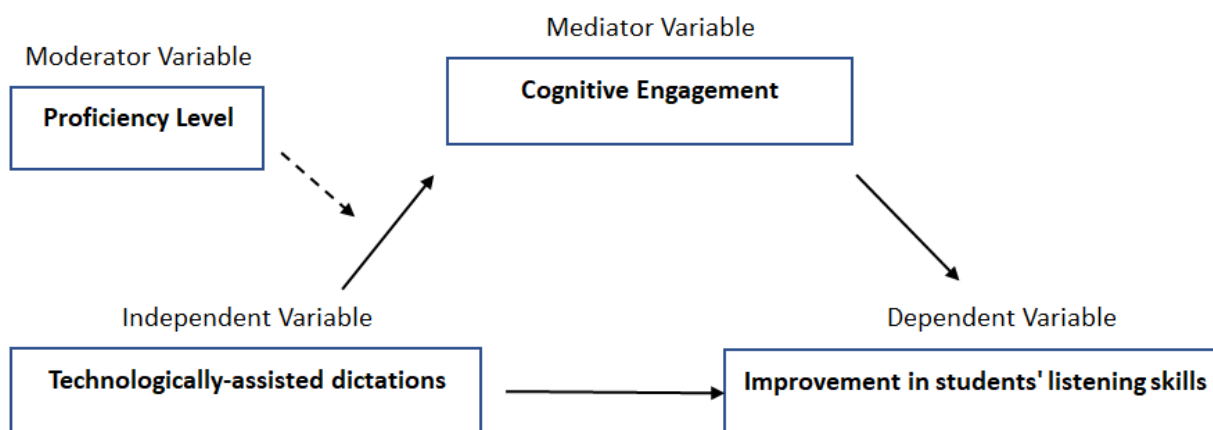
Sociocultural Learning Theory emphasises that social interaction is central to language learning. Social cognitive theory defines learning as a process that absorbs knowledge from the environment before humans perform certain actions (Bandura, 1986, as cited in Malik, 2021). In social cognitive learning, humans observe one another, perform actions based on their processed understanding, and adjust their actions according to feedback (Malik, 2021). Applying knowledge through actions in their social circle, humans retain the well-liked actions and discard or adjust unfavourable ones (Malik, 2021). According to sociocultural perspectives, learners build language ability through interaction with others. This theory emphasises the role of peers, teachers, and cultural context in language development.

Studies show that sociocultural instruction helps learners negotiate meaning together and support each other’s understanding. Although classic texts on sociocultural theory are older, contemporary research continues to apply it to ESL settings (Allami, 2025). Indeed, learning is viewed as a social activity. Learners internalise knowledge through guided interaction and shared tasks. Interaction in pairs or groups allows learners to talk about what they hear. When learners talk about listening tasks together, they can explain meanings and support each other’s comprehension. In classroom listening and dictation, sociocultural theory suggests that collaboration strengthens learning. When learners discuss what they heard or help each other identify language features, they go beyond isolated listening. Social explanations or peer feedback serve as scaffolds for learners to move into a more complex understanding.

### CONCEPTUAL FRAMEWORK

According to Salawu et al. (2023), a conceptual framework in a research study shows the relationship between variables. Therefore, the diagram below expresses the independent, dependent, mediator, and moderator variables in the relation of this study.

Figure 1: Conceptual Framework



This study examines the use of technologically-assisted dictations in enhancing ESL students’ listening skills in ESL classrooms. According to Preacher et al. (2007), the effect of an independent variable is on the dependent variable, and the independent variable produces a causal effect that links it to the dependent variable. As presented above, the cause-and-effect relationship in this study is represented by the use of technologically-assisted dictations (independent variable) on the improvement in ESL students’ listening skills (dependent variable). Cognitive engagement is a causal effect of technologically-assisted dictations, which link the independent variable to the dependent variable.

This study proposes that students' cognitive engagement is a causal effect of technologically-assisted dictations on the improvement in ESL students’ listening skills. Technologically-assisted dictations transmit the

representation of linguistic input through familiarisation to support students' cognitive engagement. This dictation approach becomes more meaningful using the supporting picture elements through contiguous visual and auditory cues by technology, as supported by the theory of cognitivism and multimedia learning.

Proficiency level is the moderator variable in this conceptual framework. As expressed by Preacher et al. (2007), a moderator variable moderates the mediation variable, as mediated moderation. In this study, proficiency level moderates the relationship between the independent variable and the mediator path. Students' cognitive engagement may be influenced differently by the types of linguistic input. To be precise, listening materials that do not match students' ability affect cognitive engagement. If the listening material delivered by a teacher is designated for the C1 proficiency level, students at the B1 level would struggle with the advanced materials. As emphasised by Benavides Vargas (2023), linguistic input for ESL learning must be comprehensible and aligned with students' language level. This aligns with Krashen's Input Hypothesis, which emphasises the role of comprehensible input ( $i+1$ ) in language acquisition (Kasimo et al., 2025). Hence, a teacher must consider students' language proficiency in designing materials for technologically-assisted dictations.

## METHODOLOGY

This study employed a narrative review design to explore the use of technologically assisted dictation practices in enhancing students' listening skills in ESL classrooms. The central elements of this study are the concept of dictation practices, the principles of teaching listening, school-based ESL learning within the teacher-student context, and their interrelationship in determining the influence of technologically assisted dictations on students' listening skills. Studies on listening sub-skills and cognitive engagement were also emphasised as these areas are closely related to listening development, as demonstrated in the conceptual framework. Relevant literature was gathered from international open-access journals, conference proceedings, and academic university repositories. The collected literature was analysed thematically to identify recurring findings in supporting listening development. The findings were further interpreted in relation to relevant theoretical perspectives, Cognitive Load Theory, Multimedia Learning Theory, and Sociocultural Learning Theory.

### Inclusion and Exclusion

Peer-reviewed journal articles, conference papers, and academic theses were selected in the synthesis of the review. Non-academic sources such as blogs, opinion-based articles, and informal websites were not incorporated into the review. The included keywords are "listening sub-skills", "listening comprehension", "dictations in ESL classrooms", "principles of dictations", "cognitive processing during listening", "technology integration in listening lessons", "principles of teaching listening", "traditional listening in ESL classrooms", "cognitive load learning theory and listening", "multimedia learning theory and listening", "sociocultural learning theory and listening", as well as, "listening challenges in modern classrooms".

Based on the central elements, the reviewed literature was from studies published between 2020 and 2025 to capture updated perspectives on technology integration in listening instruction. However, seminal works from earlier years, such as Mayer (2005) and Mayer and Moreno (1998), were included because their theoretical contributions remain relevant. Moreover, the review focused specifically on ESL learning rather than listening instruction in other second languages. Only studies involving teacher-student classroom contexts were reviewed to provide meaningful insights into ESL teaching strategies.

Indeed, English language learning in other settings, such as tertiary education, places less emphasis on classroom-based teaching strategies compared to school-based listening instruction. Lastly, studies on technology integration in classrooms are selected based on technology features that can contribute to language learning, specifically on listening development. Overall, this study focused on central elements of dictations, principles of teaching listening, and the integration of technology in listening development, with an emphasis on ESL learning, school-based ESL classrooms, and technology integration in language learning. Studies published before 2020, involving other second languages, non-school-based listening, and technology integration in fields other than ESL listening, were excluded.

## DISCUSSION

### a) The use of technologically-assisted dictation practices to enhance students' listening skills

#### i) Multimodal input enhances word recognition

According to Kumar et al. (2022), auditory-visual input accelerates speech processing for word recognition performance. Hence, technology can be integrated into dictation to support auditory input using visual aids. For example, a teacher can use videos and pictures displayed on technological tools in conducting dictation practices. Through this implementation, students can build a mental connection that reinforces understanding from the auditory and visual channels. For example, watching videos while listening to native speakers' accents and referring to printed texts is a combination that forms students' mental representation through visual and auditory channels (Mayer, 2005). Students can refer to the provided visual aids when the teacher explains dictation texts. This auditory-visual combination reinforces students' language learning by the mental representation of common English expressions and unfamiliar words from the text.

The use of multimodal listening input reduced listening difficulty in one channel by providing support through another channel during technologically assisted dictations. While listening to speech, students can see the spelling pattern when video captions or subtitles are shown alongside unfamiliar words. As a result, students can accurately match what they listen to with the correct spelling they see. Indeed, listeners receive spoken language through the auditory channel before it is further processed (Kumar et al., 2022). Once listening input is received, speech sounds are decoded into phonemes and associated with words (Kumar et al., 2022). This simultaneous exposure to auditory and visual input provides multimodal support during listening. From a multimodal perspective, the combination of auditory and visual input not only adds information but also reorganises how input is processed during listening. Visual support reduces cognitive load on the auditory channel and directs attention to key linguistic forms. This allows students to process sound patterns more accurately while linking them to written forms.

#### ii) Repeated Exposure to Authentic Input Enhances Phonological Awareness

Listening input becomes more comprehensible when students receive repeated and meaningful exposure (Kasimo et al., 2025). This repeated exposure helps students become more familiar with English sound patterns and distinguish similar sounds accurately during listening. Limited language exposure prevents students from understanding how the language works (Khaydarova & Kholmurodov, 2024). Hence, repeated listening to authentic English communication enhances phonological awareness to understand how the English language works in a natural setting. Students who lack authentic phonological awareness may have difficulty identifying key information and understanding spoken input during real listening situations. According to Khaydarova and Kholmurodov (2024), input repetition supports listeners' cognitive development. Indeed, the use of authentic listening materials ensures that students' cognitive development is built upon real-life English communication and academic purposes that align to real-life listening practice. Listening exams in schools also use recordings from native speakers' speech from various real listening situations. Hence, linguistic inputs from authentic exposure enhance students' listening skills of mayoral language use.

Robillos and Bustos (2022) stated that selecting informative videos that match students' proficiency is a strategy for teaching listening with authentic materials. In a traditional approach, students are limited to authentic exposure because the teacher is the main source of input, making it difficult for them to hear different English speakers and contexts in ESL classrooms. Teacher-led dictation tends to utilise artificial textbooks as the main source of materials. As a result, students have fewer opportunities to widen their knowledge of different language styles, such as American and British English.

Moreover, digital devices such as computers are not available in teacher-led dictation with open access to knowledge. They received only what the teachers understood, which limited their critical thinking. In contrast, students have the opportunity to repeatedly listen to authentic accents and pronunciation patterns when dictation materials are available through reliable online platforms using technological devices and tools.

### iii) Structured Support Enhances Contextual Understanding

Sociocultural theory emphasises the role of interaction and shared meaning in learning. Hence, modern technological approaches are more suitable than traditional approaches in delivering dictation as a listening practice. This is because the availability of structured technological support, along with the teacher's guidance, helps students gain contextual understanding more effectively (Varedi & Khomeijani Farahani, 2025). When teachers determine the lesson flow, students are prevented from learning independently and actively building understanding (Sattarova, 2024). Hence, understanding the language independently through student-centred learning is more sustainable than passive learning. Indeed, students internalise knowledge through guided interaction, as emphasised by sociocultural learning theory (Allami, 2025).

According to Musharraf (2023), the teacher is a facilitator who utilises relevant educational texts, presents familiar lesson topics, and guides students in dictation practices to ensure the delivered dictation is effective. Although students learn effectively with technology tools, teachers' guidance remains fundamental in dictations. After recognising words and language patterns, students can link them to the situation they are watching in the video to gain contextual understanding. When students are struggling to understand independently, the teacher is available to provide support. Therefore, structured teacher support enhances students' contextual understanding during technologically assisted dictations. Support from the teacher allows students to focus on key information within the listening text through pre-teaching, scaffolding, and predictive questions. Thus, students can identify important details during listening. This process reflects the role of scaffolding in supporting students' contextual understanding during classroom activities. The teachers help students process information more effectively during dictations after students have engaged with the materials by themselves.

### iv) Technological Tools Enhance Listening Clarity

Technological tools allow students to listen to spoken input more clearly. In a traditional classroom, students learn dictation through listening to teachers read the text aloud. When technology is integrated in dictation, digital tools such as headphones can be used to increase listening clarity. Headphones helped students to remain focused while listening to input. By using headphones, students can concentrate on listening and watching the videos without distraction. As a result, students can recognise words accurately with minimal distraction. Research on digital listening tools suggests that students perform better when they experience reduced distraction and have options for replay (Mawaddah, 2022). This finding reflects the role of technological support in improving listening conditions during classroom activities. Indeed, background noise is one of the factors that makes listening to native speakers' speech difficult (Luwiti et al., 2023).

The use of student-controlled listening features also supports the development of students' listening skills during technologically assisted dictations. Technology features allow students to replay, pause, or slow down the listening input based on their learning needs. Indeed, pause, replay, slow down audio, and repeat features during difficult segments allow students to understand the listening input according to their ability (Cedillo Llivisaca & Guamán Luna, 2025). In a traditional classroom, the teacher controls the listening pace. This traditional approach is not suitable for mixed-ability students because struggling students may feel discouraged and overwhelmed by following the teacher's pace.

## b) Challenges Faced by The Teachers in The Implementation of Technologically-Assisted Dictations

### i) Background Noise

This study also aims to examine the challenges faced by teachers in the implementation of technologically assisted dictation practices in the ESL classrooms. Background noise distraction could lead to inaccurate input delivery due to the unavailability of technological equipment. According to Yu et al. (2023), students' ability to perceive speech sounds is affected due to poor audio quality.

Students may struggle to listen attentively to the English sound patterns from the material due to background noise. Indeed, background noise is one of the factors that makes listening to native speakers' speech difficult (Luwiti et al., 2023).

## ii) Poor internet connection

Unstable internet connections also disrupted the delivery of authentic listening materials during dictations. Frequent interruptions due to connectivity problems reduced the clarity of listening flow (Daulay, 2025). Students need to wait for stable connectivity to continue the lesson. Consequently, students lose the opportunity to process sound patterns smoothly. Indeed, interruptions in concentration can disrupt the process of receiving listening information (Yu et al., 2023). Hence, stable internet connectivity is an important resource in technology-based classrooms. When technological disruption occurs, teachers could use offline resources, such as textbook material. However, Yu et al. (2023) found that textbook listening audio has poor sound clarity from the students' perspective.

## iii) Visual aids distraction

Audio-visual facilitated listening activities do not always produce positive outcomes in listening development. When students have divided attention, their listening accuracy may decrease. They develop an interest in visual elements and direct their attention to the visuals in the videos. Such interest in visual elements can affect their listening comprehension. Students may struggle to identify spoken words when visual support no longer aids listening (Ipek, 2020, as cited in Daulay, 2025).

## iv) Accent difficulty

Moreover, fast speech from native speakers' recordings can overwhelm students with lower listening proficiency. According to Daulay (2025), the content of fast speech is suitable for higher proficiency students. Although repeated exposure to authentic materials benefits students' listening skills, low-proficiency students often struggle to engage with fast native speech (Daulay, 2025). Consequently, the struggling students may feel discouraged from continuing to listen (Daulay, 2025). A differentiation strategy is crucial to ensure that lower proficiency students still benefit from a similar lesson (Daulay, 2025). Diverse accents make it difficult for students to recognise familiar vocabulary. These challenges increase the difficulty during dictation activities. Students require repeated exposure or slower playback to process unfamiliar sound patterns through the teacher's guidance.

## CONCLUSION

While technology can enhance listening instruction, it may also be unreliable in real classroom settings. Although the teacher valued technology, reliance on technological tools revealed challenges in resource-limited contexts. Teachers need to remain flexible in managing classroom instruction, especially when there are technological constraints such as limited access, unstable internet, and shared facilities. Flexibility allows teachers to adjust their approach and ensure that listening activities continue despite these challenges. This reflects the teacher's responsibility to maintain lesson effectiveness and support students' learning under varying classroom conditions. The discussion on technologically assisted dictation practices in this study highlights the importance of balancing instructional design, teacher guidance, and available resources for listening activities. Therefore, this study emphasises that improving listening instruction is not only about introducing technology but about creating consistent learning opportunities that support students in developing listening skills.

## REFERENCES

1. Acuña-González, A. E., & Díaz-Larenas, C. H. (2025). Use of video-based listening activities to improve students' listening comprehension. *HOW Journal*, 32(1), 1–15. <https://doi.org/10.19183/how.32.1.818>
2. Allami, H., Najari, B., & Tajeddin, Z. (2025). The impact of sociocultural theory-informed instruction on learners' IELTS writing: Task response, grammar, vocabulary, coherence and cohesion. *Asian-Pacific Journal of Second and Foreign Language Education*, 10(1), 1–20. <https://doi.org/10.1186/s40862-024-00310-z>
3. Al-Rashidy, A. M., & Alsabbagh, A. A. (2023b). Enhancing listening comprehension skills of EFL learners through using web-based learning. *International Journal of Advanced Humanities Research*, 3(1), 56–71. <https://doi.org/10.21608/ijahr.2023.245579.1036>

4. Benavides Vargas, C. L. (2023). Comprehensible input for boosting listening skills among seventh grade English language learners [Master's thesis, Pontificia Universidad Católica del Ecuador]. PUCE Repositorio Digital <https://repositorio.puce.edu.ec/bitstreams/ca9ccd7a-31b5-43f2-935e-521b546d1ef2/download>
5. Cedillo Llivisaca, M. A., & Guamán Luna, M. M. (2025). The impact of technology in listening and writing in EFL students: A literature review. *RESISTANCES Journal*, 6(11), e250216. <https://doi.org/10.46652/resistances.v6i11.216>
6. Datta, S., & Roy, S. (2024). Challenges of Teaching English Listening Skills at the Primary Level in Bangladesh. *International Journal of Education and Literacy Studies*, 12(1), 3-12. <https://doi.org/10.7575/aiac.ijels.v.12n.1p.3>
7. Daulay, E. (2025). A case study in the use of audio-visual media for teaching listening skills in junior high school EFL classrooms: Perceived effectiveness and challenges. *Journal on English as a Foreign Language*, 15(1), 135-159. <https://doi.org/10.23971/jefl.v15i1.9432>
8. Dogan, S., Dogan, N. A., & Celik, I. (2020). Teachers' skills to integrate technology in education: Two path models explaining instructional and application software use. *Education and Information Technologies*, 26(1), 1311-1332. <https://doi.org/10.1007/s10639-020-10310-4>
9. ElGhotmy, H. E. S., & Sharaf, A. S. (2025). A Suggested Programme Based on Cognitive Load-Management Strategies to Enhance EFL Prospective Teachers Listening Comprehension Skills. *Journal of Research in Curriculum Instruction and Educational Technology*, 11(2), 151-188. <https://doi.org/10.21608/jrciet.2025.441137>
10. Fua, A. P. V., Janggo, W. O., & Sina, M. W. (2025). The use of the dictation strategy to improve the listening skill of the tenth-grade students at SMAS Santo Gabriel Maumere. *ALACRITY Journal of Education*, 302-313. <https://doi.org/10.52121/alacrity.v5i1.599>
11. Ignasia, Y., & Simamora, F. Y. (2025). The use of YouTube to support EFL students' listening skills. *Journal of English Language Teaching Studies*, 4(1), 1-10. <https://doi.org/10.22236/ellter.v2i2.7512>
12. Jose, J. (2022). Bottom-up Processing (BUP) for Decoding in Teaching Listening Skills: Analysis, Issues and Suggested Activities. *English Language Teaching*, 15(12), 1-71. <https://doi.org/10.5539/elt.v15n12p71>
13. Kasimo, Y. Y., Ota, M. K., & D'Karmel Kara, Y. M. (2024). Input hypotheses for developing EFL/ESL learners' listening comprehension skills. *Journal of Research in Instructional*, 4(1), 50-65. <https://doi.org/10.30862/jri.v4i2.436>
14. Khaydarova, O., & Kholmurodov, S. (2024). The importance of listening comprehension in learning English. *International Scientific and Current Research Conferences*, 26-32. <https://orientalpublication.com/index.php/iscrc/article/view/1642>
15. Kumar, L. A., Renuka, D. K., Rose, S. L., & Wartana, I. M. (2022). Deep learning based assistive technology on audio visual speech recognition for hearing impaired. *International Journal of Cognitive Computing in Engineering*, 3, 24-30. <https://doi.org/10.1016/j.ijcce.2022.01.003>
16. Latupono, F., & Nikijuluw, R. C. G. V. (2022). The importance of teaching listening strategies in English language context. *MATAI: International Journal of Language Education*, 3(1), 1-12. <https://doi.org/10.30598/matail.v2i2.5935>
17. Luwiti, S. R., Umar, I., & Mustapa, S. (2023). A study on listening difficulties faced by students. *Research Review: Jurnal Ilmiah Multidisiplin*, 2(1), 1-4. <https://doi.org/10.54923/researchreview.v2i1.4>
18. Mawaddah, N. (2022). Improving students' listening ability using Edpuzzle and video media. *English Journal*, 16(2), 145-156. <http://dx.doi.org/10.24127/pj.v11i1.4521>
19. Maftuh, M., Mudofir, I., Aziz, M., Maaliah, E., Fitriana, N., & Indonesia, M. E. J. (2021). Using authentic materials to improve listening comprehension in ESL classroom. <https://doi.org/10.4108/eai.4-11-2020.2304543>
20. Malik, S. (2021). Learning theory of cognitivism and its implications on students' learning. *World Wide Journal of Multidisciplinary Research and Development*, 7(5), 67-71. <https://wwjmr.com/archive/2021/5/1542/learning-theory-of-cognitivism-and-its-implications-on-students-learning>
21. Mayer, R. E. (2005). Introduction to multimedia learning. *The Cambridge Handbook of Multimedia Learning*, 2(1), 24. <https://doi.org/10.1017/CBO9780511816819>

22. Mayer, R., & Moreno, R. (1998). A Cognitive Theory of Multimedia Learning: Implications for Design Principles. International Conference on Human Factors in Computing Systems. <https://gustavus.edu/education/courses/edu241/mmmtheory.pdf>
23. Musharraf, A. (2023). Educational dictation and its types. *JournalNX*, 9(6), 211-216. <https://repo.journalnx.com/index.php/nx/article/view/4951>
24. Paris, A. S., Yulandari, E. S., Rosyidi, A. Z., & Suryadi, H. (2024). Dictation: An effective way to enhance students' listening ability. *Jurnal Ilmiah Global Education*, 5(2), 1856-1859. <https://doi.org/10.55681/jige.v5i2.3073>
25. Podhorská, B. L. (2022). The use of dictation in English language teaching [Master's thesis, Technical University of Liberec]. *Theses.cz*. [https://theses.cz/id/qje8my/DP\\_Podhorska\\_fin\\_Archive.pdf](https://theses.cz/id/qje8my/DP_Podhorska_fin_Archive.pdf)
26. Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227. <https://doi.org/10.1080/00273170701341316>
27. Robillos, R. J., & Bustos, I. G. (2022). Learners' listening skill and metacognitive awareness through metacognitive strategy instruction with pedagogical cycle. *International Journal of Instruction*, 15(3), 393-412. <https://doi.org/10.61508/refl.v28i3.254570>
28. Sabani, E., Sabilah, F., & Setyaningrum, R. W. (2025). Integrating mobile-assisted language learning (MALL) in teaching EFL: A study on senior high school teachers in Indonesia. *English Learning Innovation*, 6(2), 533-554. <https://doi.org/10.22219/englie.v6i2.41682>
29. Salawu, R., Shamsuddin, A., Bolatitio, S., & Masibo, S. (2023). Theoretical and conceptual frameworks in research: Conceptual clarification. *European Chemical Bulletin*, 12(12), 2103-2117. [https://www.researchgate.net/publication/374081258\\_THEORETICAL\\_AND\\_CONCEPTUAL\\_FRAMEWORKS\\_IN\\_RESEARCH\\_CONCEPTUAL\\_CLARIFICATION](https://www.researchgate.net/publication/374081258_THEORETICAL_AND_CONCEPTUAL_FRAMEWORKS_IN_RESEARCH_CONCEPTUAL_CLARIFICATION)
30. Saragih, D. (2022). The use of dictation strategy to teach listening skill. *Transformational Language, Literature, and Technology Overview in Learning (Transtool)*, 1(2), 1-10. <http://dx.doi.org/10.55047/transtool.v1i2.125>
31. Sattarova, M. (2024). A comparative analysis of traditional and modern approaches in language teaching. *Mental Enlightenment Scientific-Methodological Journal*, 5(09), 214-223. <https://mentaljournal-jspu.uz/index.php/mesmj/article/view/749>
32. Serajuddin, M. (2023). Impact of using technology on english language teaching on students' motivation and engagement at classrooms of bangladesh. *Journal of Emerging Technologies and Innovative Research*, 10(8). <https://doi.org/10.13140/RG.2.2.15743.18089>
33. Sweller, J. (2024). Cognitive load theory and individual differences. *Educational Psychology Review*, 36, 1-20. <https://doi.org/10.1016/j.lindif.2024.102423>
34. Tasnim, Z. (2022). Songs for EFL/ESL Class: How to Teach Listening Skill through Music. *Mextesol Journal*, 46(3), n3. <https://doi.org/10.61871/mj.v46n3-16>
35. Telaumbanua, K. M. E. (2024). Improving students' listening skill in procedure text through playing video at the eleventh grade of senior high school. *Ideguru Jurnal Karya Ilmiah Guru*, 9(3), 1369-1372. <https://doi.org/10.51169/ideguru.v9i3.1099>
36. Varedi, R., & Khomeijani Farahani, A. A. (2025). The impact of information technology in the teaching and learning of English speaking and listening as a foreign language: A case study of language schools in Shiraz. *Assessment and Practice in Educational Sciences*, 3(1), 1-11. <https://doi.org/10.61838/japes.3.1.4>
37. Yu, C., Wu, L., Li, J., & Li, S. (2023). English listening teaching mode under artificial intelligence speech synthesis technology. *ACM Transactions on Asian and Low-Resource Language Information Processing*. <https://doi.org/10.1145/3615866>