

IMPROVING STUDENTS' LISTENING SKILLS THROUGH A LOCAL CULTURE-BASED LISTENING MODULE USING T2S APPLICATION

(Meningkatkan Keterampilan Siswa melalui Listening Modul Berbasis Budaya Lokal Menggunakan Aplikasi T2S)

Fitri Arini*, Widiarini

Universitas Nahdlatul Ulama Blitar

Pos-el: fitriariniarini@gmail.com

Naskah Diterima 30 November 2025; Direvisi Akhir 24 April 2026;

Disetujui 17 Juni 2026

DOI: <https://doi.org/10.26499/sawer.v32i1.1650>

Abstract

The purpose of this research is to develop a local culture-based intermediate listening learning module using the T2S (Text to Speech) application and to test its effectiveness. The research method used is the Dick & Carey R&D research method. The research was conducted in the English Language Education study program with a population and sample of second-semester English Language Education students. Data collection techniques were observation, questionnaires, and interviews. The data analysis technique used was descriptive by analysing quantitative data obtained from expert tests and field tests. The developed module consists of four thematically organized chapters: regional overview, historical figures, local folklore, and culinary and tourism, which are designed to support contextual learning and enhance learners' familiarity with listening content. The module is also complemented by a dual design, including a Teacher's Guide and a Student's Activity Book, to ensure effective classroom implementation and promote learner autonomy. Validation results indicate high feasibility, with language validation reaching 95%, content validation 85%, and media validation 75%, with minor revisions applied to audio pacing and layout. Students' responses to the module were highly positive, with an overall score of 84%, indicating strong engagement and perceived usefulness. Furthermore, the effectiveness test revealed a significant improvement in students' listening ability, as reflected in the increase of mean scores from 53.07 to 87.20. The findings suggest that the integration of contextual learning, local cultural content, and T2S technology provides an effective, adaptive, and engaging approach to listening instruction. This study contributes to the growing body of research on technology-enhanced language learning and highlights the importance of culturally relevant materials in improving listening comprehension in EFL settings.

Keywords: *listening, local culture, material, T2S*

Abstrak

Tujuan dari penelitian ini adalah untuk mengembangkan modul pembelajaran menyimak tingkat menengah berbasis budaya lokal menggunakan aplikasi T2S (Text to Speech) dan untuk menguji keefektifannya. Metode penelitian yang digunakan adalah metode penelitian Dick & Carey R&D. Penelitian ini dilakukan di program studi Pendidikan Bahasa Inggris dengan populasi dan sampel mahasiswa Pendidikan Bahasa Inggris semester kedua. Teknik pengumpulan data adalah observasi, kuesioner, dan wawancara. Teknik analisis data yang digunakan adalah deskriptif dengan menganalisis data kuantitatif yang diperoleh dari uji ahli dan uji lapangan. Modul yang dikembangkan terdiri atas empat bab tematik, yaitu gambaran wilayah, tokoh sejarah, cerita rakyat lokal, serta kuliner dan pariwisata, yang dirancang untuk mendukung pembelajaran kontekstual dan meningkatkan keterkaitan materi dengan pengalaman siswa. Modul ini juga dilengkapi dengan desain ganda berupa Buku Panduan Guru dan Buku Aktivitas Siswa untuk mendukung implementasi pembelajaran yang efektif serta mendorong kemandirian belajar. Hasil validasi menunjukkan tingkat kelayakan yang tinggi, dengan validasi bahasa mencapai 95%, validasi isi 85%, dan validasi media 75%, dengan beberapa revisi minor pada aspek kecepatan audio dan tata letak. Respon siswa terhadap modul menunjukkan hasil yang sangat positif dengan skor sebesar 84%, yang mencerminkan tingkat keterlibatan dan kebermanfaatan yang

tinggi. Selain itu, hasil uji efektivitas menunjukkan adanya peningkatan yang signifikan pada kemampuan listening siswa, yang ditunjukkan oleh kenaikan nilai rata-rata dari 53,07 menjadi 87,20. Temuan ini menunjukkan bahwa integrasi pendekatan kontekstual, muatan budaya lokal, dan teknologi T2S mampu menciptakan pembelajaran listening yang lebih efektif, adaptif, dan menarik. Penelitian ini memberikan kontribusi terhadap pengembangan pembelajaran bahasa berbasis teknologi serta menegaskan pentingnya penggunaan materi yang relevan secara kultural dalam meningkatkan kemampuan menyimak siswa

Kata-kata kunci: budaya lokal, materi, mendengarkan, T2S

INTRODUCTION

Among the four core English language skills, listening constitutes a foundational competence that underpins effective oral communication and is widely regarded as equally important as speaking (Khan & Khan, 2024). Listening is not a passive activity; rather, it involves a complex, dynamic process in which learners actively construct meaning by integrating incoming auditory input with their prior knowledge and linguistic resources (Pangaribuan et al., 2017). This process requires the coordination of multiple cognitive mechanisms, including perception, parsing, and interpretation, which collectively enable learners to make sense of spoken discourse. In this regard, listening serves as a prerequisite for meaningful interaction, as it provides the basis for appropriate and contextually relevant responses in communication.

Furthermore, the interdependence between listening and speaking highlights the reciprocal nature of oral communication. The ability to accurately interpret a speaker's message is essential for successful interaction, as misunderstanding at the listening stage can lead to breakdowns in communication (Nurpahmi, 2015). Consequently, effective listeners must engage in active cognitive processing, continuously monitoring and evaluating incoming information to construct coherent meaning. A proficient speaker, therefore, must simultaneously function as an attentive listener, capable of navigating the unpredictable and interactive dynamics of real-life communication. This perspective reinforces the argument that listening is not merely supportive but

central to communicative competence (Hedge, 2001).

Despite its recognized importance, empirical evidence indicates that many learners encounter substantial challenges in developing listening proficiency. In the context of the English Language Education program at UNU Blitar, 83.3% of students (15 out of 18) enrolled in the Intermediate Speaking course reported significant difficulties in comprehending listening materials. These difficulties were further substantiated by the results of a listening assessment, which revealed that only three students were able to correctly answer more than half of the 15 practice questions, while the majority achieved relatively low scores, correctly answering only three to five items. These findings suggest a considerable gap between the expected and actual levels of students' listening competence.

Insights from a Focus Group Discussion (FGD) with students provide a more nuanced understanding of the underlying causes of these difficulties. Students reported several key challenges, including discrepancies between spoken forms and intended meanings, limited familiarity with the topics presented in listening materials, rapid speech delivery by native speakers, and variations in pronunciation and intonation across different speakers (Arini, 2023). Additionally, restricted access to diverse and adequate listening resources was identified as a significant barrier to effective learning. These findings indicate that listening difficulties are multifaceted, involving both linguistic and contextual factors that hinder comprehension.

Moreover, the results of the needs analysis revealed that the absence of contextually relevant and learner-centred instructional materials constitutes a critical factor contributing to the failure to achieve learning objectives. Existing listening materials often lack alignment with students' sociocultural backgrounds and learning needs, thereby reducing their engagement and comprehension. In response to these challenges, the integration of local cultural content into listening materials has been proposed as a promising approach to enhance learners' motivation and facilitate meaning-making processes (Wibowo, 2024). By incorporating familiar contexts, learners are more likely to activate their prior knowledge, which can significantly improve comprehension and retention (Namaziandost et al., 2018; Wibowo, 2024).

In addition to contextual relevance, technological advancements such as Text-to-Speech (TTS) applications offer innovative opportunities to enhance listening instruction. TTS tools enable educators to generate customizable audio input with adjustable speech rates, diverse accents, and immediate auditory feedback, thereby addressing some of the challenges identified in traditional listening materials (Avrianti et al., 2025; Brunow & Cullen, 2021). While previous studies have demonstrated the potential of AI-powered speech technologies to improve learners' listening performance and motivation, the findings remain inconclusive, particularly regarding the comparative effectiveness of TTS and human-narrated audio (Brunow & Cullen, 2021; Goh & Aryadoust, 2025; Indasari et al., 2025). Furthermore, limited research has explored the integration of TTS technology with culturally grounded listening materials, indicating a significant gap in the literature that warrants further investigation.

Based on these considerations, this study aims to develop a local culture-based intermediate listening learning module utilizing a Text-to-Speech (T2S)

application. Specifically, the study aims to (1) describe the process of developing a local culture-based listening module using T2S technology, (2) evaluate the feasibility of the developed module through expert validation, and (3) examine its effectiveness in improving students' listening skills. By addressing both pedagogical and technological dimensions, this research is expected to contribute to the advancement of context-sensitive and technology-enhanced listening instruction in English language education.

THEORETICAL FRAMEWORK

A theoretically grounded framework for developing a listening module necessitates the integration of principles from instructional design, contextual learning, sociocultural theory, and technology-enhanced language learning. In this regard, modules are systematically designed based on specific courses or subject areas to function as structured learning tools that encompass instructional materials, clearly defined content boundaries, and appropriate evaluation methods (Direktorat Jenderal Peningkatan Mutu Pendidik dan Tenaga Kependidikan, 2008; Logan et al., 2021). A well-designed module must be self-instructional, enabling learners to engage independently with the material, while also being contextualized to ensure alignment with learners' sociocultural environments and learning needs (Arfiansyah et al., 2024; Mubarak & Arini, 2024). The dual characteristic positions module that is not only as content delivery tools but also as facilitators of meaningful and autonomous learning.

The theoretical foundation of contextual learning further strengthens the rationale for module development. Contextual learning emphasizes the importance of connecting instructional content with learners' real-life experiences, thereby enhancing comprehension and retention (Johnson, 2002; Onowugbeda et al., 2024; Reddy & Revathy, 2024; Tatal, 2023)). Contextualized materials enable

learners to actively construct knowledge by selecting, organizing, and interpreting new information in relation to their existing cognitive frameworks (Arfiansyah et al., 2024; Mubarak et al., 2020). Empirical studies have consistently demonstrated that contextual materials facilitate deeper understanding and learner engagement, as they reduce cognitive load and increase the relevance of learning tasks (Arfiansyah et al., 2024; Juwantara et al., 2023). Within this paradigm, the integration of local cultural content emerges as a particularly effective strategy for contextualizing language learning.

Local culture, as a pedagogical resource, encompasses the linguistic and sociocultural elements embedded in community life, including language varieties, registers, social norms, and cultural practices (Kaltsum & Hidayat, 2018; Pesurnay, 2018; Ratri et al., 2024). In English language teaching, the incorporation of local culture has been widely recognized for its capacity to bridge the gap between learners' lived experiences and target language input. Previous studies have demonstrated that local-culture-based materials can significantly enhance learners' language proficiency across skills, including writing (Santoso et al., 2019) and reading (Enggar Wahyu Muji Saputri et al., 2023), while also fostering positive behavioural and attitudinal outcomes (Namaziandost et al., 2018; Uge et al., 2019). By situating language within familiar cultural contexts, learners are better able to interpret meaning, thereby improving both comprehension and motivation.

Within the domain of listening, theoretical perspectives highlight its central role in language acquisition and communication. Listening is a complex, active process involving not only the perception of auditory input but also psychological engagement with the speaker's message (Richards, 2015, 2008). It requires high levels of concentration, cognitive effort, and affective readiness,

including openness to different perspectives and a willingness to interpret meaning beyond surface-level input (Alzamil, 2021; Rost, 2013).

Listening is not a passive activity but an active, multi-stage cognitive process that involves several interrelated steps (Tyagi, 2013). Tyagi conceptualizes the process of listening as consisting of the following key stages:

1. Receiving (Hearing the Message)

This is the initial stage in which the listener physically hears the sound. It involves the auditory system capturing verbal and non-verbal signals. At this level, the listener must be attentive and free from distractions to ensure that the message is accurately received.

2. Understanding (Decoding the Message)

In this stage, the listener interprets and makes sense of the message. This involves recognizing vocabulary, grammar, tone, and context. The listener connects the incoming information with prior knowledge to construct meaning. Effective understanding requires linguistic competence and contextual awareness.

3. Remembering (Storing the Information)

After understanding the message, the listener retains the information in memory. This stage is crucial for meaningful communication, as it allows the listener to recall details, ideas, and key points later. Memory processes, both short-term and long-term, play a significant role here.

4. Evaluating (Judging the Message)

At this stage, the listener critically assesses the message. This includes evaluating the speaker's credibility, the logic of the arguments, and the relevance of the information. The listener may also distinguish between facts and opinions, as well as detect biases or persuasive intent.

5. Responding (Providing Feedback)

The final stage involves giving feedback to the speaker, either verbally or non-verbally. Responses can include asking questions, paraphrasing, nodding, or providing opinions. This stage demonstrates active engagement and confirms whether the message has been effectively understood.

Overall, Tyagi (2013) emphasizes that effective listening is a dynamic and interactive process requiring concentration, interpretation, critical thinking, and feedback. It plays a crucial role in communication, particularly in educational and professional contexts, where comprehension and response accuracy are essential. Difficulties in listening often arise when learners are unable to effectively navigate these stages, particularly in the absence of contextual support or familiarity with the content.

To address these challenges, the integration of appropriate instructional media becomes essential. Various digital media, such as podcasts, have been employed in listening instruction (Gönülal, 2020); however, such resources are not always aligned with learners' proficiency levels or contextual needs. In this context, Text-to-Speech (T2S) technology offers a promising alternative for developing customized and pedagogically relevant audio materials (Azzahra et al., 2024; Xiao, 2025). T2S systems convert written text into spoken language through a two-stage process involving text normalization and phonetic-prosodic encoding (Allen et al., 1987; Van Santen et al., 2013). This technology allows educators to generate flexible audio input with adjustable speech rates, controlled pronunciation, and context-specific content, thereby addressing common barriers such as speech speed, unfamiliar accents, and limited material accessibility. Previous studies have indicated that T2S-based materials can effectively support listening development by providing consistent and repeatable

auditory input (Iqbal et al., 2022; Maulina et al., 2022).

Synthesizing these theoretical perspectives, the development of a listening module grounded in contextual learning, enriched with local cultural content, and supported by T2S technology represents a pedagogically coherent and innovative approach. Contextual and culturally relevant materials enhance learners' ability to construct meaning, while T2S technology operationalizes this approach by delivering adaptable and accessible audio input. This synergy addresses both cognitive and affective dimensions of listening, including comprehension difficulties, limited exposure to authentic input, and low learner motivation (Ahada & Setiawan, 2024; Iqbal et al., 2022; Musayeva et al., 2025). Furthermore, the integration of digital tools aligns with contemporary trends in technology-enhanced language learning, which emphasize learner autonomy, flexibility, and multimodal engagement (Avrianti et al., 2025; Malmberg & Martin, 2019; Shamsi & Bozorgian, 2024; Sulistyaningrum, 2022). Therefore, this theoretical framework provides a robust foundation for the development of a local culture-based listening module using T2S, aimed at improving learners' listening proficiency in a contextually meaningful and technologically supported learning environment.

METHOD

This study employs a Research and Development (R&D) design aimed at developing local culture-based listening modules integrated with the T2S (Text-to-Speech) application. The development follows the Systems Approach Model proposed by Dick and Carey (2015). This model was selected because of its systematic, goal-oriented nature, which ensures that every component—from identifying instructional goals to summative evaluation—is logically linked to address the specific pedagogical

challenges in listening instruction identified in this study.

The development process adheres to the ten stages of the Dick and Carey model, executed as follows:

1. Identify Instructional Goals: Assessing the curriculum requirements for second-semester listening courses.
2. Conduct Instructional Analysis: Determining the specific skills and sub-skills required for local culture-based listening.
3. Analyze Learners and Contexts: Evaluating the current proficiency level and cultural background of students at Nahdlatul Ulama University, Blitar.
4. Write Performance Objectives: Formulating measurable targets for the T2S-based module.
5. Develop Assessment Instruments: Creating tools to measure the achievement of the defined objectives.
6. Develop Instructional Strategy: Designing the flow of learning activities using local cultural themes.
7. Develop and Select Instructional Materials: Producing the listening modules and generating audio files via the T2S application.
8. Design and Conduct Formative Evaluation: Gathering initial feedback through expert validation and small-group trials.
9. Revise Instruction: Refining the product based on feedback.
10. Design and Conduct Summative Evaluation: Final testing to determine the overall efficacy of the developed module.

The study was conducted at the English Education Study Program of Nahdlatul Ulama University, Blitar. The subjects involved 15 second-semester students, selected through purposive sampling to ensure they represent the target users of the module.

Data were collected using a triangulated approach: (1) Observations and Semi-structured Interviews: Conducted during the preliminary phase to identify

instructional gaps and student needs, and (2) Questionnaires: Distributed at three distinct points: (a) during the needs analysis phase, (b) during expert validation (content and media specialists), and (c) during field testing to assess product feasibility and student satisfaction.

Data analysis is performed using a descriptive quantitative and qualitative approach.

1. Qualitative Analysis: Data from interviews and open-ended suggestions from experts are analyzed using thematic coding to guide the iterative revision of the module.
2. Quantitative Analysis: Data from Likert-scale questionnaires (expert and field testing) are calculated to determine percentage scores. The feasibility is categorized based on the following formula:

$$P = \frac{\sum x}{\sum X} \times 100\%$$

(Where P is the percentage, $\sum x$ is the total score obtained, and $\sum X$ is the maximum score). The resulting percentages are then interpreted against a predetermined feasibility scale (e.g., Very Feasible, Feasible, or Revision Required) to provide an operational conclusion regarding the product's effectiveness.

DISCUSSION

Analysis of Learning Objectives and Development of a Local Culture-Based Listening Module

The results of the research are described as follows: The process of identify instructional goals was conducted by analyzing curriculum requirements for second-semester listening courses. The document analysis activity found that The Intermediate Listening course is designed to transition students from basic phonetic recognition to the comprehension of more complex and authentic oral discourses. This course shifts the focus from simple literal understanding (bottom-up processing) to higher-order skills such as inferring meaning, recognizing nuances, and

understanding communicative intent within various social and academic contexts (top-down processing).

Conduct Instructional Analysis step found that the end of this course, students are expected to: (1) comprehend authentic discourse: demonstrate the ability to understand a variety of oral texts, including short speeches, news reports, panel discussions, and cultural narratives delivered at a natural speaking pace. (2) apply critical listening skills: identify main ideas, extract specific supporting details, and discern the speaker's tone, attitude, or bias. (3) master strategic listening: utilize note-taking strategies and recognize discourse markers to follow the flow of extended spoken arguments. (4) navigate cultural contexts: interpret cultural references and idiomatic expressions embedded in the audio materials, bridging the gap between language and cultural literacy.

The developed module, entitled *Developing a Local Culture-Based Listening Module Using T2S Application to Improve Students' Listening Ability*, demonstrates a systematic integration of contextual learning principles, local cultural content, and digital technology to enhance listening comprehension. Chapter I (Regional Overview) introduces students to descriptive listening texts about Blitar City, focusing on geographical landmarks, regional identity, and spatial descriptions; this chapter scaffolds learners' ability to identify main ideas and specific information through familiar contexts.

Chapter II (Historical Figures) presents biographical listening materials on prominent national figures such as Sukarno and Soeprijadi, enabling students to develop vocabulary related to historical narratives while improving their ability to comprehend chronological sequencing and factual details. Chapter III (Local Folklore) engages learners with narrative listening texts derived from various folklores across Blitar districts, strengthening students' inferential listening, understanding of plot

structure, and ability to interpret implicit meanings within culturally rich storytelling contexts.

Chapter IV (Culinary and Tourism) exposes students to authentic and contemporary listening materials related to local cuisine and tourism destinations in Blitar, promoting the acquisition of specific vocabulary and functional expressions used in real-life communicative situations. Across all chapters, the integration of Text-to-Speech (T2S) technology provides flexible, repeatable, and level-adjustable audio input, allowing students to control listening pace and practice independently. Overall, the module development results indicate that the combination of contextualized local content and T2S-supported delivery effectively improves students' listening comprehension, engagement, and cultural awareness, making it a relevant and innovative instructional model for EFL learning in vocational and secondary education contexts.

TABLE OF CONTENTS	
COVER	4
INTRODUCTION	4
TABLE OF CONTENTS	4
CHAPTER I: AN INTRODUCTION	6
Blitar City	6
CHAPTER II: LISTEN TO BLITAR CITY FOLKLORE	8
The Power of A Great Storyteller's Voice	8
Songkral: Footings of Tradition from Blitar	10
CHAPTER III: LISTEN TO BLITAR CITY LOCAL CULTURE	12
History of Tumpang Sub-District	12
History of Pongkor Sub-District	12
History of Tumpang Sub-District	14
History of Tumpang Sub-District	14
History of Blitar Sub-District	18
History of Tumpang Sub-District	21
History of Tumpang Sub-District	21
CHAPTER IV: LISTEN TO BLITAR CITY LOCAL CULTURE	24
Blitar City Local Culture Overview	24
Blitar City Local Culture Overview	31
REFERENCES	40

Figure 4: Listening module for teacher

The listening module for teachers contains all the learning materials, including complete scripts of monologues and short conversational texts that are used as the primary input for students' listening activities. Within the context of this study, the teacher's module functions not only as a content repository but also as a comprehensive pedagogical guide that supports the implementation of a local culture-based, contextual learning approach integrated with Text-to-Speech (T2S) technology. Each listening text is

systematically aligned with the thematic organization of the module—ranging from regional descriptions, historical figures, local folklore, to culinary and tourism topics—thereby ensuring coherence between instructional objectives and culturally relevant content. In addition, the module provides detailed guidance on pre-listening, while-listening, and post-listening procedures, including suggested strategies, task variations, and expected learning outcomes at the intermediate level.

The inclusion of full transcripts enables teachers to facilitate comprehension checks, vocabulary analysis, and follow-up discussions, while also allowing for flexible adaptation based on students' proficiency levels. Furthermore, the integration of T2S-generated audio ensures consistency in pronunciation models and accessibility of listening input, enabling teachers to manage differentiated instruction and promote learner autonomy. Overall, the teacher's module serves as a structured and adaptable instructional tool that bridges theoretical principles of contextual and technology-enhanced learning with practical classroom implementation, thereby enhancing the effectiveness of listening instruction in EFL settings.

Meanwhile, to ensure alignment with the objectives of intermediate-level listening instruction, the learning activities embedded within the developed module are systematically designed to encompass a wide range of cognitively and pedagogically grounded tasks that promote both receptive and higher-order listening skills. At the pre-listening stage, activities focus on activating learners' schematic knowledge and contextual awareness through structured vocabulary building, guided brainstorming, and visual-based prompts derived from local cultural contexts. This phase is essential in reducing processing difficulty and facilitating anticipatory strategies, which are critical for intermediate learners.

During the while-listening phase, the module incorporates a progression of task types that support incremental comprehension, including listening for gist, identifying specific details, sequencing information, and completing structured note-taking frameworks. These activities are delivered through audio materials generated by Text-to-Speech (T2S) technology, which enables controlled manipulation of speech rate, repetition, and clarity, thereby accommodating diverse learner needs and promoting self-regulated learning. The integration of T2S also allows learners to engage in repeated exposure to input, which is empirically associated with improved decoding skills and listening fluency. Interactive task formats, such as multiple-choice items, matching exercises, and information-gap activities, are strategically employed to maintain learner engagement while reinforcing comprehension accuracy.

At the post-listening stage, the module emphasizes deeper cognitive processing through activities that require learners to synthesize, interpret, and evaluate the information obtained from the listening input. These include summarization tasks, reflective responses, and collaborative discussions that encourage meaning negotiation and critical engagement with culturally embedded content. Such activities are designed not only to consolidate listening comprehension but also to foster communicative competence and intercultural awareness.

Overall, the variation and sequencing of learning activities reflect an integration of cognitive, metacognitive, and socio-cultural dimensions of listening pedagogy. By combining contextual learning principles with technology-enhanced input through T2S, the module establishes an adaptive and learner-centred instructional framework that effectively supports the development of intermediate listening proficiency, learner autonomy, and

sustained engagement in English as a Foreign Language (EFL) context.

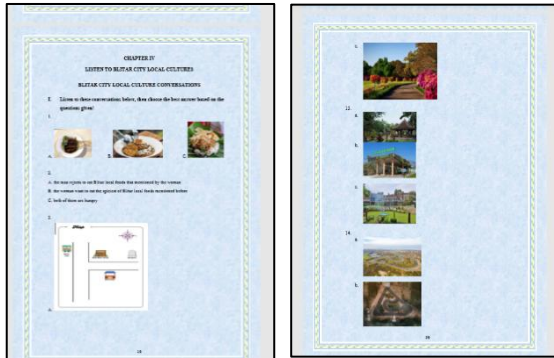


Figure 5: Choosing a Figure based on the audio heard activity

To measure the listening module's feasibility, it was validated by linguistic, material, and media validators. Those three validators are English education Lecturers. They validate the listening module based on their expertise. The result of validation is as follows:

Table 1. The result of Expert validation

No	Aspect of Validation	Indicator	Result	Category
1	Linguistic	Sentence structure accuracy	95%	Very Feasible
2	Material	Learning objective clarity, the appropriateness of material for students, the appropriateness of learning activities	85%	Feasible
3	Media	Module attractiveness Practical use of the module The quality of module design	75%	Sufficiently Feasible
Average score			85%	feasible

From the table 1, it can be seen that Language Validation (95%): The expert noted that the linguistic complexity was perfectly calibrated for university-level learners, with highly accurate cultural registers. Content Validation (85%): The integration of Blitar's local wisdom into the four chapters was considered pedagogically sound and aligned with the "Listening" course objectives. Media Validation (75%): While the use of T2S was praised for its innovation, the expert suggested minor

adjustments to the audio pacing and the visual layout of the printed modules, which were subsequently revised.

Moreover, field testing found that after students had been taught using a listening module for seven weeks, the students were asked to evaluate the quality of the listening module based on their own perception. A questionnaire with Likert scale 1-4 was distributed to the 15 students. The result of the questionnaire calculation was 84%. It means that the listening module is perceived as "Good" module.

Furthermore, the finalized module was implemented with 15 students from the English Education Study Program at Universitas Nahdlatul Ulama Blitar. The effectiveness of the local culture-based module was measured through a pre-test and post-test design. The data indicates a significant increase in students' listening ability. The leap from a mean score of 53.07 to 87.20 proves that integrating familiar local cultural contexts through T2S-generated audio significantly lowers students' "affective filter" and cognitive load, allowing for more effective language processing and retention.

Effectiveness of the Local Culture-Based Listening Module Integrated with T2S Technology

The findings of this study provide strong empirical and theoretical support for the effectiveness of the developed local culture-based listening module integrated with Text-to-Speech (T2S) technology. First, the high score in language validation (95%) indicates that the linguistic input was appropriately calibrated for intermediate to university-level learners, which aligns with cognitive theories of input processing suggesting that comprehensible and level-appropriate input facilitates more efficient decoding and meaning construction. This result is consistent with prior studies emphasizing the importance of linguistic grading and contextual relevance in listening materials, where appropriately levelled input significantly enhances

comprehension and learner engagement (Vandergrift & Goh, 2012). The strong content validation (85%) further confirms that the integration of local cultural elements—such as regional descriptions, historical figures, and folklore—supports contextual learning principles, enabling learners to activate prior knowledge and construct meaning more effectively. This finding corroborates research indicating that culturally familiar content improves listening comprehension by reducing cognitive load and increasing learner motivation (Namaziandost et al., 2018) (Gilmore, 2007; Nguyen & Boers, 2019).

Although the media validation score (75%) was comparatively lower, the expert's feedback regarding audio pacing and visual layout highlights an important aspect of multimedia learning theory, particularly the need to balance cognitive load and presentation design (Mayer, 2024). The subsequent revisions made to the T2S audio speed and module layout demonstrate responsiveness to these principles and strengthen the overall instructional design. The justification for using T2S technology is also theoretically grounded, as it allows precise control over speech rate, articulation, and repetition—factors that are crucial in developing listening fluency and perceptual processing skills. Previous studies have shown that adjustable audio input and repeated exposure significantly improve learners' ability to segment speech and recognize lexical items in continuous discourse (Goh & Wallace, 2018).

The students' positive response to the module (84%) reflects high levels of perceived usefulness and engagement, which can be explained through the lens of self-determination theory and learner-centered pedagogy. The dual-module design, consisting of a Teacher's Guide and Student's Activity Book, further contributes to this outcome by providing structured guidance for instructors while promoting learner autonomy and active participation. This finding aligns with

research in instructional design that highlights the effectiveness of well-structured teaching resources in enhancing both teaching quality and learning outcomes (Tomlinson, 2012, 2023).

Most notably, the significant improvement in students' listening ability—from a mean score of 53.07 to 87.20—provides strong evidence of the module's effectiveness. This substantial gain can be attributed to the synergistic integration of contextual learning, thematic categorization (e.g., biographical listening, narrative comprehension, and specialized vocabulary), and technology-enhanced input. Such categorization reflects a deeper pedagogical structuring of listening skills, consistent with contemporary models of listening instruction that emphasize the development of both bottom-up and top-down processing strategies (Vandergrift & Goh, 2012). Overall, the findings of this study not only validate the design and implementation of the module but also extend existing research by demonstrating how the integration of local culture and T2S technology can create a more adaptive, meaningful, and effective listening learning environment in EFL contexts.

CONCLUSION

In conclusion, this study demonstrates that the development of a local culture-based listening module integrated with Text-to-Speech (T2S) technology constitutes an effective and pedagogically sound innovation for improving students' listening ability. The high validation results across language, content, and media aspects indicate that the module is linguistically appropriate, contextually relevant, and technologically feasible, despite minor revisions required in audio pacing and visual presentation. The positive student response further confirms the module's practicality and acceptability, reflecting increased engagement and perceived usefulness in learning activities. Most importantly, the significant improvement in students' listening

performance—from a mean score of 53.07 to 87.20—provides strong empirical evidence of the module's effectiveness. This success can be attributed to the integration of contextual learning with local cultural content, the structured thematic categorization of listening materials, and the use of T2S technology to control articulation and listening pace. Additionally, the dual-module design, consisting of a Teacher's Guide and Student's Activity Book, enhances both instructional implementation and learner autonomy. Therefore, this study not only validates the developed product but also contributes to the advancement of technology-enhanced and culturally responsive listening pedagogy in EFL contexts.

REFERENCES

- Ahada, I., & Setiawan, I. (2024). Listening Comprehension Concerning Mobile Learning In Listen English Daily Practices Application. *Journal of Education and Teaching (JET)*, 5(3), 279-290. <https://doi.org/10.51454/jet.v5i3.329>
- Allen, J., Hunnicutt, M. S., Klatt, D. H., Armstrong, R. C., & Pisoni, D. B. (1987). *From text to speech: The MITalk system*. Cambridge University Press.
- Alzamil, J. (2021). Listening skills: Important but difficult to learn. *Arab World English Journal (AWEJ)* Volume, 12. <https://doi.org/10.24093/awej/vol12no3.25>
- Arfiansyah, A., Mubarak, T. A., & Widiarini, W. (2024). Development of Context-Based English Learning Materials for Automotive Vocational High School Students. *Scripta: English Department Journal*, 11(2), 236-250.
- Arini, F. (2023). Listening Difficulties Mahasiswa Pendidikan Bahasa Inggris dalam Mata Kuliah Listening: Studi Kasus Berdasarkan Gender. *Jurnal Pembelajaran Dan Ilmu Pendidikan*, 3(4). <https://doi.org/10.28926/jpip.v3i4.1176>
- Avrianti, N., Yuliana, Y. G. S., & Susilawati, E. (2025). Assessing the effectiveness of text-to-speech applications on enhancing listening comprehension and student engagement: A quasi-experimental study. *International Journal of Research and Innovation in Social Science*, 9(25), 485-503. <https://doi.org/10.47772/IJRISS.2025.925ILEIID000081>
- Azzahra, N., Widiastuti, P. T., Sopyani, N., & Luthfiyyah, R. (2024). A Study on English Students' Perception Regarding the AI Implementation on Listening and Speaking Skills. *Indonesian Journal of Innovation and Applied Sciences (IJIAS)*, 4(2), 113-120. <https://doi.org/10.47540/ijias.v4i2.1466>
- Brunow, D. A., & Cullen, T. A. (2021). Effect of text-to-speech and human reader on listening comprehension for students with learning disabilities. *Computers in the Schools*, 38(3), 214-231. <https://doi.org/10.1080/07380569.2021.1953362>
- Dewi, Y. A. S., Mulyaningsih, I., Firdaus, W., Eliya, I., & Sari, V. I. (2021). Managing Islamic Elementary Students' Reading Skill through SQ3R Strategy. *IEOM Society International*, 1035-1044.
- Dick, W., Carey, L., & Carey, J. O. (2015). *The Systematic Design of Instruction* (8th ed.). Pearson Education, Inc.
- Direktorat Jenderal Peningkatan Mutu Pendidik dan Tenaga Kependidikan. (2008). *Penulisan Modul*. Depdiknas.
- Enggar Wahyu Muji Saputri, Widiarini, Istina Atul Makrifah, & Tyas Alhim Mubarak. (2023). Development Local Culture Story Book to Teach Reading Comprehension for Junior High School. *Journal of Development Research*, 7(2), Process. <https://doi.org/10.28926/jdr.v7i2.171>
- Goh, C. C. M., & Aryadoust, V. (2025). Developing and assessing second language listening and speaking: Does AI make it better? *Annual Review of Applied Linguistics*, 1-21. <https://doi.org/10.1017/S0267190525100111>
- Goh, C. C. M., & Wallace, M. (2018). Lexical segmentation in listening. *The TESOL Encyclopedia of English Language Teaching*, 1-7. <https://doi.org/10.1002/9781118784235.eelt0603>
- Gönülal, T. (2020). Improving listening skills with extensive listening using podcasts and vodcasts. *International Journal of Contemporary Educational Research*, 7(1), 311-320. <https://doi.org/10.33200/ijcer.685196>
- Hedge, T. (2001). *Teaching and learning in the*

- language classroom (Vol. 106). Oxford university press Oxford.
- Indasari, N. L., Srinio, F., Ryandini, E. Y., Rosyidi, A., & Fitriyah, R. (2025). Students' Engagement in Text-to-Speech Based Listening Materials Incorporating Local Wisdom and Religious Values. *Attadzkir: Islamic Education Journal*, 4(2), 250-264.
<https://doi.org/10.59373/attadzkir.v4i2.265>
- Iqbal, Z. M., Saifudin, A., Widiarini, W., & Rofi'ah, S. (2022). Developing audio media on listening skill using microsoft sways and T2S application for junior high school. *Journal of Development Research*, 6(2), 245-251.
- Johnson, E. . (2002). *Contextual Teaching and Learning: What It is and It's Here to Stay*. Corvin Press, Inc.
- Juwantara, R. A., Harjanto, A., Sutiyono, A., & Utari, D. (2023). Development of Contextual Learning-Based E-Module in Elementary School. *JIP Jurnal Ilmiah PGMI*, 9(1), 72-81.
<https://doi.org/10.19109/jip.v9i1.18286>
- Kaltsum, H. U., & Hidayat, M. T. (2018). Child Friendly English based on Cultural Local Content in Surakarta. *Proceeding of International Conference On Child-Friendly Education*, 184-188.
- Khan, M. O., & Khan, S. (2024). Influence of online versus traditional learning on EFL listening skills: A blended mode classroom perspective. *Heliyon*, 10(7), e28510.
<https://doi.org/10.1016/j.heliyon.2024.e28510>
- Logan, R. M., Johnson, C. E., & Worsham, J. W. (2021). Development of an e-learning module to facilitate student learning and outcomes. *Teaching and Learning in Nursing*, 16(2), 139-142.
<https://doi.org/10.1016/j.teln.2020.10.007>
- Malmberg, L. E., & Martin, A. J. (2019). Processes of students' effort exertion, competence beliefs and motivation: Cyclic and dynamic effects of learning experiences within school days and school subjects. *Contemporary Educational Psychology*, 58, 299-309.
<https://doi.org/10.1016/j.cedpsych.2019.03.013>
- Maulina, M., Ignacio, J. F., Bersabe, L. A. C., Serrano, A. J. D., Carpio, N. G., & Santos, E. G. D. (2022). Technology-based media used in teaching listening skills. *Exposure: Jurnal Pendidikan Bahasa Inggris*, 11(1), 85-99.
<https://doi.org/10.26618/exposure.v11i1.6564>
- Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review*, 36(1), 8.
<https://doi.org/10.1007/s10648-023-09842-1>
- Mubarok, T. A., & Arini, F. (2024). Pengembangan E-Modul Bahasa Inggris Menggunakan Aplikasi Sigil Untuk Mahasiswa Program Studi Teknik Informatika. *Briliant: Jurnal Riset Dan Konseptual*, 9(3), 672-680.
<https://doi.org/10.28926/briliant.v9i3.1421>
- Mubarok, T. A., Saifudin, A., & Rofiah, S. (2020). Pengembangan Modul Pembelajaran Berbasis Kontekstual Untuk Meningkatkan Kemampuan Pronunciation Mahasiswa Pendidikan Bahasa Inggris. *Briliant: Jurnal Riset Dan Konseptual*, 5(1), 36-43.
<https://doi.org/10.28926/briliant.v5i1.416>
- Musayeva, N., Sabirova, G., Xadjikurbanova, G., Yuldasheva, S., Akhmadaliyev, A., & Djumabaeva, J. (2025). Developing Listening Comprehension Using Podcasts in Second Language Education: A Systematic Overview of Recent Pedagogical Innovations (2019-2025). *Forum for Linguistic Studies*, 7(8), 1-16.
<https://doi.org/10.30564/fls.v7i8.10287>
- Namaziandost, E., Sabzevari, A., & Hashemifardnia, A. (2018). The effect of cultural materials on listening comprehension among Iranian upper-intermediate EFL learners: In reference to gender. *Cogent Education*, 5(1), 1560601.
<https://doi.org/10.1080/2331186X.2018.1560601>
- Nurpahmi, S. (2015). Improving Listening Skill by Activating Students' Prior Knowledge. *ETERNAL (English, Teaching, Learning, and Research Journal)*, 1(1), 28-38.
<https://doi.org/10.24252/Eternal.V1i1.2015.A3>
- Onowugbeda, F. U., Okebukola, P. A., Ige, A. M., Lameed, S. N., Agbanimu, D. O., & Adam, U. A. (2024). A cultural, technological, and contextual pedagogy to

- enhance retention of biology concepts. *The Journal of Educational Research*, 117(2), 49-60. <https://doi.org/10.1080/00220671.2024.2324714>
- Pangaribuan, T., Sinaga, A., & Sipayung, K. T. (2017). The Effectiveness of Multimedia Application on Students Listening Comprehension. *English Language Teaching*, 10(12), 212-218. <https://doi.org/10.5539/elt.v10n12p212>
- Pesurnay, A. J. (2018). Local wisdom in a new paradigm: Applying system theory to the study of local culture in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 175(1), 012037. <https://doi.org/10.1088/1755-1315/175/1/012037>
- Ratri, D. P., Widiati, U., Astutik, I., & Jonathans, P. M. (2024). A Systematic Review on the Integration of Local Culture into English Language Teaching in Southeast Asia: Current Practices and Impacts on Learners' Attitude and Engagement. *Pegem Journal of Education and Instruction*, 14(2), 37-44. <https://doi.org/10.47750/pegegog.14.02.05>
- Reddy, P. J. K., & Revathy, K. (2024). Contextual learning. In *Digital Skill Development for Industry 4.0* (pp. 83-104). Auerbach Publications. <https://doi.org/10.1201/9781003504894-8>
- Richards, J. . (2015). *Key Issues in Language Teaching*. Cambridge University Press. <https://doi.org/10.1017/9781009024600>
- Richards, J. C. (2008). *Teaching Listening and Speaking From Theory to Practice*. www.cambridge.org
- Rost, M. (2013). *Teaching and researching: Listening*. Routledge. <https://doi.org/10.4324/9781315833705>
- Santoso, B. ., Yudi, B., & Ari, M. I. . (2019). The Effectiveness of Local Wisdom-Based Teaching Materials in Enhancing Creative Writing Skills of Elementary School Students. *JELTL*, 4(3), 349-359. <https://doi.org/10.21462/jeltl.v4i3.326>
- Shamsi, E., & Bozorgian, H. (2024). Collaborative listening using multimedia through metacognitive instruction: A case study with less-skilled and more-skilled EFL learners. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1), 25. <https://doi.org/10.1186/s40862-023-00248-8>
- Sulistyaningrum, L. (2022). Improving student's learning outcomes using the contextual learning model on listening competency in Indonesian lessons. *Journal of Education Technology and Innovation*, 5(1), 21-30. <https://doi.org/10.31537/jeti.v5i1.692>
- Tomlinson, B. (2012). *Materials development for language learning and teaching*. *Language Teaching*, 45(2), 143-179. <https://doi.org/10.1017/S0261444811000528>
- Tomlinson, B. (2023). *Developing materials for language teaching*. Bloomsbury Publishing.
- Total, Ö. (2023). Does Context-Based Learning Increase Academic Achievement and Learning Retention?: A Review Based on Meta-Analysis. *Journal of Practical Studies in Education*, 4(5), 1-16. <https://doi.org/10.46809/jpse.v4i5.71>
- Tyagi, B. (2013). Listening: An important skill and its various aspects. *The Criterion An International Journal in English*, 12(1), 1-8.
- Uge, S., Amos, N., & Mahmuddin, Y. (2019). Development of Social Studies Learning Modal Based on Local culture in Improving Students' Knowledge and Social Attitude. *International Journal of Instruction*, 12(3), 288-375. <https://doi.org/10.29333/iji.2019.12323a>
- Van Santen, J. P. H., Sproat, R., Olive, J., & Hirschberg, J. (2013). *Progress in speech synthesis*. Springer Science & Business Media.
- Vandergrift, L., & Goh, C. . (2012). *Teaching and Learning Second Language Listening: Metacognition in Action*. Routledge.
- Wibowo, A. R. R. (2024). Incorporating local culture in English classroom to create cultural resilience. *7th Celt International Conference (CIC 2024)*, 25-35. https://doi.org/10.2991/978-2-38476-348-1_3
- Xiao, Y. (2025). The impact of AI-driven speech recognition on EFL listening comprehension, flow experience, and anxiety: A randomized controlled trial. *Humanities and Social Sciences Communications*, 12(1), 1-14. <https://doi.org/10.1057/s41599-025-04672-8>