

Evaluating the Impact of TED Talks on the Development of Listening Skills among Uitm Shah Alam Students

¹Nur Izzati Husna Tahiruddin, ^{*2}Noor Shariena Zaraini, ³Mohd Rafie Suhaimi, ⁴Ilham Alia Mat Isa, ⁵Mafarhanatul Akmal Ahmad Kamal, ⁶Nor Eleyana Abdullah

^{1,2,4,5,6}Academy of Language Studies, Universiti Teknologi MARA, 40450 Shah Alam, Selangor Darul Ehsan, Malaysia.

³Centre for the Advancement of Language Competence (CALC), Universiti Putra Malaysia, 43400 UPM Serdang Selangor Darul Ehsan, Malaysia

***Corresponding Author**

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ABSTRACT

This study explored how watching TED Talks influences the listening skills of the undergraduate students at Universiti Teknologi MARA (UiTM) Shah Alam. Grounded by Cognitive Load Theory, it examined whether the frequency of watching TED Talks was related to the listening abilities of the students, investigated their experiences and perceptions of using TED Talks, and considered how they viewed the platform's role in supporting listening development. A quantitative cross-sectional survey design was adopted, and data were collected from 100 undergraduate students through a structured questionnaire. The responses were then analysed using both descriptive and inferential statistical methods. The findings have indicated that students who have watched TED Talks more frequently generally have demonstrated better listening performance. Most participants viewed TED Talks as an engaging and useful resource that helped improve their listening comprehension while exposing them to the many different variety of English accents. Concurrently, many students acknowledged encountering difficulties, particularly with fast-paced speech, unfamiliar vocabulary, and different accent varieties. Overall, the results suggest that TED Talks can indeed serve as an authentic and very easily accessible resource for developing English listening skills in higher education. Incorporating authentic multimedia materials such as TED Talks into English language classrooms may provide students with more meaningful opportunities to practise listening while increasing their motivation and engagement with the learning process.

Keywords: TED Talks; listening skills; English language learning; Cognitive Load Theory; authentic learning materials.

INTRODUCTION BACKGROUND OF STUDY

TED Talks have become an increasingly popular resource in English language education as they provide learners with authentic content, which is delivered by experts through a multimedia platform that is easily accessible. Unlike traditional classroom materials, TED Talks expose students to natural, real-life English used in academic and meaningful everyday contexts. This will then allow learners not only to improve their language skills but also to engage with current issues and ideas from a wide range of disciplines. Previous research has shown that using TED Talks can improve listening comprehension, increase learner engagement, and enhance motivation in English language learning. Additionally, the variety of topics and viewpoints presented will not only encourage students to expand their knowledge but also develop their critical thinking skills.

Listening is widely accepted as one of the most demanding language skills for English learners, especially at

the tertiary level, as students are expected to understand and process spoken English in academic environments. Successful listening involves more than just simply hearing words, but the learners must also interpret pronunciation, cope with different speaking speeds, understand unfamiliar vocabulary, and make sense of meaning within its context. These demands definitely place a considerable cognitive load on learners. In Malaysia, the challenge is often greater because many students have limited opportunities to use or hear authentic English outside the classroom. Resources such as TED Talks can help bridge this gap by exposing learners to a different range of English accents, speaking styles, and real-world communication. Their free and convenient online availability also makes them an effective tool for self-directed learning, allowing students to continuously develop their listening skills far beyond what formal classroom instruction offers them.

Problem Statement

In spite of the growing recognition of authentic listening materials as valuable resources for English language learning, listening instruction in many higher education settings continues to rely predominantly on textbook-based activities and carefully controlled audio materials. While these resources provide structured language input, they often fail to reflect the complexity and variability of authentic spoken communication encountered in real-world contexts. Consequently, students may have limited opportunities to develop the listening strategies needed to understand natural English used outside the classroom.

In response to this limitation, TED Talks have gained increasing attention as authentic multimedia resources that expose learners to a plethora of different English accents, presentation styles, and contemporary topics. Previous studies have demonstrated that TED Talks can enhance learners' listening comprehension, motivation, and engagement in English language learning. However, much of the existing research has focused on general English language learning contexts, with comparatively limited attention given to how learners in specific institutional settings experience and benefit from these resources.

Within the Malaysian higher education context, empirical evidence on the effectiveness of TED Talks in supporting listening skills development among students at Universiti Teknologi MARA (UiTM) Shah Alam remains limited. Learners' English proficiency, previous exposure to authentic spoken English, and individual learning habits may influence how effectively they engage with TED Talks. In addition, features commonly found in authentic spoken English, such as fast-paced speech, unfamiliar vocabulary, and a variety of accents, may make listening more mentally demanding and influence learners' overall learning experiences.

Given these considerations, there is a need for context-specific evidence to examine how TED Talks contribute to listening skills development among UiTM Shah Alam students. Guided by Cognitive Load Theory (CLT), this study investigates the relationship between TED Talk viewing frequency and listening skills development while also exploring students' perceptions and experiences of using TED Talks as an authentic learning resource. The findings are expected to provide insights that can inform the integration of authentic multimedia materials into English language instruction in Malaysian higher education.

Research Objectives

The primary objective of this study is to evaluate the impact of TED Talks on the listening skills development of undergraduate students at Universiti Teknologi MARA (UiTM) Shah Alam.

Specifically, the study aims to:

1. Examine the relationship between the frequency of watching TED Talks and students' listening skills development.
2. Explore students' perceptions and experiences regarding the effectiveness of TED Talks in supporting English language learning and listening development.
3. Investigate students' perceptions of the overall impact of TED Talks on their listening skills development.

Research Questions

The study seeks to answer the following research questions:

1. What is the relationship between the frequency of watching TED Talks and students' listening skills development among UiTM Shah Alam students?
2. What are the perceptions and experiences of UiTM Shah Alam students regarding the effectiveness of TED Talks in supporting English language learning and listening development?
3. How do UiTM Shah Alam students perceive the overall impact of TED Talks on their listening skills development?

LITERATURE REVIEW

Theoretical Framework: Cognitive Load Theory

Cognitive Load Theory (CLT) developed by Sweller (1988) is a useful framework in understanding how learners process information whilst learning. According to the theory, effective instruction should be constructed in consideration of the limited capacity of working memory and should promote the transfer of information to long-term memory. CLT distinguishes three types of cognitive load: intrinsic load, which is tied to the complexity of the learning task; extraneous load, which is the result of suboptimal instructional design; and germane load, which supports schema construction and meaningful learning. Dealing with these kinds of cognitive load is important to promote understanding, memory and overall learning performance.

Within the context of language learning, TED Talks represent authentic listening materials that expose learners to real-life spoken English while presenting information through an organised multimedia format. From the perspective of CLT, multimedia features such as visual cues, gestures, and subtitles can help learners process spoken information more efficiently. At the same time, linguistic features such as rapid speech, unfamiliar vocabulary, and varied accents may be more mentally demanding and thus make comprehension more difficult. Consequently, CLT provides an appropriate theoretical lens for examining how learners process authentic listening materials and how such experiences contribute to listening development.

Multimedia Learning and Authentic Digital Content

Research on multimedia learning has consistently demonstrated that combining verbal and visual information can improve learner comprehension and engagement. Mayer (2001) argued that learning can become more effective when words and images are meaningfully integrated, as that will allow learners to construct richer mental representations of new information. Similarly, Liao and Huang (2016) reported that multimedia-assisted language learning enhances learner motivation and facilitates comprehension by providing multiple sources of input.

TED Talks reflect these principles by combining spoken language with visual presentations, speakers' gestures, subtitles, and other contextual cues. Together, these multimedia features create an engaging learning environment that helps learners understand the content more easily while keeping them actively involved in the learning process.

Nevertheless, multimedia resources are not inherently effective. If learners are presented with excessive information or linguistically demanding content, cognitive overload may occur, and thus, reducing rather than enhancing comprehension. This highlights the importance of selecting authentic materials that balance authenticity with learners' proficiency levels.

Instructional Design and Technology-Enhanced Learning

Technology-enhanced learning has become increasingly important in English language education by providing learners with greater access to authentic language resources. Brown and Green (2016) emphasised that

instructional materials should be aligned with learners' needs, prior knowledge, and cognitive abilities to maximise learning outcomes. In this regard, TED Talks offer an effective combination of authentic language input, multimedia support, and engaging content.

Previous research has shown that integrating TED Talks into language instruction can enhance learner participation, motivation, and listening performance. However, the effectiveness of these resources may vary according to learners' language proficiency and familiarity with authentic spoken English. Factors such as rapid speech, specialized vocabulary, and unfamiliar accents continue to present challenges for many learners, suggesting that appropriate instructional support remains essential when incorporating TED Talks into classroom practice.

Listening Development and Metacognitive Approaches

Listening is widely recognised as an active cognitive process rather than a passive act of receiving information. Vandergrift and Goh (2012) argued that successful listeners actively plan, monitor, and evaluate their comprehension through the use of metacognitive strategies. Likewise, Rost (2011) emphasised that authentic language input plays a critical role in developing learners' listening competence because it exposes them to natural speech patterns and communicative contexts.

Consistent with these perspectives, studies investigating the use of TED Talks have reported improvements in listening comprehension, learner motivation, and pronunciation. However, learners often experience difficulties understanding rapid speech, unfamiliar vocabulary, and unfamiliar accents. These findings suggest that while authentic listening materials offer considerable educational value, learners may require appropriate guidance and repeated exposure to fully benefit from such resources.

Learner Perceptions of TED Talks

Learners' perceptions play an important role in determining their willingness to engage with technology-enhanced learning resources. Previous studies have consistently reported positive attitudes towards the use of TED Talks in English language learning. Students commonly describe TED Talks as engaging, motivating, and beneficial because they provide authentic language exposure through diverse presentation styles and meaningful real-world topics.

Positive learning experiences may encourage students to engage more frequently with TED Talks, thereby increasing opportunities for language exposure and listening practice. Conversely, negative experiences associated with linguistic difficulty or cognitive overload may reduce learners' motivation to continue using authentic listening materials. Understanding learners' perceptions is therefore essential for evaluating not only the effectiveness of TED Talks but also the factors that influence their successful integration into English language learning.

Conceptual Framework

This study proposes that the frequency of watching TED Talks serves as the primary independent variable influencing students' listening skills development. Students' perceptions and learning experiences are expected to mediate this relationship by shaping how they engage with authentic listening materials. At the same time, linguistic factors such as speech rate, vocabulary complexity, and accent variation may influence learners' ability to process authentic spoken English and ultimately affect listening outcomes. Guided by Cognitive Load Theory, the conceptual framework illustrates how authentic multimedia input, learner perceptions, and cognitive processing interact to support listening development.

METHODOLOGY RESEARCH DESIGN

This study employed a quantitative research design to examine the impact of TED Talks on the listening skills development of undergraduate students at Universiti Teknologi MARA (UiTM) Shah Alam. A quantitative approach was chosen because it enables systematic investigation of measurable variables and the examination

of the relationship between students' TED Talk viewing habits and their perceived listening development. It also allows the data to be analysed statistically, providing findings that are objective and reliable.

Research Approach

A cross-sectional survey design was adopted to collect data from participants at a single point in time. This approach was selected because it enables researchers to efficiently examine current patterns of behaviour, perceptions, and experiences within a defined population. In the present study, the survey provided insights into students' TED Talk viewing frequency, perceptions of TED Talks, and their perceived listening skills development.

Population and Sample

The target population comprised of undergraduate students enrolled at UiTM Shah Alam. A total of 100 students participated in the study. This sample size was considered adequate for conducting descriptive and inferential statistical analyses while providing a representative overview of students' experiences with TED Talks and their perceived listening skills development.

Sampling Technique

A stratified random sampling technique was used to ensure that students from different faculties and academic disciplines at UiTM Shah Alam were fairly represented. The participants were first divided into groups based on their respective faculties, after which a random selection was made from each group. This sampling method helped reduce the risk of bias and ensured that the study included participants from a broad range of academic backgrounds.

Research Instrument

Data were collected using a structured questionnaire comprising closed-ended and Likert-scale items. The questionnaire was designed to measure three key constructs:

- frequency of watching TED Talks;
- students' perceptions and experiences of using TED Talks
- perceived development of English listening skills.

The instrument enabled the collection of standardised responses that could be analysed quantitatively to address the study's research objectives.

Data Collection Procedure

The questionnaire was administered electronically to the selected participants. After data collection, all responses were screened for completeness and consistency before being cleaned, coded, and organised for statistical analysis. This process helped ensure the accuracy and quality of the dataset prior to analysis.

Data Analysis

The collected data was analysed using both descriptive and inferential statistical techniques.

Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise respondents' demographic characteristics and questionnaire responses.

To address the research objectives, inferential analyses were also conducted. A one-way Analysis of Variance (ANOVA) was performed to determine whether listening skills scores differed according to the frequency of watching TED Talks. In addition, an independent-samples *t*-test was used to compare perceived listening improvement between students who watched TED Talks with subtitles and those who watched without

subtitles. These statistical procedures enabled the study to examine differences between groups and evaluate the relationship between TED Talk viewing habits and listening skills development.

Validity and Reliability

To establish content validity, the questionnaire was reviewed by subject matter experts to ensure that the items adequately represented the constructs being measured. Expert feedback was incorporated to improve the clarity and relevance of the instrument before data collection.

The internal consistency of the questionnaire was evaluated using Cronbach's Alpha. The instrument produced a Cronbach's Alpha coefficient of **0.70**, indicating an acceptable level of reliability for research purposes. This result suggests that the questionnaire items demonstrated satisfactory internal consistency and were suitable for subsequent statistical analysis.

FINDINGS AND DISCUSSION

RQ1: Relationship between the Frequency of Watching TED Talks and Listening Skills Enhancement

Table 1 Frequency of watching TED Talks

Frequency	Mean (M)	SD
Never	65.2	6.3
Rarely	70.4	5.2
Occasionally	73.5	4.9
Frequently	78.6	4.1
Very Frequently	81.2	3.8

Note. *M* = mean; *SD* = standard deviation. Higher mean scores are associated with more frequent viewing of TED Talks.

Descriptive statistics showed a steady increase in listening performance as the frequency of watching TED Talks increased. Participants who reported never watching TED Talks recorded the lowest mean listening score ($M = 65.2$, $SD = 6.3$), whereas those who watched TED Talks very frequently obtained the highest mean score ($M = 81.2$, $SD = 3.8$). Overall, the results suggest that more frequent engagement with TED Talks is associated with higher levels of perceived listening performance. (see Table 1).

Discussion

It can be seen from the findings that regular exposure to authentic spoken English may affect the development of learners' listening abilities. When students watch TED talks regularly, they will be more confident and perform better in listening comprehension activities. This is because they are more familiar with the natural speech patterns, pronunciation, and variations in English accents found in the videos they watch.

According to Cognitive Load Theory (Sweller, 1988), when students are exposed to authentic learning materials, their extraneous cognitive load is reduced since they can adapt to the linguistic complexity of authentic spoken discourse. Since they are more familiar with variety of speech rates, vocabulary, and discourse structures, they are able to understand better instead of just decoding the spoken language found in the listening materials.

The findings are consistent with the past studies that highlight TED talks as an effective authentic learning resource to improve listening comprehension and learner motivation (Gavenila et al., 2021; Tilwani et al.,

2022; Ramadhan & Aminatun, 2024). Overall, these past studies suggest that through sustained engagement with multimedia resources, language development can be improved and learners can be more confident.

RQ2: Students' Perceptions and Experiences of TED Talks

Strengths of TED Talks Table 2

Perceived Strengths of TED Talks Among Respondents

Strengths	Frequency	Percentage
Engaging Content	40	40%
Clear Pronunciation	30	30%
Motivational Speeches	18	18%
Diverse Topics	12	12%
Total	100	100%

Note. f = frequency. Percentages indicate the proportion of respondents identifying each characteristic as a strength of TED Talks.

As shown in Table 2, engaging content was identified as the greatest strength of TED Talks by 40% of respondents, followed by clear pronunciation (30%), motivational speeches (18%), and diverse topics (12%).

Discussion

The findings show that learners have positive attitude towards TED talks videos mainly because of the engaging content and authentic presentation style. They participate actively in the listening activities and maintain their interest throughout the learning process because of the characteristics found in the TED talks videos. Other characteristics that make it more accessible to learners with different educational backgrounds and interests are the clarity of pronunciation and the variety of presentation topics.

Thus, the findings of this study are consistent with previous research by Aini et al. (2025) and Wulandri et al. (2024), which found that authentic language input with meaningful and relevant TED Talks content is more motivating and beneficial for English language learning. It is crucial because when they have a positive perception, they are more willing to participate in extensive listening beyond the classroom due to increased motivation and engagement.

In multimedia learning, TED Talks help learners' comprehension while maintaining their engagement through the integration of spoken language with visual cues, gestures, and presentation slides that create multiple sources of information (Mayer, 2001).

Challenges of TED Talks Table 3

Challenges of TED Talks Reported by Respondents

Challenges	Frequency	Percentage
Fast Speech	34	34%
Complex Vocabulary	26	26%

Difficulty Understanding Accents	24	24%
Lack of Interest in Certain Topics	16	16%
Total	100	100%

Note. f = frequency. Percentages indicate the proportion of respondents reporting each challenge when watching TED Talks.

Fast speech was the most frequently reported challenge (34%), followed by complex vocabulary (26%), difficulty understanding different accents (24%), and lack of interest in certain topics (16%).

Discussion

Based on the findings, even though TED talks provide positive outcomes to the learners, they still find it challenging when it comes to authentic spoken English. Rapid speech was seen as the most common difficulty, followed by other challenges like unfamiliar vocabulary and accent variation. It is suggested that authentic listening materials also put cognitive demands on learners, especially those with lower English proficiency levels.

Based on the Cognitive Load Theory, these linguistic features may increase intrinsic cognitive load by requiring learners to process multiple sources of information simultaneously. They will overload working memory if they are having problems identifying unfamiliar vocabulary, thus affecting their listening comprehension.

However, regardless of the challenges they faced, the respondents still have positive perception towards TED talks. This shows that learners are aware of the educational values that they offer and therefore they are willing to participate in the authentic listening practice that are not of their proficiency level. This is parallel with the studies conducted by Tilwani et al., (2022) and Namaziandost et al., (2022) that report similar challenges.

Taken together, the positive perceptions and reported challenges suggest that appropriate instructional support such as vocabulary preparation, guided listening activities, or subtitles may help learners maximise the benefits of authentic listening materials.

RQ3: Perceived Impact of TED Talks on Listening Development Table 4

Perceived Impact of TED Talks on Listening Development

Statement	<i>M</i>	<i>SD</i>
TED Talks improve listening skills	4.2	0.80
TED Talks help understand accents	4.0	0.85
TED Talks enhance vocabulary	2.8	0.90

Note. *M* = mean; *SD* = standard deviation. Responses were measured on a Likert-type scale, with higher mean scores indicating stronger agreement with each statement.

Respondents generally agreed that TED Talks improved their listening skills ($M = 4.2$, $SD = 0.80$), while also reporting that TED Talks helped them understand different English accents ($M = 4.0$, $SD = 0.85$). In contrast, respondents expressed lower levels of agreement regarding the role of TED Talks in vocabulary development ($M = 2.8$, $SD = 0.90$).

Discussion

The findings indicate that students primarily associated TED Talks with improvements in listening comprehension rather than vocabulary acquisition. This suggests that learners perceived authentic multimedia materials as particularly effective for developing listening strategies, recognising natural speech patterns, and adapting to diverse English accents.

One possible explanation is that listening improvement occurs through repeated exposure to authentic spoken input, whereas vocabulary acquisition often requires more explicit instruction and repeated reinforcement. Although learners may encounter unfamiliar vocabulary while watching TED Talks, incidental exposure alone may not be sufficient to produce noticeable vocabulary gains.

These findings align with previous studies reporting that TED Talks are especially effective in enhancing listening comprehension, learner confidence, and exposure to authentic English, while vocabulary development may require additional instructional support (Gavenila et al., 2021; Wulandari et al., 2024).

ANOVA Findings Table 5

One-Way ANOVA of Listening Skills Scores by Frequency of Watching TED Talks

Source of Variation	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	45.2	4	11.3	5.67	.001
Within Groups	190.3	96	2.0		
Total	235.5	100			

Note. *F* = *F* statistic; *df* = degrees of freedom.

A one-way ANOVA revealed a statistically significant difference in listening skills scores across different TED Talk viewing frequencies, $F(4, 96) = 5.67, p = .001$.

Discussion

The ANOVA findings provide further evidence that students' listening performance differs according to how frequently they watch TED Talks. Students who engaged more regularly with TED Talks consistently reported higher listening performance than those who watched them less frequently.

These findings reinforce the earlier descriptive results and strengthen the argument that sustained exposure to authentic spoken English contributes positively to listening development. Regular interaction with authentic listening materials may enable learners to become increasingly familiar with natural speech rhythms, pronunciation patterns, and discourse structures, thereby improving overall listening comprehension.

From the perspective of Cognitive Load Theory, repeated engagement may gradually reduce the cognitive effort required to process authentic spoken English, allowing learners to devote greater attention to understanding meaning rather than decoding language. This interpretation is supported by previous research demonstrating the effectiveness of authentic multimedia resources in promoting listening development (Tilwani et al., 2022; Ramadhan & Aminatun, 2024).

Subtitle Usage

Table 6 Group Statistics for Subtitle Usage

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>
With Subtitles	55	4.1	0.7	0.09
Without Subtitles	45	3.6	0.8	0.12

Note. *N* = sample size; *M* = mean; *SD* = standard deviation; *SE* = standard error of the mean. Higher mean scores indicate greater perceived improvement in listening skills.

Table 7 Independent Samples t-Test for Subtitle Usage

Test	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	SE Difference
Equal Variances Assumed	3.15	98	.002	0.50	0.16

Note. *t* = *t* statistic; *df* = degrees of freedom; *p* = significance value; SE Difference = standard error of the mean difference. A *p* value less than .05 indicates a statistically significant difference between groups.

Students who watched TED Talks with subtitles reported significantly greater listening improvement (*M* = 4.1, *SD* = 0.7) than those who watched without subtitles (*M* = 3.6, *SD* = 0.8), $t(98) = 3.15$, $p = .002$.

Discussion

The findings suggest that subtitles provide meaningful support for learners when engaging with authentic listening materials. By presenting spoken and written language simultaneously, subtitles may help learners follow the flow of speech, recognise unfamiliar vocabulary, and distinguish different English accents more effectively.

This finding can also be explained through Cognitive Load Theory and multimedia learning principles. The combination of auditory and visual input enables learners to process information through multiple channels, thereby reducing unnecessary cognitive effort during comprehension. Rather than relying solely on auditory processing, learners can use subtitles as supplementary cues that reinforce meaning and improve understanding.

The findings further imply that subtitles may be particularly beneficial for learners who are less familiar with authentic spoken English. As learners gain greater confidence and listening proficiency, subtitles can gradually be reduced to encourage more independent listening. Consequently, subtitles should be viewed not as a crutch but as a form of instructional scaffolding that supports progressive listening development.

CONCLUSION

This study examined the impact of TED Talks on the listening skills development of undergraduate students at Universiti Teknologi MARA (UiTM) Shah Alam. Overall, the findings indicate that regular engagement with TED Talks is positively associated with students' perceived listening development. Participants who watched TED Talks more frequently reported better listening outcomes and more positive learning experiences, suggesting that authentic multimedia resources can play an important role in supporting English language learning.

Although respondents identified challenges related to rapid speech, unfamiliar vocabulary, and accent variation, these difficulties did not diminish the overall educational value of TED Talks. Instead, the findings suggest that authentic listening materials provide meaningful opportunities for learners to develop listening comprehension, become familiar with diverse forms of spoken English, and engage more actively with authentic language use.

Taken together, the findings demonstrate that TED Talks represent an effective supplementary resource for listening instruction in higher education. By combining authentic spoken language with multimedia features, TED Talks offer learners valuable opportunities to strengthen their listening skills beyond traditional classroom materials. The study therefore contributes context-specific evidence supporting the integration of authentic digital resources into English language teaching within Malaysian higher education.

Implications of the Study

Theoretical Implications

The findings extend the application of Cognitive Load Theory to authentic multimedia learning by demonstrating how repeated exposure to TED Talks may support listening development. While authentic spoken English can initially increase learners' cognitive demands because of rapid speech, unfamiliar vocabulary, and accent variation, continued engagement appears to help learners adapt to these challenges over time. This suggests that authentic multimedia resources can promote meaningful learning when learners are provided with appropriate opportunities for sustained exposure and practice.

Practical Implications

The findings have several practical implications for English language teaching in higher education. First, educators should consider incorporating TED Talks as supplementary listening materials to increase students' exposure to authentic spoken English and diverse communicative contexts. Second, instructional support including pre-listening vocabulary activities, guided listening tasks, and the strategic use of subtitles should be provided to help learners overcome difficulties associated with speech rate, vocabulary complexity, and unfamiliar accents. Such support may enable students to engage more confidently with authentic listening materials while gradually developing greater listening proficiency.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future studies should adopt more robust research designs, such as mixed-methods or longitudinal approaches, to provide a deeper understanding of how sustained exposure to TED Talks influences listening development over time. Including participants from different universities, academic disciplines, and English proficiency levels would also improve the generalisability of the findings.

In addition, future research could investigate the effectiveness of instructional interventions, including pre-listening vocabulary activities, guided discussion tasks, and captioning or subtitle features, in supporting learners with varying listening abilities (Namaziandost et al., 2022). Examining these instructional strategies would provide practical insights into how authentic multimedia resources can be integrated more effectively into English language classrooms. From a theoretical perspective, future studies may also explore the relationship between Cognitive Load Theory and contemporary multimedia learning frameworks to better explain how learners process authentic digital resources in language learning environments (Fiorella & Mayer, 2021). Such research would contribute to the development of more effective technology-enhanced approaches to listening instruction across diverse educational contexts.

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