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English Listening via Online Applications: Tool-mediated Language Learning by EFL University Students

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ABSTRACT

This study probes into what features of online applications assist English language listening and how EFL (English as a Foreign Language) students use the features to practice listening. Five EFL university students were recruited to use online applications to practice listening for five weeks. During this period, the students chose to use 12 online applications: Daily Dictation, English Central, TEDEd, English Daily, BBC Learning English, Cake, Wannalisn, Easy English, VOA Learning English, British Council Learn English Podcasts, Test English Listening, and Talk English. Data were collected from their journals, interviews, and visual analysis. The results indicate that the students applied self-directed learning to practice listening. They acknowledged the technological features of online applications that could ease their learning by providing personalized learning suggestions, engaging them in listening activities, giving timely feedback and correcting errors. They also revealed that the digital technological tools mediated their listening practice, resulting in the ability to work on

higher-level listening activities, learning more vocabulary, and better English pronunciation. From the study' findings, implications for online language learning are discussed with reference to making use of the online application features to mediate their listening more effectively.

Keywords: English listening, online application, self-directed learning, technological feature, tool-mediated learning

Introduction

This study responds to the need to explore the dominant technological features of MALL (Mobile-Assisted Language Learning) that determine learners' continuous use of this mode (Lee & Xiong, 2023). In fact, Reinders et al. (2015) pointed out that understanding the potential of MALL-based apps as language learning tools requires a range of considerations, from educational affordances to effective design. Besides, thoughtful reflections based on observation and/or collected data regarding what works, what does not, and why the issues of MALL are necessary may give more implications for MALL (Hubbard, 2023). There has been a growing body of research on language applications; however, there is yet a guideline to examine what features of the applications can facilitate learning in language users and how these features mediate students' learning. This study aims to fill these gaps.

The digital age has promoted the culture of self-directed language learning, which Brandt (2020) defines as "a process of learning that is individual, purposeful, and developmental" (p. 3). Since the majority of EFL students must practice language skills, they may set certain goals, choose suitable online applications, and learn with the applications. In self-directed language learning, learners interact with tools to construct knowledge. Through the lens of sociocultural theory (SCT), developed by Vygotsky (1978) and his colleagues, students interacting with digital tools is realized via a mediation process, which may bring about changes in language learning in learners. Originally, SCT emphasizes the roles of social interaction between teachers and students and between more knowledgeable and novice peers for mediation to take place. When students implement self-directed learning, this mediation tends to refer to the roles and features of tools or online applications that assist learners in their learning by themselves. Medication via tools takes place when learners' psychological processes, including reasoning, strategic orientation, and problem-solving, are generated through interaction with others (e.g. teachers and peers) and the use of tools (Ellis, 2015).

Given the need to explore what features of online applications bring about learned language skills in general and English listening in particular, which is usually considered to be challenging to EFL learners, this study sets out to see the self-study via online applications of EFL students and examine their self-directed learning in the light of SCT to see how the features of the applications mediate their English listening learning.

To be more specific, the current study aims to examine the features of online applications that facilitate English listening learning of EFL students and explore what is mediated when students interact with those features of the online applications. It seeks to answer the following research questions (RQ):

RQ1: What features of online applications assist EFL students in learning the English language listening skill?

RQ2: How do these features lead to EFL students' listening improvement and other English aspects, if any?

Literature Review

Mobile-Assisted Language Learning (MALL)

The continuous development of technology has generated terms to address the learning mode. Beginning with computer-assisted language learning, MALL has evolved and targeted self-paced learning facilitated by mobile devices in the language learning process (Lee & Xiong, 2023). MALL has been defined as the use of "mobile technologies in language learning, especially in situations where device portability offers specific advantages" (Kukulska-Hulme, 2013, p. 370). MALL includes devices ranging from MP3/MP4 players, smartphones, and e-book readers to laptop and tablet computers. Its ubiquitous use is attributed to the flexibility in time, space and individual needs (Ishaq et al., 2021). Other pros of MALL include learning opportunities through portability, affordability, accessibility, connection, and personalized experiences (Li et al., 2022). Other general features of MALL include spontaneity, portability and connectivity, blending, interactivity and collaboration (Ahmad et al., 2013), ubiquity, flexibility, multi-functionality, and nonlinearity that mobile devices offer for learning (Kress & Pachler, 2007).

Several studies have delved into how MALL assists language learning. For example, Darsih and Asikin (2020) conducted a survey with 96 Indonesian EFL students about MALL and the applications they use for their English learning. Overall, the study found that six mobile applications were often used: Kamusku, Google Translate, ELSA Speak, YouTube, Zoom and Google Meet. The students generally perceived the applications to be useful

and help their learning; they were generally easy to use. However, the study did not reveal what specific features of the six applications assisted the learners with their English learning nor what the students actually learned from the applications. In a similar vein, to explore EFL students' use of MALL, Bui et al. (2023) conducted a quantitative study on Vietnamese students' use of and attitudes to smartphone apps in learning English. Over a hundred Vietnamese university EFL students were recruited. The results showed that the students used apps to learn language frequently. They generally reported positive attitudes towards the use of smartphone apps in English learning. The researchers recommended considering the contextual factors to use MALL effectively.

Cautions, however, have been raised by Stockwell and Hubbard (2013) that learners may not be competent in using the range of functionality mobile devices offer because "Knowledge of how to use mobile devices for specific personal or social functions is not always a good indicator of knowledge of educational functions" (p. 4). According to Abdous et al.'s (2009) study, some learners did not know how to download podcasts to their devices or listen to podcasts for learning language through their mobile devices.

Features of Online Applications

Features of online applications have been well-documented in the contemporary literature. For example, Hubbard (1996, 2006) and Hubbard and Levy (2016) proposed three criteria to guide application evaluation: technological features, activity types, and presentational schemes. First, technological features include ease of installation or platform compatibility. The language learning program is readily accessible and user-friendly. For example, as a popular language learning application, Duolingo has been evaluated to have merit in both ease of installation and platform compatibility, as a web browser and mobile versions are offered free of charge, with the latter available on both Android and iOS. It also provides an operational description of the software to ensure an understanding of how it works before attempting to judge it (Hubbard, 2023).

Motivated by understanding how features of applications facilitate language learning, White (2019) conducted a case study with 30 students in Thailand. The findings from the questionnaire and interviews indicated that the students were satisfied with using the Line application because it has potential as a tool for practicing and learning English. More specifically, the visual element of the Line application can generate interest and conversation. Thanks to it, the students could share photos and discuss what they are doing. The students also reported that the Line application was beneficial because it

was easy to view on a smaller screen, and they enjoyed the interaction of the Line application and found it engaging. Another feature of the application that benefited the students who had missed classes was its function of allowing students to review previous lessons.

Second, regarding activity types, an online application can provide such activities as quizzes, text reconstruction, text construction, and problem-solving. For instance, in a quiz activity type, learners are provided with activities or exercises that target grammar, vocabulary or pronunciation, presented in a mechanical drill guided by a stimulus-response interaction. Text reconstruction requires learners to decompose a text manipulated by the program, and then they do multiple choice, matching, ordering, and direct stimulus-response items.

To investigate how online games mediate language learning, Hidayati and Diana (2019) conducted a study on how students used two applications, Duolingo and Hello English. These applications (apps) cover learning more than 20 languages. It included all macro skills of reading, listening, speaking, vocabulary and grammar through games and scenes. Data collection was made through daily journals and a questionnaire with 25 students. The daily journal was to record and monitor students' use of the two apps on a daily basis during the 21 days and explore the features of the apps supporting their English language learning. The information gathered from students' daily journals indicated they were considerably active in using the apps to learn independently. Although each student allocated a different time to access the apps, the average time spent each day ranged from 11 to 57 minutes. This was a quite large amount of time as it exceeded the time limit for the relaxed mode of learning described in Duolingo, which is only five minutes a day. The findings also reveal that the students were motivated by the flexibility and practicality of the two applications because they felt convenient and comfortable using the apps anywhere and anytime. However, the students tended to have less explorative use of the application functions despite their enthusiasm due to their limited knowledge and lack of prior experience in using mobile applications to learn independently.

Finally, presentational schemes indicate how an activity type is presented to the user, including elements such as interface, timing, control options, feedback, user input, input judging and help options. The interface or screen layout addresses the presentation of the materials on screen, for example, font size, spacing, location, and animation/graphics/text quality. Time limitations provide a time limit for users to respond to a certain task. Control can be imposed by three entities: the instructor, the program and the learner, and sets controlling the pace of and access to materials and lesson sequence. Feedback occurs in response to user input, in which the user responds to a given item. Input judging decides if the input received for a

specific item matches the expected input for that item. Lastly, help options indicate whether the software assists learners in completing activities.

However, Klimova and Sanda (2021) pointed out that the features of a learning app may be helpful for a particular age group. Among the four applications for language learning, Duolingo, EWA: English, Mondly-Learn 33 languages, and LinGo, Duolingo was preferred by the senior learners in the context of the Czech Republic because it had very pleasant processing, all the content was reachable, and orientation in the application was very easy. Besides, the study found that Duolingo did not restrict the user's educational content out of the four selected applications. For other applications, learners were required to purchase premium content.

When learners use applications to learn a language, they are mediated by these app features. The advantages of using apps for language learning are various. First, app characteristics can boost learner autonomy by encouraging learners to accomplish specific activities, overcoming weaknesses of traditional learning approaches. "Many features of programmed instruction are found in MALL. Many mobile applications are designed to move forward, systematically to develop habits and improve learning" (Alzieni, 2020, p. 86). Another advantage of online apps is that they are designed to stimulate learners to learn. Neumann (2020) pointed out the impact of tablets and apps on learners' language development, especially young learners. Since apps usually have engaging multimodal features, such as animations, audio, colorful graphics and highlighted texts, these features stimulate a user's visual, auditory, kinesthetic, and tactile senses and deliver immediate feedback. When used on interactive tablets, most educational apps for language learning provide children with the autonomy and agency to select their activities. Adult learners also find it fun to learn English with apps because certain app features allow learners to experience a unique learning process (Huang et al., 2012; Wang & Hsu, 2020). For example, Amalia et al. (2024) found that the applications SoftChalk and Hot Potatoes media positively impact students' reading in English. Wang and Hsu (2020) found that students learning business English on an app enjoyed its contents, functions and ease of use. Enjoyment in learning with the applications is a critical factor in making students want to continue with the applications. "Simple reading devices such as e-books can promote a flexible, authentic and interactive environment with the foreign language, thus boosting learners' interest in the language learnt" (Gutiérrez-Colón, et al., 2023, p. 7).

Moreover, MALL applications can provide users with personalized learning geared toward their learning needs. They are considered social individuals serving as anthropomorphic instructors to help learners learn online (Lee & Xiong, 2023). The personalization function provided by MALL apps enables users to increase their personal learning experiences according

to their different learning styles, content and needs (Lee & Xiong, 2023; Li et al., 2022). This category is also labelled "learner fit" or "how well the software's content and operation were compatible with the students' level, learning objectives, interests, and motivations" (Hubbard, 2023, p. 245).

One last feature of MALL is how it provides feedback and corrections to language users who practise with the application. According to Murray (2017), "Technologies have made providing timely, multimodal, specific and personalized feedback easier" (p.178). Slamet and Mukminatien (2024) similarly consider online assessment advantageous when offering accessibility, flexibility, and instant feedback. Since the applications take the roles of instructors and teachers in giving direct feedback to users, it is worth exploring how language learners perceive this feature.

Tool-mediated Language Learning

The process of learners engaging in an application can be illuminated in the perspectives of sociocultural theory (Vygotsky, 1978), which emphasizes that there is interaction between learners' minds and social and cultural settings as well as tool use. Sociocultural aspects of mobile learning lie in the concept of interaction because mobile devices could serve as the media to connect learners with their partners and the process of constructing knowledge through interaction with tools (Sharples et al., 2007). The concept of tool use in the scope of this paper refers to the process in which learners use online applications to learn English. The study also referred to the concept of mediation in SCT to understand how learners are transformed and constructed with the apps for language learning. According to SCT, materials and mental tools (e.g. language and English learning applications) are related psychologically. In other words, a human action is a "mediated activity," which is composed of a triad of subject (students), object (learning purpose), and mediating artifacts/tools (online applications) (Vygotsky, 1978). The technical characteristics of mobile devices facilitating social and personal learning represent Vygotsky's (1978) theorization about mediation and zone of proximal development. Students can use different physical and virtual situations to interact with other people, information, or systems at any time and place when engaging in online learning. Learning experiences occur in an information context where technology mediates interaction. In this sense, tools that contain such features as prompts to scaffold language users, cues to assist them solve do the language tasks step by step or activities that guide users to a higher level of language proficiency activities reflect the original concept of scaffolding in SCT.

It should be noticed that artifacts and tools can be used interchangeably (Le & Bui, 2021) because both refer to the objects that learners use, and both can serve as mediators between students and the learning applications. With online learning, digital tools or learning applications are considered to mediate the learning process and to facilitate learners' understanding and generate their thoughts through interaction between users and the tools (Le & Bui, 2021). Le and Bui (2021) also claimed that using tools such as smartphones, tablets, and numerous other high-tech gadgets and new applications such as Twitter, Facebook, Instagram, and Skype provide more resources that may facilitate mediated learning in learners.

The literature review shows that previous studies mainly focused on the effects of MALL on English language learning outcomes, learners' attitudes and cognitions, and the relationship between MALL and contextual factors. However, little research has probed into the features of MALL that assist language learning. The development of new apps has motivated investigations into their effects on language learning on an ongoing basis.

Methodology

This study employed a qualitative design, collecting data via students' learning journals, interviews at intervals, and visual analysis. The participants included five EFL students who implemented self-directed learning of the English listening skill on their own time schedules. They kept weekly learning journals, and each participant wrote five journals for five consecutive weeks, resulting in 25 journals for data analysis. In addition, the participants were interviewed after five weeks when they had written their reflections in the journals.

The participants were second-year students aged 19 to 20 years old and were studying at a university in Vietnam, majoring in English language teaching, English linguistics, translation and interpretation. The data report presented their pseudo-names: Giang, Linh, Ngoc, Nhu and Xuan. They were initially approached and asked whether they had been using applications to learn English language skills by themselves and whether they would agree to participate in the study. After they had given consent, they were instructed how to keep learning journals, which provided the guiding questions about the applications they used, the time spent on the application to learn a language skill, screenshots of the application features and reasons why they considered certain features of the app were helpful to their English listening skill learning. In the interview, they were asked questions about how they learned with the applications, how the applications that they used helped them with self-directed language learning and the changes in self-study skills

they gained after learning English listening through the applications; the changes in the language skill have they gained after learning with the apps, and the features of the applications have helped them the most in the self-studying English listening skill process.

Table 1

Coding Scheme: Application Features

Coding theme	Explanations	Examples from the current study's journal data
Technological features (Hubbard, 1996, 2006)	Ease of installation or platform compatibility; the language learning program is readily accessible and user-friendly	TED-ED is easy to manipulate because it provides the latest to the newest videos for listening.
Presentational schemes (Hubbard, 1996, 2006)	The way in which an activity type is presented to the user, including such elements as interface, timing, control options, and help options	"Daily English" presents four steps in a listening activity: Show script, vocabulary, quizzes and challenges.
Activity types (Hubbard, 1996, 2006)	Activity types of an online application including game, quiz, text reconstruction, text construction and problem solving	The application has listening activities from easy, medium to hard levels for learners to practise with.
Providing personalized learning (Lee & Xiong, 2023; Li et al., 2022)	Gearing toward students' learning needs and enabling users to increase their personal learning experiences according to their different learning styles, content and needs	English Daily application has the feature of marking favourite videos and learning history, which helps learners to keep track of their listening and not to miss any of their favourite videos.
Giving feedback and correcting errors (Murray, 2017)	Providing timely, multimodal, specific and personalized feedback and language results	BBC Learning English provides a direct, quick, exact and specific marking of the listening quizzes I did. Thus, I am able to see my listening progress through the score breakdown.

Data analysis was done thematically. The journal entries and interview transcript were read and re-read to see the emerging themes and subthemes

related to features of the applications that were reported to facilitate students' self-directed language skills learning. The screenshot images were also viewed for the examples related to such themes. As mentioned in the introduction of this paper, there has not been a ready-made coding scheme related to application features that mediate students' learning, including technological features, presentational schemes, activities, types, personalized learning, and giving feedback and correcting errors. Thus, the study filled this gap by compiling the coding scheme from various sources (Hubbard, 1996, 2006; Lee & Xiong, 2023; Li et al., 2022; Murray, 2017) (see Table 1).

The coding scheme for data from the interview was to examine the emerging themes from the interview transcript which included listening improvement and side learning of mediated learning via online applications.

Findings

Tool-mediated Language Learning

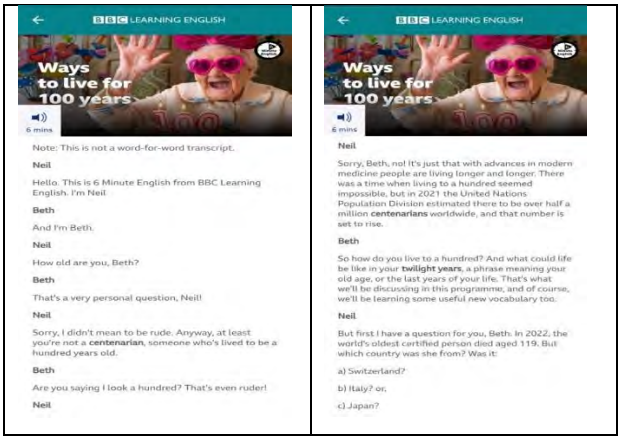
The students chose the online applications, including Daily Dictation, English Central, TED ed, English Daily, BBC Learning English, Cake, Wannalisn, Easy English, VOA Learning English, British Council Learn English Podcasts, Test English Listening, and Talk English to do the self-directed learning of the listening skill. For each listening time, the students reported spending 20 to 90 minutes listening to various topics ranging from human life to nature and history. The students' reflections in the 25 journals were analyzed based on the coding scheme presented in Table 1.

Technological Features of the Online Applications Mediating Self-Directed Learning of the Listening Skill

The participants perceived the technological features of the applications from different perspectives. Giang considered Daily English convenient since it is free to download on Android and iOS and allows learners to type directly into the listening activities. She also mentioned the free download of the audio clips to listen offline, making it very convenient for self-study. When practising listening with Wannalism, Linh could adjust the delivery speed of the audios which she found very helpful for her self-directed learning. Ngoc and Nhu regarded the clear voices and high-quality audios from Wannalism and Test-English as strong points for her listening practice. Xuan thought each audio in BBC Learning English of about five to six minutes with a transcript, making it reasonable for her to study by her own (for a screenshot of BBC learning English, see Figure 1).

Figure 1

BBC Learning English's Technological Feature



Presentation Scheme of the Online Applications for English Listening Practice

The students all reported in the 25 journals the feature of presenting the contents on the applications that made them like to practise listening. The presentation the students mentioned in the journals includes the main board function arrangement, its colors, interface, banners, and design. For example, Giang wrote in her journal, "The main board of the Daily Dictation introduces how to use this app clearly" and "TEDEd uses the white background and the banners in red, making it easy for users to concentrate on important points. The application interface is smartly designed and easy to access by learners of any ages." Linh, another participant, wrote, "The application Cake that I used today provides a search engine for lessons on the toolbar, which makes it easy for me to search for listening of any topic. Practising listening with the Test English Listening, Ngoc wrote in her journal, "The interface of the app is easy to see and use. The app labels different levels for users to access different topics for listening". Nhu found some features of TalkEnglish quite similar to those of Youtube and the subtitles of videos are quite handy to work on the listening activities with the application. Xuan liked the vivid interface of Wannalisn, which was easy to use. Below is an example from Nhu's journal on the presentation scheme of TalkEnglish:

Figure 2

TalkEnglish's Presentation Feature

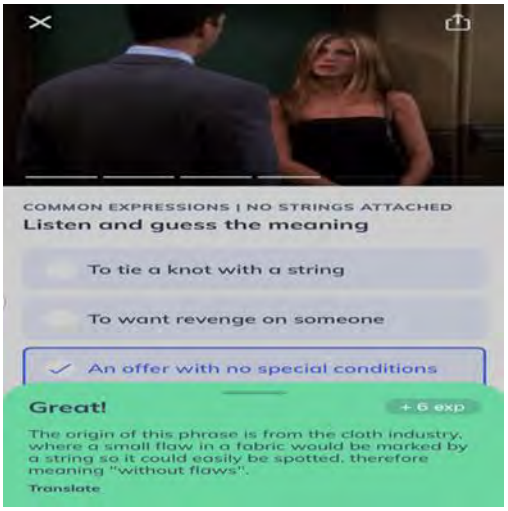
Listening Activities from Online Applications for English Learning

The participants in the current study wrote about the contents of the listening activities from their applications. Their reflections focused on the variety of the listening topics, the types of activities and the structures of the tasks that interested them. For example, Giang wrote, "TEDEd provides a range of listening topics, which enhances users' English listening and knowledge of various subjects". Linh thought Cake was helpful because "The contents of the interesting video lectures are updated every day". She also wrote, "The notes and explanations of the vocabulary appearing in the audio files at the end of the lessons are useful for my self-study". Linh's reflection on Cake's feature of explanations indicates the scaffolding role of the application since this feature aims to assist the learner in her self-directed learning. Nhu found that the TalkEnglish classification of basic, intermediate, and advanced listening lessons made it more convenient for her to choose the listening that was suitable for her learning goals. The classification also describes whether the videos are about conversational English or business English, which is quite helpful for different groups of learners. Besides the quizzes, gap filling in this application is practical because users can listen to the audio again to complete the exercises. Xuan provided details about BBC learning English, "Each video introduces only a few words, so learners may not find it difficult to learn. Besides, the practice part is for learners to reinforce the vocabulary just introduced in the videos. The application provides great access to information and short lessons and teaches users to take notes." Xuan also used the Wannalisn application of which she found the conversations of the characters in the movies and the contexts of the conversations to guess the meanings of the words quite beneficial to improve

her English listening. Xuan's reflection indicates that Wannalisn is able to mediate language users through the design of the activities that assist users in guessing words' meanings from the provided contexts. Below is a screenshot of listening and guessing the meaning of words in contexts and how the Wannalisn application explains the meaning to users:

Figure 3

Wannalisn's Feature of Listening Activities



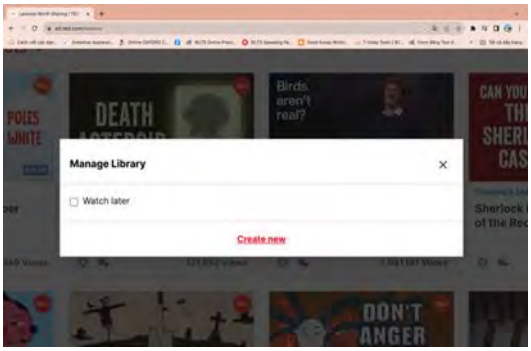
Online Applications Providing Personalized English Learning

Individual learners use most online applications on their own choices and the applications used by the students in the current study feature personalized learning by giving users hints on the levels, the activities and suggestions for learners on how to use the applications that most suit their interests and language competence. For example, Giang wrote about her learning experience with Daily Dictation, "With this application, I can choose the listening speed that suits my level. It also suggests my next self-study lessons". With TEDEd, she commented, "With the function of adding to the favourite list and replaying the favourite videos, I can keep track of my learning progress and do not miss my favourite videos for listening". Nhu practised with TalkEnglish and realized that the step-by-step instructions and tips for self-studying and improving their listening skill helped her stay goal-directed and learn effectively. Learning with British Council English podcasts, Xuan reported being able to adjust the speed of each listening lesson and copy the transcript to practice on her own. For English Central, "the

application suggests the level of users right after the application registration step", wrote Linh. Ngoc commented on the feature of "categories" in the ESL videos, "The icon of categories presents a list of topics so I can choose easily the ones that I would like to practise with." Below is a screenshot of a TEDEd feature that Giang found useful to personalize her favourite list of videos for listening:

Figure 4

TEDEd's Feature of Personalized Learning



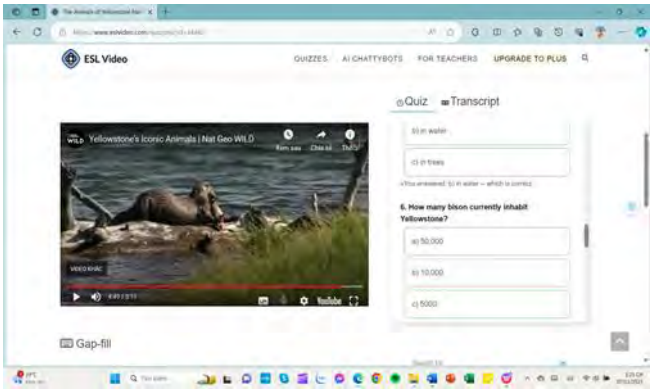
Online Applications' Feedback and Corrections to Facilitate English Listening

Users generally expect online applications to provide feedback and corrections to their listening. The participants' reflections in the 25 journals indicate that they found it helpful for their self-study if the applications provided timely, multimodal, specific and personalized feedback, and language results. For instance, Giang wrote, "English Daily provides quick, direct, and accurate feedback and marking. There is the answer section to help users self-check their listening". The score breakdown of BBC Learning English was also considered helpful by Giang because she could see the progress she was making with her English listening skills. Ngoc similarly wrote about the function of feedback and correction of British Council English Podcasts, "After practising English listening, I was able to see the results and understand the mistakes that I made from the listening. This helped me improve my listening skill". Nhu, however, expected the TalkEnglish application to give details of the correct answers at the end of the listening quizzes. Nhu considered the ESL videos to give more effective feedback and corrections. She wrote, "After listening, I could click 'see how you did' to check how many answers are correct. It also shows why an answer

is right or wrong. The application then provides a total of correct answers, helping me know my listening performance." Xuan considered the feedback from British Council English podcasts to be specific. She wrote, "Each sentence in the answer key provides information for me to determine whether what I heard is correct as the listening text shows or not". Unlike other applications, Wannalisn was reported to provide suggested answers that users just pressed. Nhu provided a screenshot from ESLvideo.com to illustrate the specific feedback:

Figure 5

ESL Video's Feature of Providing Feedback and Corrections



Mediated Learning from Online Applications by EFL Students

The interview was carried out with each participant at the end of a five-week period during which they practised the listening skill with the various applications they chose, and after they had written all five journals for five weeks. Since the participants had made reflections on the self-directed learning with the application, the interview with the prompting questions was able to elicit their detailed answers on how the features of the applications mediated their English listening learning.

Overall, the participants answered in the interviews that after five weeks of learning with the online applications, their listening skills made noticeable progress. The interviews provided interesting answers, showing emerging trends in MALL and contributing new findings to the current literature on language education. For example, Giang reported:

> Interacting with the applications and listening to audios have improved my listening skill. Thanks to the listening exercises, podcasts and conversations

> from the audios, I am able to understand English spoken in different accents.

Giang suggested that practice was necessary because it reinforced her listening skill by familiarizing her with various accents used in the applications. This was vital because the learners needed to recognize the speech in their listening practice.

Different from Giang, Linh emphasized the appropriateness of online applications for different levels of proficiency. In general, she used online applications and agreed that such applications are useful for language learning. She said:

> My English listening skill was rather weak before I started practising with the online applications. I was able to do listening comprehension exercises of the medium level. However, after the period of learning with the applications, I have seen an improvement in my listening skill because I can do more advanced exercises. To be more specific, thanks to writing dictation from listening and shadowing techniques from the audios, I have improved my listening skill.

For Linh, the progress she made in the difficulty levels of the listening activities came from practising and the techniques that scaffold users in the applications. Similarly, according to Ngoc, the accurate pronunciation and accents from the applications were the medium leading to the perceived changes in her listening skill. She revealed:

> After listening with the applications to practise English, I can see some changes in my listening skill. For instance, I am able to analyze the sentences with gap fill and learn from the standard pronunciation and accents from the audio and videos provided by the applications.

Unlike the other participants, Nhu mainly used online applications to practice listening. As Nhu noted, the tips and suggestions from the application worked like the teachers instructing her in her self-study, which contributed to her improved listening. She acknowledged her listening improvement from using online applications. She said:

> I have made progress with my English listening skill because after each listening activity, I was able to see my mistakes and suggestions to correct the mistakes provided by the application. Another feature of the online application that helps me with English listening learning is that it gives tips to do the listening activities. This feature is beneficial for self-study and gives me specific suggestions to improve my listening.

According to Xuan, passive listening to English materials led to improved English listening because she tended to be exposed to real-life situations in

which language is used. This mediated her progress in English listening and speaking. She described that her listening skills improved thanks to frequent listening to the audios on the applications at any time she liked. She reported:

> I can listen to English podcasts showing how native speakers communicate. This helps me improve not only my English listening but also my speaking skill. I believe this passive listening to English helps me live with the foreign language I am learning, pronounce words correctly, and speak naturally.

From the self-study with the applications for practising the listening skills, the participants also noticed changes in other aspects related to language learning. One aspect reported is learner autonomy. Giang said in the interview that she became more independent in adjusting her learning schedule and focusing more when learning with the applications. Besides, she felt she gained more motivation and concentration to move from an easier to a more challenging listening lesson. Linh stated in the interview that she became more flexible and mobile with her English learning with the application. She learned how to make a suitable schedule for her self-study and explore her capacity to learn English in general and listen in particular. In the interview, Ngoc mentioned that thanks to engaging in learning with online applications, she became more self-aware of the need to keep practising English and independent in planning her own study. Like Ngoc, Nhu reported a positive change in her self-study habits and a gain in motivation to learn with the applications and knowledge of the ways for effective and interesting self-study. Xuan also revealed the formation of good habits for self-study in the interview. She said that she accumulated language knowledge and skills thanks to ongoing learning every day. She also made a roadmap for her learning with the applications.

In addition to the reported learner autonomy promoted, the participants were mediated by interacting with the applications to acquire other aspects of the English language. To illustrate, Giang said in the interview that she noticed her speaking progress thanks to practising English online because she learned from imitating how native speakers used English in the video conversations. Her English vocabulary and grammar were also improved thanks to writing on the note cards provided by the applications. The interview with Xuan revealed improved speaking skills from practising listening with the online applications because the talks showed how people from different cultures communicate and express their opinions. Linh noticed that she gained knowledge from listening to the talks about special topics from BBC learning English and acquired new vocabulary related to the topics she listened to from the online applications. She also reported being more updated with what was happening thanks to the self-study with the applications. Similar to Linh, Nhu pointed out that her English vocabulary knowledge tended to increase because she picked up new words from the

listening activities. Moreover, she learned how to pronounce these words and use them in correct contexts. For Ngoc, learning to pronounce words correctly and improve her accent in speaking English made her enjoy self-study with the online applications.

Discussion

This study aims to explore the features of online applications, including BBC Learning English, TEDEd, ESLvideo.com, TalkEnglish, British Council Learning English, English Daily, Cake, Wannalisn and they assist EFL students in learning English language listening skill and the reported improvement in EFL students' listening skill and other English aspects in the light of mediation, a key concept of SCT. It used a designed coding scheme adopting and adapting the key themes from Hubbard (1996, 2006), Lee and Xiong (2023), Li et al. (2022) and Murray (2017) to examine the technological features, presentation scheme, activity types, providing personalized learning, feedback and correction to analyze the 25 journals written by five EFL university students in a period of five weeks (one journal/ a week) and five in-depth interviews with them. With this coding scheme, the current study could examine how the features of the online applications chosen by the EFL students facilitated their self-study of the English listening skill. Moreover, it enables the exploration of mediation of these features, leading to claimed improvement in the listening skill and other related aspects of language learning.

The findings indicate that after five weeks of learning with the online applications, the students' listening skill witnessed noticeable progress since the participants reported being able to do more difficult listening activities in comparison with the easier ones when they first started. The participants also claimed that their self-regulated land goal-oriented learning resulted in their development. Alzieni (2020) and Brandt (2020) explained that online learning is closely associated with self-regulation or learner autonomy. Accordingly, learners need to schedule their own learning and set specific goals for success. They can also monitor their own learning by examining their progress as pointed out by the applications regularly or periodically.

The main features of MALL, such as content, instructions, ease, accessibility, feedback and correction, were also reported by the students to mediate their English listening improvement and to facilitate their language learning in general. This finding echoes the results in the studies by Klimova and Sanda (2021), Lee and Xiong (2023 and Li et al. (2022) who pointed out that the content is one of the most important factors for an online application. Besides, these authors stated that applications should be designed to fit learners' levels and needs. The findings from the current study confirm that

to be used popularly, an online application might need to include macro-skills and micro-skills for different language proficiency levels. In addition, as Alzieni (2020) notes, instructions should be comprehensible and designed to inform users in need. Regarding ease and accessibility, Hubbard (2006, 2023) and Wang and Hsu (2020) suggest that these inherent features of online applications should evoke software or application developers. In other words, applications should not be confined to only a particular operating system but should be compatible with various mobile devices so all learners can use them. An application should be easy to purchase for a reasonable price. Neumann (2020) believes that timely feedback and correction can facilitate the user's acquisition of the intended item through the interaction between the user and technology. Murray (2017) specifies that the features of feedback and correction are timely, multimodal, specific, and personalized so that learners can gain significantly from the application in use.

The current study contributes to extending the concept of mediation in the realm of MALL. To be specific, the findings indicate that mediated learning by digital tools is multifaced. Intentionally, the participants chose the applications to practise their English listening skill. While focusing on this specific skill, they saw the side learning mediated by the self-study of the listening skill. Specifically, they reported the growth in their learning autonomy, becoming more independent and forming habits such as following a schedule to practise listening skill. Besides, they reported to enlarge their English vocabulary and expressions and some grammatical structures thanks to listening to the conversations in the audios and videos. After being exposed to accurate English pronunciation in the applications, the students thought they were more confident in speaking English.

The concept of mediation of SCT implies the transformation realized via interaction with tools. Originally, medication in SCT has been realized via scaffolding between teachers and students and between more knowledgeable and novice peers via interaction. In the context of technology-enhanced language education, when EFL students perform self-directed learning with online applications for the listening skill, scaffolding is realized via the prompts, cues, suggestions, corrections and features of applications that assist the language learners to be able to do the tasks by themselves. The current study concretizes the mediation concept by pointing out that mediation may take place online via applications with certain features applicable to a specific language skill. In the current study, the listening skill was focused and thus mediation via the technological features but more importantly, by the activity types provided in the applications and feedback scaffolded the students' learning by explaining and correcting their language mistakes. Thanks to these forms of mediation, the students claimed to see progress in their listening skill.

In general, this study contributes to the literature on MALL in general and online applications in language learning in particular. The journals, interviews, and visual analysis in the current study provide insights into what features assist students in learning the English language listening skill and how such features lead to language development in a Vietnamese context. The results have implications for the immediate context and beyond.

Conclusion

This study shed light on the mediation of the specific features of the popular applications for the self-study of the English listening skill by EFL students, including BBC Learning English, TEDEd, ESLvideo.com, TalkEnglish, British Council Learning English, English Daily, Cake, Wannalisn used by the EFL students. Data were collected from 25 journals written in five weeks by five students and five in-depth interviews with them. Despite the different design and contents, these applications were reported to mediate students' learning of the listening skill because of their features such as user-friendly and attractive interfaces, and free download and use. Since English listening requires good quality of the audios, the participants also pointed out that clear speech and standard pronunciation of the audios facilitated their listening learning. Other features including a presentation scheme with clear labels, colors, banners, and instructions to work on the applications, indirectly made the students focus on the listening activities and feel comfortable studying on these apps. For language learning, such activities as gap fill, quizzes, note taking, explaining words and expressions were reported by the students to help them know their new English listening levels and reinforced listening skill. The students also benefited from the immediate and detailed feedback on the wrong answers in their listening practice with the applications because this correction mode mediated their thinking toward using English language in doing the listening activities later on. Besides the perceived gains in the listening skill, the students revealed that they tended to develop their learner autonomy and personalized learning through the self-study process with the chosen apps.

The current study recommends that learners need training and be updated with newly launched applications to implement self-directed language learning. It might be essential that they are comfortable with technology in general and certain language learning applications in particular to effectively utilize these digital media to improve their language learning.

The current study collected purely qualitative data; its findings are thus not generalizable but provide thick layers of analysis of various aspects related to the online application features to mediate EFL students' listening learning.

Future studies conducted using the mixed-method approach will be able to provide statistical data on the listening improvement made by EFL students from learning with online applications. As the use of MALL may be associated with contextual factors and users' age, future studies can continue this research string by including participants in different age groups and contexts. Finally, this study was confined to the use of journals, interviews, and visual analysis. Future studies can provide experimental findings to show evidence of students' language improvement from using online applications.

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