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Exploring EFL Students' Self-Directed Learning of Language Skills via Online Applications

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While online applications are widely used for language learning, little is known about which features effectively support learners in developing productive skills like speaking and writing. This exploratory study examined how 10 EFL students engaged in self-directed learning using applications such as Cake, Duolingo, Elsa Speak, Grammarly, and Write&Improve over a period of one month. A coding scheme was developed to analyze the features that supported English language learning, including language activities, assessment and correction, personalized learning, and technological presentation. Data from 50 student journals and interviews revealed that the apps offered teacher-like feedback, suggested learning plans, and engaging technological features that supported autonomous learning. The students reported improvements in pronunciation, vocabulary, grammar, and fluency in speaking, as well as enhanced error detection, language use, coherence, and organization in writing. Despite occasional feelings of artificial interaction, most students found the apps beneficial for developing their language skills and guiding their learning paths effectively.

Keywords: Online applications, language skills, self-directed language learning

Introduction

With the rise of mobile language applications, EFL learners now have flexible, accessible tools to develop productive skills like speaking and writing. Understanding which app features support these skills in self-directed learning is essential (Bachiri & Oifaa, 2020; Loewen et al., 2020). While prior research highlights improvements in oral accuracy, communication, grammar, and writing (Phetsut & Waemusa, 2022; Yao, 2021), little is known about the specific functionalities that drive these gains. This study aims to explore how EFL students use online applications independently and which features most effectively support their learning of speaking and writing.

1. How do EFL students use online applications for self-directed learning of productive English language skills?

2. What features of these applications mediate their learning of productive English language skills?

Literature Review

Online Applications for Self-Directed Learning of Productive Language Skills

Research in language education has shown that app-based learning can improve productive skills, particularly grammar, vocabulary, and oral communication in English (Loewen et al., 2020). To explore how applications can support users, Hubbard and Levy (2016) proposed three key criteria for evaluating mobile assisted language learning (MALL) applications: technological features, activity types, and presentational schemes. Technological features refer to ease of installation and platform compatibility. Activity types include quizzes, text construction, and problem-solving tasks. Presentational schemes cover user interface design, timing, feedback, and input handling, or the elements that shape overall usability and learner interaction.

As apps have become more specialized, Chen (2016) and Criollo-C et al. (2022) identified additional features for speaking-focused applications: quality content aligned with learners' levels, pedagogical coherence, effective feedback and self-correction, engaging design for motivation, ease of use, and customization options such as font size and layout. For writing, other features, such as performance scoring and detailed error feedback (Wilson & Roscoe, 2020; Yao, 2021) replicating teacher input to guide self-directed development are emphasized. This study adapted these frameworks to guide the development of a coding tool as in Table 1.

TABLE 1
Features of Online Applications for Self-Directed Learning of Productive Language Skills

Authors	Features	Details
Chen (2016); Criollo-C et al. (2022); Hubbard and Levy (2016)	Language activities and contents	Quizzes; text reconstruction; text construction; and problem-solving.
Chen (2016); Wilson & Roscoe, (2020); Yao (2021)	Assessment and correction	Scoring performance; error feedback; error detection and correction.
Bahari (2021)	Personalized learning	Tracking learner progress and suggesting appropriate levels or activities.
Chen (2016); Criollo-C et al. (2022); Hubbard and Levy (2016)	Technological presentations	Interface and usability features, including timing, control options, feedback, and user input.

Theoretical Framework

This study combined MALL and self-directed learning (SDL) as the theoretical framework. From a MALL perspective, mobile applications are mediational tools providing structured language activities, automated feedback, and technological affordances that support language development beyond the classroom (Chen, 2016; Hubbard & Levy, 2016). Viewed from SDL perspective, learners are active agents who assume responsibility for planning, monitoring, and evaluating their learning. In this study, application features such as feedback, personalization, and progress tracking are conceptualized as resources that scaffold EFL students' SDL of speaking and writing. These complementary perspectives inform the coding framework and guide the interpretation of how application features mediate EFL students' productive language learning.

Previous Studies

There is increasing interest in the use of mobile applications for developing productive skills such as speaking and writing (Bachiri & Oifaa, 2020). Studies have shown the benefits of MALL in English and Spanish learning. For example, Phetsut and Waemusa (2022) found that a WhatsApp-based intervention significantly improved Thai EFL learners' oral accuracy through dynamic assessment tasks.

In writing, Vijayan and Corbita (2025) reported that mobile apps like Google Translate and Grammarly supported EFL learners' idea generation and accuracy in writing. However, they also identified a gap between students' awareness of these tools and their actual use, highlighting the need for better training in integrating mobile technologies effectively. Yao (2021) examined WriteToLearn with Chinese undergraduates and noted that although the app provided consistent scoring and quick feedback, it was harsher than human raters and had difficulty identifying off-topic responses. These findings suggest that while automated tools can assist writing, they require pedagogical support to ensure meaningful feedback.

Overall, these studies indicate the potential of mobile applications for productive skill development while highlighting the need to examine how specific application features support self-directed learning.

Method

This mixed-methods study was carried out over one month period with 10 second-year university students in Vietnam, aged 19-20, majoring in English language-related fields. Their English proficiency ranged from B1 to B2 (CEFR), and all were familiar with using online applications to study English speaking and writing.

Each student kept a journal after using a mobile app of their choice, resulting in 50 entries. Prior to journaling, they confirmed regular use of language learning apps and received guidance on how to reflect on their learning experiences. Journal entries included app names, time spent, screenshots, and reflections on how specific features supported their language skill development. After journal completion, interviews were conducted to further explore the students' SDL experiences, perceived skill improvements, and the most helpful app features.

Thematic analysis was applied to both journal and interview data to identify common themes related to app features such as technological tools, content design, feedback, and personalization. Screenshots provided additional evidence. The coding framework was synthesized from prior evaluation models in MALL (see Table 1). The initial coding scheme was piloted with a subset of journal entries to refine category boundaries and reduce overlap. Instances reflecting both positive and critical learner experiences were included to ensure analytic balance. Existing frameworks tend to examine technological or pedagogical features in isolation and do not fully address their combined role in supporting self-directed learning of productive language skills.

TABLE 2
Coding Scheme

Features	Operational definition	Indicators / Sub-features	Examples from the study's data
Language activities and contents	Types of learning tasks and instructional materials provided by applications.	Quizzes; conversation simulations; writing prompts; model texts; level-based tasks.	Positive: Write&Improve provides a variety of writing tasks and prompts to practice different types of writing. Critical: Some tasks are repetitive and do not match my learning needs.
Assessment and correction	Automated mechanisms that evaluate learner performance and provide corrective feedback.	Error detection; scoring systems; pronunciation evaluation; grammar and coherence feedback.	Postive: The platform highlights my errors in grammar, spelling, and punctuation, helping me understand and correct my mistakes. Critical: Too many highlighted corrections made the feedback difficult to understand.
Personalized learning	Adaptive features that adjust content, feedback, or learning paths	Placement tests; progress tracking; suggested learning plans; goal setting.	Positive: Duolingo analyzed my writing skill level and suggested more challenging activities.

	based on learners' proficiency, goals, or progress.		Critical: The suggested learning path sometimes felt too advanced
Technological presentations	Interface and usability features that support learner interaction with applications.	Recording tools; subtitles; timers; visual feedback; interface layout.	Positive: Speech recording from Cake was useful for my English-speaking learning. Critical: Some visual feedback was unclear and hard to interpret

Results

The results were drawn from the students' journals, interview transcripts, and documented app-use records, including application names, session duration, and screenshot evidence to enable cross-verification of reported learning activities and application features.

EFL Students' Self-Directed Learning of Productive Language Skills From Online Applications

Journal data show that the 10 students used laptops and mobile phones for 25 minutes to two hours per session to study English speaking and writing. For writing, they used applications such as Grammarly, ProWritingAid, Scribbr, Write, British Council Learn English, Write&Improve, and EnglishClub to practice writing sentences, paragraphs, emails, and essays, including opinion, descriptive, and cause-effect types.

For speaking, the students used Cake, ABA English, Duolingo, Elsa Speak, and LearnEnglish to improve pronunciation, stress, and real-life communication. They practiced functional language like advising and expressing emotions, with vocabulary topics covering education, fashion, holidays, and politics. Many used speech recording features and received automated feedback. Trang shared, "Speech recording and feedback on my English pronunciation from Cake were useful for my English speaking." (Trang, journal). Ly appreciated Duolingo's scaffolded lessons for gradual progress. While some students found corrections helpful, Linh and Tram noted that app interactions lacked the dynamism of classroom learning. Trang and others struggled with unclear feedback, often replaying it for better understanding.

Writing sessions ranged from 30 minutes to two hours. Students practiced vocabulary, sentence structure, spelling, error correction, and revision. Huyen reflected, "When I learn with Grammarly, I learn to diversify my word choices and improve my writing quality" (Huyen, Journal). She used ProWritingAid for grammar and spelling. Linh and Thanh used EnglishClub and Grammarly for simpler sentence writing and grammar correction, also referring to model texts for support.

Features of Online Applications Mediating EFL Students' Learning of Productive English Language Skills

Language activities and contents

Since language activities and contents are what users practice with, the EFL students wrote reflections on these features frequently. Table 3 below summarizes their opinions.

TABLE 3
EFL Students' Reflections on Application Activities and Contents for English Speaking

Student	App	Application feature: Language activities and contents
Diem	Cake	The app presents a conversation and highlights the vocabulary and grammatical points in the conversation for me to remember and review easily.
Anh	LearnEnglish	There are different levels and diverse topics for me to choose.
Ly	Duolingo	The application provides the IPA phonetic table to help me learn pronunciation.
Oanh	Elsa	The application introduces specific situations close to everyday life, which helps me to understand easily.
Phuong	Elsa	After the lesson, Elsa provides lessons, games, and conversations for me to review the lesson.

The students reflected on the speaking skills they developed using the four applications including Cake, LearnEnglish, Elsa, and Duolingo. Each application provided users with different kinds of activities and content that they found useful for their learning of English speaking skills.

TABLE 4
EFL Students' Reflections on Applications' Features of Activities and Contents for Learning English Writing

Student	App	Application feature: Language activities and contents
Huyen	Write and Improve	I was able to practice different types of writing such as essays, emails, report and more with Write and Improve.
Linh	LearnEnglish	LearnEnglish provides the preparation and tips before writing.
Thanh	LearnEnglish	The sample writings from this app are useful to learn ideas, question types, and various writing topics.
Tram	Grammarly	The AI assistant assisted me with making outlines for my writing.
	TestingWriting	The app provides various writing tasks and questions which I find a great source of reference. I also like the writing tips.
Tuyet	LearnEnglish	I learned how to write formal emails as the application guides me on how to write the contents and sample sentences. For essays, it provides sample essays and tips.

As can be seen from Table 4, the students used six applications to learn the writing skill. The students reported finding the features of the contents on the applications in various stages of the writing from making an outline to revising and editing useful to them.

Overall, viewed through the coding category of language activities and contents, the findings presented in Tables 3 and 4 indicate that task variety and contextualized input functions as key mediational resources supporting the students' SDL of the language skills. However, the perceived usefulness of these activities varied depending on task repetition and alignment with individual learning needs, indicating that activity variety alone did not guarantee effective SDL.

Assessment and feedback

Since applications serve as online instructors for online learners, feedback and assessment from these applications are necessary for students' learning and improvement of their language skills. The EFL students'

reflections are summarized in Table 5 below.

TABLE 5
EFL Students' reflections on Applications' Features of Assessment and Feedback for Learning English Speaking

Student	App	Application feature: Assessment and feedback
Diem	Cake	The app records my speech and analyzes my mistakes in English pronunciation. It then gives immediate feedback for me to improve pronunciation.
Anh	LearnEnglish	The app always gives feedback so I can choose to do it again if it is not correct.
Ly	Duolingo	The application gives me compliments and awards when I have completed an activity, which motivated me to practice more.
Oanh	Elsa	The app helped me correct my pronunciation errors and intonation in using English.
Phuong	Elsa	Elsa corrected the wrongly-pronounced words very clearly and provided an evaluation scheme on a scale of 100.

The EFL students' reflections in Table 5 indicate that they highly appreciated the corrections and feedback from the application to improve their pronunciation in English.

TABLE 6
EFL Students' Reflections on Applications' Features of Assessment and Feedback in Learning English Writing

Student	App	Application feature: Assessment and feedback
Huyen	Grammarly	Grammarly detects and corrects grammar and spelling errors, which helps me improve the overall quality of my writing.
Huyen	Scribbr	The app helped me with suggestions for better organization of ideas.
Linh	Write&Improve	The virtual assistant gives instant feedback on my writing. It analyzes my learning process to help me realize my weaknesses and strengths in writing.
Thanh	Grammarly	When I have completed my writing on the application, the app gives suggestions on synonyms.
Tram	TestingWriting	During my writing, the virtual assistant highlighted the repeated words in my writing so that I could avoid them.
Tuyet	Write&Improve	The application bolds the incorrect sentences in my writing so I can revise those sentences until there are no more bold sentences.

The students' comments revealed that app-based feedback improved their grammar, spelling, vocabulary, and coherence, offering guidance on organizing ideas from sentence to essay level and enhancing overall writing clarity and accuracy.

However, the five students reported feeling overwhelmed by dense corrective markings and advanced lexical suggestions, indicating that automated feedback was not always immediately comprehensible. These reflections illustrate variability in learners' engagement with AI-generated evaluation.

In general, viewed from the assessment and correction dimension, automated feedback operated as a form of instructional mediation, enabling the students to independently notice errors and attempt self-correction. At the same time, reports of overwhelming feedback highlight a boundary condition of AI-mediated assessment, where excessive correction reduced learners' ability to meaningfully engage with feedback during their SDL learning.

Personalized learning

The EFL students emphasized how certain applications offered customized study plans. For speaking, Ly shared, "First, Duolingo gives some questions to check my English level at the beginning and then it suggests suitable lessons. It also helped me to plan my targets in learning English speaking. Usually, at the

beginning of each lesson, the application makes me think about the target and helps me to complete the lessons" (Ly, journal). Similarly, Phuong commented on Elsa: "When I started to use Elsa, I had to do a test to know my level. The application would evaluate my speaking level and then provide a plan for me to learn with it. It also visualizes the time that I have spent learning speaking with it and what I have learned from it via some visuals" (Phuong, journal).

For writing, Huyen noted that Grammarly "gives personalized writing suggestions based on her goals." She also used ProWritingAid, reflecting, "The platform provides writing tasks at different levels of difficulty, allowing me to progress gradually and challenge myself" (Huyen, journal). However, five students reported feeling overwhelmed by the extensive feedback provided by Grammarly and Write & Improve. They found the highlighted and underlined corrections difficult to interpret, describing them as overly advanced and resembling native-speaker usage.

Overall, the applications helped learners identify their proficiency levels, suggested suitable materials, and provided structured learning plans to guide progress in speaking and writing skills. Analytically, these findings indicate that personalization features supported learners' goal-setting and planning processes, core components of self-directed learning, although mismatches between suggested levels and learner readiness occasionally disrupted sustained engagement.

Technological presentations

The EFL students reflected on the technological features of various applications that supported their English speaking and writing practice. Diem and Phuong used Cake and found the recording function especially helpful for improving pronunciation. Similarly, Anh appreciated the subtitle icon on LearnEnglish, noting that it helped her follow conversations in the videos.

In writing practice, the timer function was highlighted as a useful feature in Write&Improve and TestingWriting. Linh noted, "The Write&Improve application provides a timer so that I could know the time I am using for my writing." Tuyet also valued this feature in TestingWriting for helping her track writing time. Besides, the students commented on the user-friendliness of certain platforms. Huyen wrote, "Sribbr's online platform is designed to be user-friendly, making it easy for users to submit their documents and receive edited versions."

Overall, features such as recording, subtitles, timers, and intuitive interfaces were appreciated by students for supporting easy navigation and effective use of the applications in learning English speaking and writing skills.

Reported Learning in Productive Language Skills After Learning With Online Applications

The EFL students who engaged in self-study using online applications reported noticeable improvement in their speaking skills, including pronunciation and contextual language use. For instance, Diem noted that the contents and activities provided by Cake were helpful, especially in practicing pronunciation and applying English in various contexts. Ly also shared the benefits of self-directed learning, "After using the online applications for self-study, I have formed a good habit of self-study every day to improve myself in my speaking skills." Ly's comment suggests a strong focus on consistent self-practice leading to progress.

Regarding writing skills, the students highlighted the value of sample writing models, feedback, and correction features. Huyen stated, "Grammarly and Vocabulary.com provided me with immediate feedback on sentence structures and feedback as well as grammatical structures and vocabulary for me to improve my writing skills" (Huyen, interview). Similarly, Linh shared that using applications helped her understand and apply essay structures, vocabulary, and grammar more accurately.

Discussion

This study explored how EFL students used online applications for SLD of speaking and writing skills. Drawing on the synthesized coding framework, the findings indicate that EFL students' SDL was mediated through four interrelated application features: language activities and contents, assessment and correction, personalized learning, and technological presentations. Rather than functioning merely as practice tools, these features collectively shaped how the students planned, monitored, and evaluated their speaking and writing development. From an SDL perspective, task variety and contextualized activities supported learners' strategic resource selection and sustained engagement, both of which are central to autonomous language learning.

Assessment and correction features were particularly valued. Speaking apps such as Cake, ABA English, Duolingo, and Elsa Speak provided pronunciation feedback by comparing user output to native models. Writing apps like Grammarly, ProWritingAid, Scribbr, and Write offered real-time feedback on grammar, spelling, coherence, and organization. This teacher-like function of automated feedback aligns with Wilson and Roscoe's (2020) account of automated writing evaluation as a compensatory instructional resource, particularly salient in self-directed contexts. The teacher-like feedback reported by the students in this study aligns with MALL research on automated evaluative mediation, suggesting that feedback functions as a scaffold for independent error noticing in the absence of immediate teacher support.

Personalized learning provided by the applications assessed students' proficiency levels and provided appropriate content, helping learners progress without constant teacher input. Technological features such as user-friendly interfaces, timers, recording tools, subtitles, and error highlighting further enhanced motivation and usability (Chen, 2016; Criollo-C et al., 2022; Hubbard & Levy, 2016). These findings reflect key SDL principles of goal-setting and self-monitoring; however, mismatches between suggested levels and learner readiness indicate that algorithmic personalization does not fully replace pedagogical judgment.

Despite the benefits, some students found app interactions less dynamic than classroom learning, revealing a socio-affective gap in AI-mediated instruction; others struggled with understanding automated feedback and needed repeated engagement. The reported socio-affective gap suggests that while applications effectively mediated cognitive aspects of language learning, they were less successful in supporting affective and interactional dimensions in regular classroom settings. This tension underscores an important limitation of AI-supported SDL and points to the need for designs that integrate more socially responsive feedback mechanisms.

Conclusion

The findings reveal that the variety of activities, teacher-like feedback and assessment, personalized learning plans, and the technological design features motivated and guided the students in self-study with the applications. The results emphasize the critical need for consideration of both the pedagogical implications and the user experience when integrating AI tools into language education, with the ultimate goal of ensuring these technologies are supportive and readily comprehensible for learners. The findings suggest that mobile applications may be most effective when integrated as pedagogical supplements rather than standalone learning tools. Teachers can guide students in interpreting automated feedback, aligning app-based activities with curricular goals, and reflecting on progress during classroom instruction. In addition, combining application-based practice with peer interaction or teacher feedback may help address the socio-affective limitations of self-directed, technology-mediated learning. Future research could examine learning outcomes in relation to specific application features.

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References

Bachiri, H., & Oifaa, T. (2020). The role of ICT in the teaching of productive skills in English during COVID-19: Teachers' perceptions and obstacles. *Linguistic Forum, 2*(2), 35–44.

Bahari, A. (2021). Computer-mediated feedback for L2 learners: Challenges versus affordances. *Journal of Computer Assisted Learning, 37*(1), 24–38. https://doi.org/10.1111/jcal.12481

Chen, X. (2016). Evaluating language-learning mobile apps for second-language learners. *Journal of Educational Technology Development and Exchange, 9*(2), 39–51. https://doi.org/10.18785/jetde.0902.03

Criollo-C, S., Guerrero-Arias, A., Vidal, J., Jaramillo-Alcazar, Á., & Luján-Mora, S. (2022). A hybrid methodology to improve speaking skills in English language learning using mobile applications. *Applied Sciences, 12*(18), 9311. https://doi.org/10.3390/app12189311

Hubbard, P., & Levy, M. (2016). Theory in computer-assisted language learning research and practice. In F. Farr & W. Murray (Eds.), *The Routledge handbook of language learning and technology* (pp. 24–38). Routledge.

Loewen, S., Isbell, D. R., & Sporn, Z. (2020). The effectiveness of app-based language instruction for developing receptive linguistic knowledge and oral communicative ability. *Foreign Language Annals, 53*(2), 209–233. https://doi.org/10.1111/flan.12454

Phetsut, P., & Waemusa, Z. (2022). Effectiveness of mobile assisted language learning (MALL)-based intervention on developing Thai EFL learners' oral accuracy. *International Journal of Technology in Education, 5*(4), 571–585. https://doi.org/10.46328/ijte.271

Vijayan, P. M., & Corbita, D. P. (2025). Exploring the potential of mobile apps for enhancing self-regulated learning in English writing skills among 21st-century Omani students. In *Innovative and intelligent digital technologies: Towards an increased efficiency: Volume 2* (pp. 137–144). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-71649-2_11

Wilson, J., & Roscoe, R. D. (2020). Automated writing evaluation and feedback: Multiple metrics of efficacy. *Journal of Educational Computing Research, 58*(1), 87–125. https://doi.org/10.1177/0735633119830764

Yao, D. (2021). Automated writing evaluation for ESL learners: A case study of Pigai system. *The Journal of AsiaTEFL, 18*(3), 949–958. https://doi.org/10.18823/asiatefl.2021.18.3.14.949

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