Enhancing EFL Writing Skills Through Technology: An Evaluation of EPSS Multimedia Lab and CleverCookie

La mejora de las habilidades de escritura en EFL a través de la tecnología: Una evaluación de EPSS Multimedia Lab y CleverCookie

Milagros Torrado Cespón*
Universidad Internacional de La Rioja, Spain
Email: milagros.torrado@unir.net

José María Díaz Lage
Universidad Nacional de Educación a Distancia, Spain
Email: josem.diaz.lage@flog.uned.es

Abstract: The widespread use of the Internet has significantly influenced written language, particularly in online communication. This study explores the impact of digital writing on English as a Foreign Language (EFL) learners, focusing on two online tools designed for Spanish-speaking users: *EPSS Multimedia Lab* and *CleverCookie*. The research examines how these tools contribute to improving students' grammatical accuracy and phonetic awareness in online environments. A mixed-methods approach was employed, with 145 university students divided into two groups: G1(n= 76), specialising in English Studies, assessed *EPSS Multimedia Lab*, while G2 (n=69), comprising pre-service primary school teachers, evaluated *CleverCookie*. Data were collected through qualitative surveys, where participants provided feedback on the strengths and limitations of each tool. Results indicate that *EPSS Multimedia Lab* was particularly beneficial for phonetic training, with students appreciating its structured exercises and accessibility. However, they also identified issues such as limited accent variety and transcription errors. *CleverCookie* was praised for its clarity, simplicity, and bilingual support, but students expressed the need for more interactive content and a broader range of topics. The findings underscore the necessity of continuous improvements in digital language-learning tools. Future developments will focus on expanding content, increasing interactivity, and integrating adaptive learning features to better cater to student needs.

Keywords: Digital Writing in EFL, Online Language Learning Tools, Technology-Enhanced Language Learning (TELL), EFL Learners.

Resumen: El uso generalizado de Internet ha influido significativamente en la escritura, especialmente en la comunicación en línea. Este estudio explora el impacto de la escritura digital en los estudiantes de inglés como lengua extranjera (ILE), centrándose en dos herramientas diseñadas para hablantes de español: *EPSS Multimedia Lab* y *CleverCookie*. La investigación analiza cómo estas herramientas contribuyen a mejorar la precisión gramatical y la conciencia fonética de los estudiantes en entornos digitales. Se empleó un enfoque de métodos mixtos, con 145 estudiantes universitarios divididos en dos grupos: G1 (n= 76), compuesto por estudiantes de Estudios Ingleses, evaluó *EPSS Multimedia Lab*, mientras que G2 (n=69), formado por futuros maestros de primaria, evaluó *CleverCookie*. Se recopilaron datos a través de encuestas cualitativas, donde los participantes proporcionaron comentarios sobre las fortalezas y limitaciones de cada herramienta. Los resultados indican que *EPSS Multimedia Lab* fue especialmente beneficiosa para el entrenamiento fonético, destacando sus ejercicios estructurados y accesibilidad. No obstante, los estudiantes identificaron limitaciones como la variedad de acentos y errores de transcripción. *CleverCookie* fue valorada por su claridad, simplicidad y soporte bilingüe, aunque se destacó la necesidad de mayor interactividad y una ampliación de los temas abordados. Los hallazgos subrayan la necesidad de mejoras continuas en las herramientas digitales de aprendizaje de idiomas.

Futuras actualizaciones se centrarán en expandir el contenido, aumentar la interactividad e integrar características de aprendizaje adaptativo para satisfacer mejor las necesidades de los estudiantes.

Palabras clave: Escritura digital, Herramientas de aprendizaje en línea, Aprendizaje de lenguas mediado por tecnología (TELL), Aprendices de ILE.

1. Introduction

The Internet has changed reading habits (Castillo Rodríguez & Santos Díaz, 2022; Dai Luong, 2021; Kucirkova & Littleton, 2016; Obaidullah & Rahman, 2018; Sarkhel & Das, 2010; Shimray, Keerti & Ramaiah, 2015; Spjeldnæs & Karlsen, 2024; Varga, 2020), not only when we talk about hardware (tablets, e-readers) or formats (online newspapers, blogs) but also about who does the writing. In the connected world, everyone with Internet access can write and read. However, this does not imply that these users provide readers with correct examples of language practice. The problem is that readers can consider those productions as correct examples of language when they are written by people with very different writing skills and from different linguistic backgrounds. It is also worth noting the importance of short productions (messages, social network comments), which aim at being quick and simple and are, after all, examples of written language. Teachers must bear in mind that we are dealing with a kind of communication that cannot, of course, be considered as spoken language, but that is not fully written language either. Since our students are active in this environment, we must be aware of the linguistic problems it may entail. First, it is necessary to be aware of how language has changed to accommodate a virtual world, resulting in a kind of new language (Androutsopoulos, 2011; Nilnarong, 2024; Tagliamonte & Denis, 2008), which Crystal (2001) named netspeak. By analysing the changes that the Internet has caused in the way we use language, we must reflect on whether there is, or is not, a need to enhance grammatical accuracy in online contexts.

This paper explores the problem from the perspective of the EFL teacher, who observes how the language taught in class differs from the way in which students use the language when writing online. The use of Netspeak is not specifically attributable to users of foreign languages, but using a new language complicates the situation: the result is thus not clearly a consequence of the poor command or the simplicity and abbreviation provided by computer-mediated communication (Torrado-Cespón, 2018). As a way of improving this situation, this paper analyses two online tools, the English Pronunciation for Speakers of Spanish Multimedia Lab (*EPSS Multimedia Lab* henceforth) (Gómez González et al., 2016/2019) and CleverCookie, English Language Resources for Speakers of Spanish (*CleverCookie* henceforth) (Torrado-Cespón, 2021), to work on grammar and spelling, respectively.

1.1. English as an additional language and writing online

The possibility of communicating with any part of the world, if it is connected to the World Wide Web, is one of the great achievements of the last decades. There is no need to wait for a letter which, depending on the circumstances, could take months to arrive or even not arrive at all. The Internet has provided society with an immediacy which is not limited to writing: it may feature a phone call, which is restricted to the spoken medium. Good as this may seem, having instant access to information also

implies problems in communication by offering unverified information (Ejue & Etim, 2024; Graham & Metaxas, 2003; Noviza, 2020). In this case, providing our students with critical thinking skills will help them manage the large amount of controversial information they may find online. It is not a matter of telling them what is reliable and what is not, but of, for example, helping them find the tools to do some research before sharing a piece of information on social networks. Students, especially young ones, need to build their opinions free from prejudices and indoctrination, so learning how to contrast information is a must in the 21st-century classroom.

Another positive possibility of the Internet is that it facilitates pluricultural spaces that favour intercultural exchange, such as online games (Otto, 2019) or forums where people from all over the world can participate. As a result, users from different backgrounds, both linguistic and cultural, are required to shape their discourse to the needs of others (Jones & Hafner, 2012) and to use their writing style and linguistic limitations when using a foreign language.

Written and oral language are not crafted in the same way. Whilst the first is typically the result of reflection and revision, the second is more spontaneous. Consequently, we do not express ourselves in the same way when using these registers. Orality uses intonation and pitch, and what is more remarkable is that it can use broken grammatical constructions yet convey whole meanings. On the other hand, written language is characterised by clarity and grammatical accuracy. However, the Internet has changed this, showing a situation where correctness in writing is not usually required or even expected. One of the reasons is the way in which communication is transmitted:

- Asynchronous communication: The message is not designed to be immediately seen or answered. E-mails are one example. The language here tends to be closer to conventional written language.
- Synchronous communication: The message is prepared to be immediately seen or answered. Chats are one example. The language here tends to be closer to oral speech, with little time to monitor its correctness.

The Internet has an obvious effect on the way we use language. The language found in chats or other synchronous ways of internet communication tends to be simple and abbreviated. Crystal (2001) had already noted that capitalisation is often ignored in this medium, even in the case of first-person singular pronouns. However, mistakes are also present in asynchronous online communication, and this results in a careless appearance that undermines the real value of the message (Torrado-Cespón, 2018). In this case, it is worth noting the influence of synchronous communication and the fact that the processing our brain goes through is not the same when using a keyboard as when we rely on pen and paper (Magen & Velay, 2014; Støle, Mangen & Schwippert, 2020).

This type of language tries to be fast and, in synchronous communication, reflect orality. The problem here is the lack of non-verbal signs, such as intonation, facial expressions and other contextual clues. As a result, confusion arises depending on the emotional state of the reader, who only has plain text. Among the techniques the user employs to overcome ambiguity, we find parentheses with clarifications, the use of emoticons or memes. The question of language ambiguity is especially relevant in internet-mediated communication (IMC), which influences the interpretation of written text.

As a result of these demands, languages have adapted themselves to the

requirements of the Internet. According to Crystal (2011), the Internet has influenced English in many aspects. Grammar seems to be least affected. In this case, no new constructions are created, and grammatical inaccuracies are to be analysed from a lack of competence perspective, but they are frequent and public. Vocabulary and orthography do show changes. However, the Internet has also influenced the way we read or the type of texts that we are most likely to read. Baron and Mangen (2021) observed how long-form reading diminishes in academic contexts, and they point to the direct influence of digital technologies. Digital technologies encourage shorter formats for information to maintain the sustained attention of the reader or viewer because of media multitasking (Cilliers, 2017; Firth et al., 2019; Hobbiss & Lavie, 2024), but they also tend to lead to a more superficial approach to the text (Baron, 2021). Alarming as this may sound, the fact is that, as teachers, we must face the situation and reformulate the way we teach if necessary.

1.2. Online tools to improve written skills

Netspeak has changed quite a lot since Crystal's work was published. In the current Internet language, we use fewer abbreviations, but more mistakes appear. One of the reasons for this is the use of autocorrection software in smartphones, the preferred way of accessing the Internet, especially social media (Seitz, 2024). During the past decade, we have seen how the Internet stopped being a domain of computers and became a resource in the palm of our hands. Smartphones include autocorrection software, which makes the use of abbreviations difficult but, conversely, leads to word confusion due to the lack of predictive text. This is obvious in super synchronous communication, such as WhatsApp.

Consequently, the expected result of autocorrection software happens to have a contrary effect. Instead, due to this resource, especially in word processors, users tend to revise less and trust text replacement. However, this type of software is not available in all instances, and, as a result, spelling mistakes are frequent on sites where the text is not self-corrected.

An online setting provides a stress-free environment where students get involved in topics which are truly interesting to them, and they are not under pressure to write correctly. The question of whether we should correct our students' misuse of the language arises. The fact is that even if we want to bring as much reality into the classroom as possible, the classroom is not an authentic environment regarding language use. As EFL teachers, we want our students to use the language accurately, so we must guide them to correctness. This does not mean that, in an appropriate situation, we cannot allow them to use the language less strictly. This type of activity can be used later for metalinguistic reflection and feedback about error analysis with our students. Thus, we can check whether they are committing mistakes because of unawareness, because they are copying the patterns used in IMC, or because IMC plays a role in itself. If the case is the latter, proofreading seems to be the solution.

According to previous research carried out by the authors of this paper (Torrado-Cespón & Díaz-Lage, 2017), we must resist the urge to constantly correct those mistakes, as this would turn the learning of a language and its use into an unpleasant experience: it is the duty of the educator to use correction constructively. Errors are an indication that the target language is still being acquired, and, as teachers, we

must view them as a natural and correct part of the process. Teachers must use resources wisely according to the needs of their students.

Among the online tools that can improve students' performance, it is worth noting the existence of autocorrective software that solves most linguistic situations. A good example of this is Grammarly (Shevchenko, Lytvyn & Lider, 2009), a celebrated app that corrects mistakes when users write online and provides them with suggestions for improving their text. This application is based on standard varieties of English, which gives written production a more polished aspect by ditching the use of netspeak.

On the other hand, the Internet also offers a high number of learning sites addressed to learners or users of EFL. The two resources in this study belong to this category. What is novel about them is the fact that they were designed by EFL teachers considering the needs of speakers of Spanish. EPSS Multimedia Lab (Goméz González et al., 2016/2019) and CleverCookie (Torrado-Cespón, 2021) are two tools which complement each other. Whilst the first is based on a detailed analysis of English language pronunciation, the second has been designed considering the demands of users regarding grammar and morphology.

2. Method

This section aims to explain two resources that can facilitate EFL use online. These two tools were tested with real students to do so. However, before explaining the methodology in detail, it is necessary to describe the tools.

2.1. EPSS Multimedia Lab

EPSS Multimedia Lab (Goméz González et al., 2016/2019) is a website entirely devoted to teaching and learning English phonetics and phonology. It was developed by Scimitar —a forum for international cooperation among researchers and coordinated by Prof. Gómez González (Universidade de Santiago de Compostela). It was created following the needs of university Spanish-speaking students of English phonetics and phonology to facilitate the comparison between English and Spanish phonemes as a companion to Gómez González and Sánchez Roura's (2016) book on the same topic. To do so, it offers a detailed description of each phoneme and its nearest Spanish equivalent, providing them with visual and auditory training and immediate samples (Figure 1).

Moreover, each phoneme is accompanied by sample sentences and spellings where the phonemes appear. This results in great help for students and the public as it provides them with implicit rules of English spelling, which in turn helps students improve their written performances online. Considering the needs of online users referred to in section 2 above, the *EPSS Multimedia Lab* is a multimodal tool that can serve as a source of information (written, spoken, and visual) and a self-assessment resource. All the sounds and characteristics explained in the sound bank appear in the exercises section, divided into seven units, further split into written and audio exercises. This division corresponds to the book considering the logical process of learning (Gómez González & Sánchez Roura, 2016):

- Unit 1: Phonetics and phonology.
- Unit 2: The production and classification of speech sounds
- Unit 3: Vowels and vowel glides.

- Unit 4: Consonants.
- Unit 5: Segment dynamics: Aspects of connected speech.
- Unit 6: Beyond the segment: stress, rhythm and intonation.
- Unit 7: Predicting Pronunciation from Spelling (and vice versa)

Considering the topic of this paper, unit 7 is a must for all users. These exercises include the correct answers and provide users with immediate feedback.

Figure 1: Sample page from soundbank of the EPSS Multimedia Lab. https://www. usc.gal/multimlab/sound_bank/vowels/turned_v.html
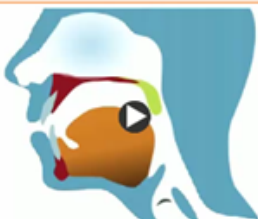

2.2. CleverCookie

CleverCookie was created based on the most frequent mistakes made by students when using English in their written interventions in online forums. These forums were compiled as a learner corpus (Castillo-Rodríguez & Díaz-Lage, 2015) and later analysed using a corpus management tool (Antconc). *CleverCookie* is the result of
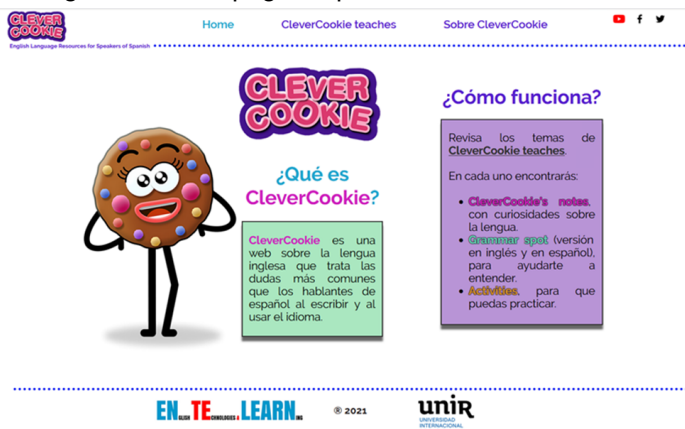
a study that began in 2014 and aims to increase the number of its resources in the coming years. The tool is still in its initial phase, so there are only eleven videos included, all based on previous work:

- Capitalisation in English.
- -ing and to-infinitive structures.
- Inversion in non-direct questions.
- Misuses of the verb be.
- Collocations with do.
- Adverbs.
- Uses of the definite article.
- Irregular plurals.
- False friends.
- Must vs have to.
- Third-person singular verbs.

The objective is to provide the user with an enjoyable, easy, and fast tool to solve the little doubts that arise when the English language is used in written form, especially in online environments. The tool is published on a web page (www.*CleverCookie* .es) (fig. 2), and all the videos are included in a YouTube channel (https://www.youtube.com/@*CleverCookie* ENTELEARN/featured where *CleverCookie*, a speaker of Spanish, revises the aforementioned mistakes in the section *CleverCookie* teaches. This section is further divided into:

- *CleverCookie* 's notes, including the videos where *CleverCookie* provides explanations on the most frequent errors in less than two minutes to optimise the attention span of the user (Cilliers, 2017; Firth et al., 2019; Hobbiss & Lavie, 2024; Rothman, 2016). In this section, there are also details about the topic, from historical reasons to curiosities and further data that the learner may find interesting. The objective of this section is to solve the doubts whilst providing written information, which can lead to further reading about the topic.
- Grammar spot (version in English and Spanish) to ease understanding for the adult audience whose level does not exceed B1. The existence of a Spanish version of the grammatical explanation is based on the need for explicit grammatical references in adult language teaching (Shabaka-Fernández, 2021; Turnbull, 2018).
- Simple activities to revise the contents.
- *CleverCookie* is designed with Spanish speakers in mind and addresses some of their most common needs when using the English language. It is a tool for anyone who uses English to express themselves, but especially for:
- Adults or secondary school students: students of English or of subjects whose vehicular language is English.
- Users of the English language in general who have doubts.

Considering that the research group's objective is to create a useful tool for Spanish speakers, more content will be added after the initial assessment. For this purpose, the beta version of *CleverCookie* was voluntarily evaluated by 68 university students using a Google questionnaire in November 2021. All of them were pre-service teachers, and in general terms, the tool was awarded 4.23 points out of 5 on a Likert scale.

Figure 2: Home page. https://www.CleverCookie.es/

2.3. Participants

A total of 145 university students, divided into two groups, assessed both tools. These students were given one tool or the other, depending on their degree. Thus, group 1 (G1) was made up of 76 university students currently studying for a degree in English studies, and the *EPSS Multimedia Lab* was evaluated, considering their experience with phonetics. G1 included several universities in Spain. Group 2 (G2) included 69 university students currently studying for an online degree in primary school teaching (English section) and evaluated *CleverCookie*, considering their online use of the English language. The age of the students ranges from 21 to 27 in G1 (mean= 22) and from 21 to 48 in G2 (mean= 27). Regarding sex, females are more frequent in both groups, representing 79% (n= 60) in G1 and 75% (n= 52) in G2.

The participation was voluntary, and declining to participate did not entail any kind of disfavour for the students.

2.4. Instrument

The experience with both tools was analysed using an online questionnaire which was sent to the participants during the last semester of 2021. Both questionnaires were designed by specialists in English phonetics and grammar and were validated by other experts for further perspective. The questionnaires included both qualitative and quantitative data, but only qualitative data was considered for this article. The qualitative section asked the participants to expose the advantages and failures of the tools according to their experience with them. The answers were analysed by considering keywords to conform to thematic groups (Hsieh & Shannon, 2005).

2.5. Research model and procedure

Both surveys were sent to university teachers, who agreed to pass them on to their students. All the participants in G1 had a subject in English Phonetics, while all the participants in G2 had to complete forums and online tasks that involved reading comprehension and writing.

3. Results

Following the aforementioned classification (Hsieh & Shannon, 2005), the answers were sorted into thematic groups.

G1 considered the *EPSS Multimedia Lab* to be a good tool, especially regarding activities and content (Table 1). The major drawback of the *EPSS Multimedia Lab* was the existence of some transcription mistakes. This feedback was considered, and the authors corrected the web page afterwards.

G2 assessment of the tool was positive in general terms (Table 2). Considering this was the beta version and more content is to be added in a future update of the tool, the fact that students demand more content can even be considered positive. It is interesting to note how the design was considered equally good and deficient, as the same number of students signalled this in both pros and cons. It is also worth mentioning the short duration of videos as something negative, when this was planned as one of the advantages of the design.

Table 1: EPSS Multimedia Lab.

Pros	Students	Cons	Students
Activities	17	Some transcription mistakes	10
Contents	16	Need more variation of accents	6
Accessibility	8	Design	4
Soundbank	6	Feedback	1
Simplicity	3	More audios	1
Videos	3	Lack of interactivity in the activities	1
Illustrations	3	Some sounds are not clearly pronounced	1
Design	3	More variety of activities is needed	1
Interactivity	2	Organisation	1
Clarity	2		
It is free	1		
TOTAL	**64**	**TOTAL**	**26**

Table 2: CleverCookie.

Pros	Students	Cons	Students
Quality of contents	17	Lack of interactivity in activities	14
Simplicity	16	More contents needed	9
Accessibility	12	Design	9
Design	9	Too short videos	5
Originality	6	*CleverCookie* 's voice	4
Fun	5	Lack of downloadable activities	2
Clarity	5	Monotony	2
Self-study opportunities	4	Too much text	2
Pertinence	4	Mobile version navigability	1
Videos' short duration	3	Video format	1
Interactivity	2	Not motivating	1
Teaching opportunities	2	Old fashioned	1
Bilingual version	1	Simplicity	1
		Bilingual version	1
		No real people in the videos	1
TOTAL	**86**	**TOTAL**	**55**

4. Discussion

The findings of this study highlight the crucial role that online tools play in improving the written skills of EFL learners in digital environments. The results demonstrate that both *EPSS Multimedia Lab* and *CleverCookie* effectively address the specific needs of Spanish-speaking learners by offering tailored linguistic support. However, the study also underscores certain limitations that require further refinement to maximise the potential of these tools.

EPSS Multimedia Lab was generally well-received for its comprehensive phonetic training and detailed explanations of English pronunciation. The accessibility of the platform and the structured organisation of its content facilitated student engagement and self-directed learning. The interactive sound bank and targeted exercises provided immediate feedback, allowing users to develop a deeper understanding of English phonetics. Nevertheless, some students noted the presence of transcription errors, a limited variety of accents, and a lack of interactivity in the activities. These aspects indicate the need for continuous updates and a more diverse representation of English phonetic variations to enhance the tool's applicability to a broader audience.

Similarly, *CleverCookie* was positively evaluated for its focus on common grammatical errors and its ability to present complex concepts concisely. The tool's bilingual support and structured video lessons were particularly beneficial for learners with intermediate proficiency levels, reinforcing the importance of metalinguistic reflection in the acquisition of grammatical structures (Al-Nofaie, 2010; Turnbull, 2018). However, students expressed a desire for greater interactivity, more extensive content, and additional downloadable activities. Interestingly, while the short duration of the videos was designed to accommodate the limited attention span of online users (Cilliers, 2017; Firth et al., 2019), some participants perceived this as a drawback, suggesting that content length should be adjusted to meet different learning preferences.

The results align with previous research on digital reading and writing habits, which indicate that online communication fosters a more informal linguistic environment where grammatical accuracy is often overlooked (Baron & Mangen, 2021; Crystal, 2011; Nilnarong, 2024). Given the increasing reliance on digital platforms for communication and education, it is essential to equip students with tools that not only correct errors but also encourage active engagement with language rules. In this sense, both *EPSS Multimedia Lab* and *CleverCookie* serve as valuable resources for bridging the gap between informal digital communication and formal academic writing.

Furthermore, these findings reinforce the idea that online writing tools must strike a balance between simplicity and depth. While brevity ensures accessibility and usability, deeper engagement with grammatical structures and phonetic details is necessary for long-term learning retention. The integration of adaptive learning features and personalised feedback mechanisms could enhance the effectiveness of these tools, providing learners with more tailored support based on their individual needs.

Therefore, the study confirms the necessity of pedagogically sound digital tools that support EFL learners in online contexts. The feedback collected from students emphasises the importance of continuous updates and user-centred improvements to maximise the educational potential of such resources.

Online writing and reading are nowadays as important as reading on paper (if not more). Considering the number of Internet users in the world and the majority use English as the language of international communication (Statista, 2025), the

better English teachers prepare their learners, the better their performance in online settings will be. Moreover, the more personalised a tool can be, the better it will work. Catering to all the diversity is difficult to achieve, but the *EPSS Multimedia Lab* and *CleverCookie* try to fill the niche of Spanish speakers.

5. Conclusion

The evaluation of *EPSS Multimedia Lab* and *CleverCookie* reveals that both tools offer valuable support for Spanish-speaking learners of English, particularly in phonetics and grammar. However, users' limitations highlight the need for further refinement and expansion of these resources to enhance their effectiveness and user engagement.

Future developments for *EPSS Multimedia Lab* have focused on integrating a serious game based on Santiago's Way, combining phonetic practice with cultural and historical content. Additionally, the inclusion of multiple accents will provide learners with a more authentic linguistic experience, addressing one of the key concerns raised by participants.

CleverCookie, on the other hand, is set to evolve into a comprehensive grammar-focused application aimed at improving online writing skills. The inclusion of intercultural content will enrich the learning experience by providing users with insights into the cultural nuances of the English-speaking world. By incorporating more interactive elements and expanding the range of grammatical topics covered, the app will offer a more engaging and effective learning environment.

Ultimately, this study's findings reinforce the significance of developing digital learning tools that cater to the specific needs of EFL learners. As online communication continues to shape language use, educators and developers must work together to create resources that promote both linguistic accuracy and digital literacy. By addressing the gaps identified in this study, *EPSS Multimedia Lab* and *CleverCookie* can continue to serve as valuable assets in the digital language learning landscape, ensuring that students are well-equipped to navigate online communication with confidence and precision.

6. Funding

6.1. Conflict of Interest

The authors declare no conflict of interest.

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