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Exploring university students' preferences and satisfaction in utilizing digital tools for foreign language learning

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This article investigates the utilization of digital resources, including applications like Duolingo, ChatGPT, and Google Translate, in the language learning practices of English as a Foreign Language (EFL) college students from the Czech Republic, Taiwan, and Iraq. Through a questionnaire-based approach, the study explores the digital tools employed, activities conducted, satisfaction levels, and the impact on language skills. Findings reveal diverse usage patterns and positive perceptions, highlighting the multifaceted role of digital resources in vocabulary acquisition, skill development, and language exploration. While participants express overall satisfaction, challenges such as connectivity issues and content variety are identified. The study's most important finding is that digital resources like Duolingo, ChatGPT, and Google Translate significantly enhance EFL students' language learning experiences through increased engagement and skill development, despite challenges such as connectivity issues and content diversity. The study underscores the need for ongoing improvement in digital language learning tools and suggests avenues for future research, emphasizing long-term impact, personalized learning paths, emerging technologies, and socio-emotional aspects. Despite limitations, the research provides valuable insights into the dynamic interplay between technology and language education in diverse cultural contexts.

KEYWORDS

digital resources, language learning, EFL college students, students' preferences, students' satisfaction

Introduction

The amazing technological advancements in social media, which now include laptops, mobile phones, and PCs, have a significant impact on students in higher education and play a crucial role in it. Not only have they altered communication and interactions, but they have also altered work practices (Zhang et al., 2022). As far as learning English is concerned, a strong command of English is essential for achieving greater success in school, the workplace, and social standing since it is the universal language of communication (Sung, 2022). Because of the interconnected role the English language plays with digital skills, most EFL classes have included digital literacy which is also referred to as virtual learning or e-learning in their foreign language instruction. With a focus on individualized learning, blended learning for instance, where technology could support traditional learning in class, seems to be a successful

approach in fostering more autonomy and self-confidence through the use of digital resources (Rasheed et al., 2020). In this concern, improved learning outcomes and the perception of these technologies' utility are closely related to student's satisfaction with the caliber of digital media training (Ameloot et al., 2024). Their contentment with digital media is, of course, influenced by a number of variables or determinants. Studies have shown that one of the most important components is a good instruction, which is provided by teachers with the help of different supporters. According to Gopal et al. (2021), in order to effectively teach the course material, teachers who are doing it using digital media must have a thorough understanding of the psychology of their students in order to understand their preferences. To this end, it is suggested that providing students with opportunities to acquire online skills can boost their academic self-efficacy in learning a new language. Additionally, employing student-centered teaching practices can increase students' self-confidence in their academic ability (Wang et al., 2023). From this point on, the present study tries to distinct itself by recruiting international sample though choosing participants from three different countries; Czech Republic, Taiwan, and Iraq. It also used qualitative method of collecting data to ensure its generalizability. Analyzing these various contexts suggests that the socio-cultural and socio-educational settings may affect how EFL students use digital resources, which may subsequently affect how well they develop their L2 English. As suggested by Tarhini et al. (2015), the selection process was carried out with the aim of assembling a geographically and culturally diverse sample, so improving the generalizability and applicability of the study findings through the use of technological applications. However, it was acknowledged that these chosen countries cannot accurately represent the entirety of their respective regions (Lee and Sylvé, 2021).

Literature review

In recent years, technology has revolutionized education, profoundly impacting how learning is conducted across various disciplines, including foreign languages. The Internet, as a pivotal technological tool, facilitates remote communication, task delegation, and information retrieval, transforming educational practices at all levels (Conrad et al., 2022). It serves as a global data network connecting individuals across borders and enhancing the exchange of ideas and information. Educational technologies like social media, mobile learning, and learning management systems engage students with lecture-based curricula while fostering critical thinking and problem-solving skills (Chen et al., 2022). However, these digital tools often cater to a general audience, necessitating careful implementation to meet the unique needs of language learners and support the authentic acquisition of language skills. As online learning becomes increasingly integral to education, it is essential to develop methodical instructional strategies that address both the benefits and limitations of digital applications, ensuring they effectively support students' language learning and overall educational success (O'Neill et al., 2021). This study aims to explore students' perspectives on digital learning tools to better understand their orientations and preferences in the context of online language education.

In the context of education, technology has recently made significant advancements. Its ability to facilitate remote communication, task delegation in virtual teams, information retrieval

from remote locations, student evaluations in their homes, and other features has significantly changed the way education is carried out at nearly every level and in a wide range of fields, including foreign languages (Derakhshan and Shakki, 2024). One of the various technological tools for learning English is the Internet (Metruk, 2022). It may be compared to a vast global data network that connects people across borders. As per Huang et al. (2022), the internet serves as a central location for worldwide communication, facilitating connections between users and the exchange of ideas, information, and experiences via diverse online communities and networks (Tao and Gao, 2022). Technologies for education based on the internet, such as social media, mobile learning, and learning management systems, can help students engage with lecture-based curricula and foster their ability to think critically and solve problems (Metruk, 2022; Pikhart et al., 2022) whether they are satisfied with it or not. Students' satisfaction with online FL lessons can be predicted by a number of factors, including peer interaction, the caliber of the course material, the teacher's pedagogical function as a source of insightful feedback, and self-regulation (Pham and Nguyen, 2021). All digital apps, however, are meant for a broad audience. Nevertheless, every language learner has unique requirements that, when met, can help the learner be successful when speaking a foreign language (Klimova and Al-Obaydi, 2023). Thus, to meet students' needs and expose them to the authentic acquisition of various language skills, it is important to acknowledge that many apps are not created by language experts. Therefore, the implementation of these apps must be carefully considered and planned for (Oriogu et al., 2018; Doncheva, 2020).

Information that has been didactically converted and untransformed, as well as mediated communication, are all included in the digital learning environment. Because it is built on digital tools and user interactions, students' information behavior blends behaviors typical of traditional education with those unique to the digital ecosystem. One way to measure students' participation in different educational activities that help personalize learning is by looking at how they use information in the digital world and at their preferences in advance (Noskova et al., 2021). Digital resources are mostly used in language learning to acquire vocabulary in second languages and less with other skills, which is thought to be beneficial for the growth of both productive and receptive language abilities (Mortazavi et al., 2021), and for yielding favorable outcomes in the acquisition of new vocabulary words arising from various processes, though it also yields positive results when using with oral reading (Al-Obaydi et al., 2023) and writing (Rad et al., 2022). Of course, in an online learning environment, there are fewer opportunities for students to speak up and for teachers to grade them on speaking skills like fluency, speed, and pronunciation. Teachers must thus give this crucial matter more consideration because it may have an impact on the speaking and communication skills of EFL/ESL (English as a foreign or second language) students (Derakhshan, 2021). So, it is crucial to focus on the online applications that could help to enhance these language skills.

It is generally acknowledged that in the future, online learning will probably be a crucial component of all forms of education (González-Lloret, 2020). The significance of universal skills for using and methodically acquiring knowledge as the foundation for effectiveness, credentials, and accomplishments was emphasized by Drucker (2017). Thus, today more than ever, it is imperative to develop methodical and thorough instructional preparation for online teaching and learning (Hodges et al., 2020). In relation to that, developing students' attitudes

toward active learning with regard to available information resources is one of the most significant educational aims. This type of role requires the perception of professional, cultural, and educational information sources not only as a way to solve specific learning difficulties through assimilation but also as a way to grow oneself and become successful and competitive in today's job market (Noskova et al., 2021). Such preparation for students can act as a guide for potential difficulties that educators and students may encounter down the road. The usage of digital applications may turn out to be less effective than in-person instruction because of the absence of face-to-face interactions and immediate feedback. In certain cases, students aren't engaged in the usage of digital apps because of the matter of distance and reflection so teachers need to apply some kind of instructional techniques such as different kinds of feedback to avoid these obstacles (Al-Obaydi et al., 2023; Qiao et al., 2023). Hence, it is important to realize that no perfection exists in any pivot of learning, whether in the present, online, or in between. Therefore, it is essential to be aware of all sides' positive and negative points. As for the use of digital applications to support language learning, it is not easy to determine the degree of benefit, satisfaction, and preferences unless students' views are taken into consideration. Therefore, the present study tries to discover students' orientations and go deeply into analyzing their viewpoints.

Research questions

Based on the above discussion, the present study attempts to answer the following questions:

- 1 What are the main digital resources or digital applications used by EFL college students?
- 2 What are the main activities conducted by using these digital resources?
- 3 What is the degree of satisfaction of college students with their use of digital resources?

Methodology

Sampling

A random sampling technique was employed to select participants, ensuring representation from different language proficiency levels and varied fields of study. This approach aimed to achieve a well-rounded understanding of how technology is integrated into the language learning processes of students with diverse linguistic and cultural backgrounds. The countries chosen for this study are Czech Republic, Taiwan, and Iraq, which were selected specifically for their cultural differences and variety, which provide a broad spectrum of experiences and perspectives on the use of technology in foreign language learning. Participants were randomly chosen by sending emails inviting them to take part in the study. The participants in this qualitative study were college students from diverse backgrounds and universities primarily from the Czech Republic, Taiwan, and Iraq.

The total number of respondents was 148; from the Czech Republic (44), Iraq (78) and Taiwan (26). The respondents were from two study

fields – English studies (Iraq) and information and communication technology (Taiwan and the Czech Republic). The gender balance was equal with 76 females and 72 males. The age of the participants ranged from 18 to 22 in all three countries.

There are several potential biases in this study that should be considered. Firstly, self-selection bias may occur as students who chose to participate might have a particular interest in technology or language learning, which may not reflect the views of the broader student population. Secondly, response bias could be present since participants might provide socially desirable answers rather than candid responses, especially regarding their satisfaction and experiences with digital resources. Additionally, sampling bias might arise because, although random sampling was used, the method of reaching out via email may exclude students who do not frequently check their emails or are less inclined to participate in online surveys (Table 1).

Procedure

The research employed a questionnaire-based approach to gather qualitative data on the participants' experiences with digital resources in their foreign language learning journeys. The questionnaire comprised structured and open-ended questions to elicit detailed insights into the participants' language learning habits, the digital resources they utilized, and their satisfaction levels with these tools.

Data collection

Data collection was carried out through the distribution of the structured questionnaire to both local and international students. The data collection was conducted in November and December 2023. The questionnaire was made available in English as all the participants have a good command of this language. Except for the first part, the questionnaire contained open-ended questions to collect as many varied responses as possible.

The first part of the questionnaire collected basic demographic information, such as age, gender, nationality, and field of study.

Then it focused on the language learning details with questions as follows:

- What foreign language are you learning at the moment?
- What is the level of the foreign language you are learning now?

Further on it collected data about digital resource usage:

- What digital resource (application or website) have you mainly tried to learn a foreign language?
- What exactly do/did you use it for?
- Can you be more specific about how exactly you use this digital resource when you study a foreign language?
- How frequently do/did you use this digital resource?

A very important part of the study deals with satisfaction with digital resources:

- Are you satisfied with the digital resource?

TABLE 1 Sample profile.

Demographic attribute of students	Iraq	Percentage	Czech Republic	Percentage	Taiwan	Percentage
Gender						
Male	38	48.71%	21	47.72%	13	50%
Female	40	51.28%	23	52.27%	13	50%
Total	78	100%	44	100%	26	100%

- Please explain why you are (or why you are not) satisfied. If this is the case, be specific about what could be improved.

We also needed to collect data about the benefits of digital resources:

- How does it help you learn a foreign language? Try to be specific.
- Describe at least one activity that helped you to improve your foreign language skills and/or knowledge using this digital resource.

And finally, the questionnaire concluded with two questions dealing with enjoyment and preferences:

- Why do you enjoy using this digital resource when learning a foreign language?
- What do not you like when using digital resources for learning a foreign language? Is there anything you would like to change?

Data analysis

The qualitative data gathered from the open-ended questions in the questionnaire were subjected to thematic analysis. This involved identifying patterns, recurring themes, and insightful comments related to the participants' experiences with digital language learning resources. The analysis aimed to provide a nuanced understanding of the benefits, challenges, and preferences associated with the use of technology in foreign language learning.

Ethical considerations

Prior to data collection, informed consent was obtained from all participants, ensuring their voluntary participation and understanding of the study's objectives. Confidentiality and anonymity were maintained throughout the research process, with participants assigned unique identifiers to protect their identities. The research was approved by the Ethics Committee of the University of Hradec Kralove no. 4/2023.

Results

The results of the questionnaire are grouped around questions as follows:

- 1 What digital resource (application or website) have you mainly tried to learn a foreign language?

The participants in the study reported a variety of digital applications used for language learning. Among the most common apps mentioned were Duolingo, ChatGPT, and Google Translate. Some participants exclusively relied on Duolingo, while others utilized a combination of Duolingo and Google Translate. Another subset of participants integrated ChatGPT into their language learning routine alongside Duolingo and Google Translate. Notably, a few participants expanded their repertoire to include digital games as part of their language learning experience, while others specifically mentioned employing various conversation apps. Additionally, a participant mentioned the use of WordReference, IATE, Linguee, and DeepL in conjunction with ChatGPT for a more comprehensive language learning approach. The diversity in app usage reflects the individualized strategies employed by language learners to leverage digital resources for a well-rounded language acquisition experience.

2 What exactly do/did you use it for?

Participants reported diverse uses of digital resources for language learning. A common theme was the emphasis on translation, where individuals utilized these tools to learn new words and phrases while also focusing on refining their listening, speaking, and writing skills. Some participants specifically highlighted the role of these resources in improving their listening skills, while others concentrated on enhancing their speaking abilities. Grammar learning emerged as a distinct activity, with participants using digital platforms to understand and practice language rules. Additionally, there was a notable interest in improving writing and reading skills, showing the versatility of digital resources in addressing various language competencies. A significant portion of respondents engaged in a combination of activities, such as translation, learning new vocabulary, grasping grammar rules, and improving listening, speaking, writing, and reading skills. This collective approach underscores the multifaceted role of digital resources in supporting a comprehensive language learning experience.

3 Can you be more specific about how exactly you use this digital resource when you study a foreign language?

Participants in the study shared specific insights into their utilization of digital language learning applications, particularly for the study of English. Google Translate emerged as a versatile tool, frequently employed for translating unfamiliar words into their native language, practicing new words and phrases in everyday situations, and aiding in homework assignments. Duolingo, another commonly used application, was noted for its role in practicing the application of new vocabulary in real-life scenarios and for listening to intermediate-level podcasts. Participants also integrated ChatGPT into their learning routines, using it to gain additional information about their studies and topics of interest. Notably, these applications were employed not only for translation purposes but also for skill enhancement, including listening, speaking, reading, and writing.

Participants praised the usefulness of these tools, with positive feedback indicating that applications like Google Translate were particularly helpful during studies, making it easier to find various sources. The collective responses underscore the multifaceted nature of these digital resources, serving as comprehensive aids for vocabulary acquisition, skill development, and language exploration.

4 How frequently do/did you use this digital resource?

The frequency of participants' usage of digital language learning resources varied, with a predominant pattern of regular engagement. A significant number of participants reported using these resources every day, dedicating at least 30 min to their language learning endeavors. Others opted for an every-other-day routine, maintaining a consistent schedule of at least 30 min per session. Weekly engagement was also notable, with participants allocating time at least once a week for their language learning activities. A few respondents reported slightly less frequent usage, opting for once every 2 weeks, while a minority indicated a monthly engagement. Notably, there were instances where participants reported less frequent usage, falling below once a month or logging less than 30 min in total per month. Overall, the data reflects a commitment to regular and sustained use of digital language learning resources among the participants.

5 Are you satisfied with the digital resource?

Participants expressed varying levels of satisfaction with the digital language learning resources, as indicated by the provided ratings. The ratings range from 1 to 5, with 1 representing low satisfaction and 5 reflecting high satisfaction. The majority of participants seemed content or very content, assigning ratings of 4 or 5, suggesting a generally positive reception of the digital resources. Some participants gave moderate ratings (3), indicating a moderate level of satisfaction. Notably, a few respondents assigned lower ratings (1 or 2), suggesting dissatisfaction or areas for improvement in their perception of the digital language learning tools. Overall, the responses showed a spectrum of satisfaction levels, highlighting the diverse perspectives among participants regarding the effectiveness and quality of the utilized digital resources. However, it can be summarized that the majority of the users are very satisfied with the use of technologies in their foreign language learning.

6 Please explain why you are (or why you are not) satisfied. If this is the case, be specific about what could be improved.

Participants' feedback on the digital language learning resources reveals a diverse spectrum of satisfaction levels. Many respondents expressed contentment with the resources because of their ease of use, effectiveness in improving skills like listening and speaking, and overall support in language studies. The simplicity and user-friendly nature of the applications receive positive comments along with their contribution to expanding vocabulary. However, a subset of participants notes concerns, such as dissatisfaction due to slow internet connections impacting translation speed and perceptions that the resources may lack certain features to meet all learning needs, mostly in Iraqi participants. Additionally, a participant raised the issue of screen fatigue, suggesting that prolonged use of digital resources may be mentally exhausting for learners. Suggestions for improvement include addressing internet speed issues, expanding features to allow a broader range of needs, and exploring ways to mitigate screen fatigue. Despite these areas for enhancement, the majority of participants express satisfaction, acknowledging the positive impact of these digital tools on their language learning journey.

7 How does it help you learn a foreign language? Try to be specific.

The digital language learning resources provide specific benefits to users in their journey to acquire a foreign language. Participants highlighted various advantages, including time and effort savings, simplifying the translation of vague or complicated words or phrases, and aiding in the real-life application of language skills. The quick and easy nature of these resources was emphasized, facilitating a prompt response and supporting efficient learning. Users reported that the resources contribute to the improvement of listening skills, pronunciation, and vocabulary. They are appreciated for providing dictionaries, offering instant translation, and presenting different options for word usage. Learning is facilitated through repetitive exposure to new words helps users gain confidence, particularly with grammar use in daily life. The tools are utilized for a range of purposes, such as writing reports, answering challenging questions, and mastering the target language. Overall, participants find these digital resources invaluable for language learning, contributing to enhanced understanding, improved communication, and increased confidence in using the foreign language.

8 Describe at least one activity that helped you to improve your foreign language skills and/or knowledge using this digital resource.

Participants employed a variety of activities to support their foreign language skills using digital resources. Many found translation practice to be beneficial, utilizing features that enabled them to understand sentences and words, thus enhancing their development of vocabulary. Engaging in daily language practice emerged as a common idea, emphasizing consistent efforts to improve reading, writing, listening, and speaking skills. Communication played a pivotal role, whether through chat programs, games, or conversing in English with family members at home, contributing to improved speaking and listening abilities. The use of ChatGPT for regular interactions proved valuable, providing opportunities for writing exercises and the acquisition of new words through meaningful conversations. Listening to podcasts, watching YouTube videos, reading books, and watching movies were activities employed to enhance listening skills, grammar, and vocabulary. Teaching others, particularly children, was recognized as a beneficial endeavor for refining language, and grammar, and acquiring additional information. The engagement with Google Translate for various purposes, including translation, composition writing, and communication, was also notable. Memorization of new words, vocabulary-building exercises, and utilizing tools like Duolingo for comprehensive language skill exercises were cited as effective practices. Conversational learning, whether through games, real-life interactions, or digital platforms, was underscored as one of the most helpful activities. Seeking information from digital resources, especially ChatGPT, and engaging in the translation of scientific literature demonstrated a focus on specialized language and terminology. The participants' diverse approaches highlight the multifaceted ways in which digital resources contribute to language learning across different aspects of proficiency and skill development.

9 Why do you enjoy using this digital resource when learning a foreign language?

Participants derive enjoyment and satisfaction from using digital resources in their foreign language learning journeys for a variety of reasons. Some find the tools to be a source of fun, making the learning

process more enjoyable and engaging. The ease and speed of these resources are highlighted, contributing to a seamless and efficient learning experience. The simplicity and user-friendly nature of the tools are appreciated, making them easy to use and navigate. Some participants express enjoyment in the interactive nature of the resources, likening them to interesting games. The practical benefits, such as time-saving, problem-solving in language studies, and the convenience of quick information retrieval, contribute to user satisfaction. Others appreciate the diverse materials provided, ranging from clear pronunciation and conversation to various learning materials. The digital resources are seen as a means to develop language skills, offering enjoyment in the process of mastering a new language. While not all participants explicitly mention enjoyment, many express their satisfaction with the effectiveness and practicality of these resources in aiding their language learning endeavors.

10 What do not you like when using digital resources for learning a foreign language? Is there anything you would like to change?

Participants' experiences with digital language learning resources are diverse, and their preferences and concerns contribute to a nuanced perspective. While some participants appreciate the convenience and effectiveness of these tools, citing no specific dislikes, others highlight notable challenges. Connectivity issues, such as weak internet signals and the inability to use resources offline, emerge as drawbacks. Participants also expressed a desire for more real-life expressions in the content, signaling a preference for varied and advanced vocabulary. Technical challenges, including difficulties in usage and some techniques being perceived as complex, are mentioned. Concerns are raised about the limited scope and repetitive nature of certain resources, with a call for more diversified content. Payment-related issues, such as the cost of quality apps and limitations during free trials, also emerge as points of dissatisfaction. Additionally, a few participants expressed a preference for traditional in-person language learning over digital resources. While some participants desire further development and improvement, others are content with the current offerings. These varied perspectives underline the importance of addressing connectivity issues, expanding content diversity, and ensuring user-friendly interfaces to enhance overall satisfaction and effectiveness in language learning.

To sum it up, the questionnaire results show that participants used various digital tools like Duolingo, ChatGPT, and Google Translate to learn a foreign language. Some only used Duolingo, while others combined it with Google Translate or ChatGPT. Participants used these tools for translation, learning new words, and improving listening, speaking, writing, and reading skills. They reported diverse usage frequencies, with some using them daily, weekly, or even less frequently. Overall, most participants were satisfied, but some suggested improvements, especially in internet speed and content variety. They enjoyed the ease, speed, and practical benefits of these tools in their language learning journey. Participants engaged in various activities like translation, daily language practice, and communication to improve language skills. They found these activities beneficial for vocabulary, speaking, and listening. The reasons participants enjoyed using digital resources included their fun and engaging nature, ease of use, and practical advantages. However, some participants faced challenges like internet issues, limited content, and complex techniques. They suggested changes, such as more real-life expressions and improved offline functionality. These diverse experiences highlight the need for addressing challenges

and enhancing user satisfaction in language learning with digital resources.

Discussion

As the findings indicate, present students are well aware of digital resources they can use for learning foreign languages. For instance, [El-Henawy and Suárez \(2023\)](#) in their editorial also admit that language learners in general, and specifically those learning English as a foreign language (EFL), are experiencing a growing ability to engage and exchange their respective cultures with fellow learners from all corners of the globe. The digital landscape offers learners numerous opportunities to actively employ and refine their language skills. These include activities such as acquiring music and videos from online platforms like YouTube or TED Talks, utilizing podcasting applications, participating in social and educational networks such as Facebook, WhatsApp, Edmodo, and Google Classroom, as well as utilizing language learning applications like Duolingo. Thus, the answer to the first research question in our study on *the main digital resources or digital applications used by EFL college students* includes digital tools, such as Duolingo, ChatGPT, and Google Translate. This is in line with other studies on the use of digital tools in foreign language education, such as [Nurwahida \(2020\)](#), [Naghdipour \(2022\)](#), [Al-Obaydi et al. \(2023\)](#), [Jeanjaroonsri \(2023\)](#), [Klimova and Al-Obaydi \(2023\)](#), and [Shaikh et al. \(2023\)](#), [Zamborova and Klimova \(2023\)](#). [Shaikh et al. \(2023\)](#) claim that ChatGPT is an effective tool to be used for formal English language learning. The results by [Naghdipour \(2022\)](#) then show that translation and proofreading applications were determined to be the most commonly utilized and valuable tools in both of these contexts, thereby indicating the concern of EFL students with the linguistic dimensions of their writing. A few students in our study also were interested in digital games. [Vnucko and Klimova \(2023\)](#) explain that digital games are very popular among foreign language learners since they provide learners with a positive learning environment.

As far as the second research question on *the main activities conducted by using these digital resources* is concerned, participants used these tools for translation, learning new words, and improving listening, speaking, writing, and reading skills. This was also confirmed by [Klímová and Ibna Seraj \(2023\)](#) in their study on the use of chatbots in university EFL settings. Their findings reveal that digital tools help them increase their proficiency in the English language, particularly the enhancement of their oral communication abilities, specifically focusing on suprasegmental elements, such as intonation and stress, as well as the ability to speak fluently, by actively involving them in both in-class and out-of-class practice sessions. [Qiao and Zhao \(2023\)](#) also point out that AI-based tools have a significant impact, especially on learner's speaking skills in L2. Furthermore, [Naghdipour \(2022\)](#) demonstrates that students employ diverse digital technologies not solely to facilitate effective communication on informal online platforms, but also to navigate the demands of writing within the classroom setting. Nevertheless, the most recent systematic review by [Klimova et al. \(2023\)](#) reveals that most digital applications are used for vocabulary learning.

The results of this study also show a relatively high *degree of satisfaction among college students with their use of digital resources* which is approximately the same result gained by [Conrad et al. \(2022\)](#)

and [Pikhart et al. \(2022\)](#). The students especially appreciated the ease of use, quick responses, using them at any time and from anywhere, and particularly their engaging nature ([Qiao et al., 2023](#)). This has been confirmed by other studies, such as [Klímová and Ibna Seraj \(2023\)](#) and [Vnucko and Klimova \(2023\)](#). [Klímová and Ibna Seraj \(2023\)](#) emphasize that digital resources possess a user-friendly interface, making them easily accessible and engaging for individuals without any technical expertise. In addition, they claim that these digital tools can enhance the critical thinking abilities of EFL learners through the implementation of Socratic Instant Messaging. They also contribute to mitigating inhibitions related to language learning and alleviating the fears associated with speech in the context of learning English as a foreign language.

Conclusion

In conclusion, the study sheds light on the diverse ways in which digital resources, including applications like Duolingo, ChatGPT, and Google Translate, are utilized by English as a Foreign Language (EFL) college students in the Czech Republic, Taiwan, and Iraq. The participants reported engaging in a range of language learning activities, such as translation, vocabulary acquisition, and skill development in listening, speaking, writing, and reading. The study highlights the importance of technology, particularly the internet and various applications, in supporting language acquisition. The participants generally expressed satisfaction with the digital resources, emphasizing their ease of use, effectiveness, and practical benefits. However, the study also revealed challenges faced by some participants, including connectivity issues, limited content diversity, and the need for improvements in internet speed. Despite these challenges, the majority of participants reported high levels of satisfaction, suggesting that digital tools play a crucial role in enhancing language learning experiences.

The findings underscore the varied nature of digital resources, serving as comprehensive aids for vocabulary acquisition, skill development, and language exploration. The participants' diverse approaches emphasize the need for continued improvement and innovation in digital language learning tools. As online learning is expected to become increasingly integral to education, the study highlights the significance of addressing challenges and enhancing user satisfaction to maximize the potential benefits of technology in language education.

The findings of this study indicate that present students are well-versed in using digital resources for learning foreign languages, and this familiarity is likely to have several long-term impacts on language education. Firstly, the integration of diverse digital tools such as Duolingo, ChatGPT, and Google Translate can significantly enhance students' engagement and motivation by providing interactive and personalized learning experiences. This can lead to improved language proficiency as students have more opportunities to practice and refine their skills in listening, speaking, writing, and reading. Additionally, the ability to access and use digital resources from anywhere at any time promotes continuous learning and supports a more flexible approach to language education. This flexibility is crucial in accommodating diverse learning styles and schedules, potentially leading to higher retention rates and better learning outcomes. Moreover, the collaborative nature of many digital platforms allows

for cultural exchange and interaction with peers globally, fostering a deeper understanding of different cultures and perspectives, which is essential in language learning.

Furthermore, the use of AI-based tools and chatbots is likely to advance the customization and adaptability of language learning. These technologies can provide instant feedback and tailored exercises, helping learners to focus on their specific areas of improvement. Over time, this personalized approach can result in more efficient and effective learning processes, making language acquisition more accessible to a broader audience. However, there are potential challenges that need to be addressed. Issues such as connectivity problems, content diversity, and internet speed must be resolved to ensure equitable access to these digital resources. Additionally, continuous development and innovation in digital tools are necessary to keep up with the evolving needs of learners and to maintain their engagement and satisfaction. In conclusion, the long-term impact of technology in language learning is profound. It has the potential to revolutionize traditional methods, making language education more interactive, personalized, and accessible. By addressing existing challenges and continuously improving digital resources, educators and developers can maximize the benefits of technology, ultimately enhancing the overall language learning experience and outcomes.

Limitations of the study

While the study provides valuable insights into the use of digital resources in language learning among EFL college students, several limitations should be acknowledged. The sample size was relatively small and specific, consisting of participants from the Czech Republic, Taiwan, and Iraq, which may limit the generalizability of the findings to a broader global context. The reliance on self-reported data through a questionnaire introduces subjectivity and potential biases in participants' responses. Moreover, the cultural variations among the represented countries may not fully capture the diversity of experiences among EFL students globally. The study's temporal frame (November and December 2023) may also be another limitation and further long-term studies should follow. Addressing these limitations in future research endeavors can contribute to a deeper understanding of the complexities surrounding the integration of digital tools in language education.

Future lines of research

Future research in the area of digital resources and language learning could explore several trends to deepen our understanding and improve pedagogical practices. Firstly, investigations into the long-term impact of digital tools on language proficiency and retention could provide valuable insights into the sustainability of learning outcomes. Comparative studies across diverse cultural and linguistic contexts can enhance the generalizability of findings, ensuring a more comprehensive understanding of the global implications of technology in language education. Additionally, research could delve into the design and evaluation of personalized learning paths within digital language learning platforms to cater to individual learner needs. Assessing the potential of emerging technologies, such as virtual reality or artificial intelligence, in

enhancing language learning experiences is another promising area. Finally, investigating the socio-emotional aspects of digital language learning, including the impact on motivation, collaboration, and the development of a sense of community among learners, can contribute to a holistic understanding of the implications of technology in language education. Despite these limitations, we believe that the research provides a clear summary of what the situation is regarding the utilization of various digital tools in the global context.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Ethics statement

The studies involving humans were approved by Ethics Committee of the University of Hradec Kralove. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

MP: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing

References

- Al-Obaydi, L. H., Pikhart, M., and Klimova, B. (2023). ChatGPT and the general concepts of education: can artificial intelligence-driven Chatbots support the process of language learning? *Int. J. Emerg. Technol. Learn.* 18, 39–50. doi: 10.3991/ijet.v18i21.42593
- Al-Obaydi, L. H., Rahul, D. R., and Pikhart, M. (2023). The effect of online oral reading on reading comprehension, reading anxiety, and classroom anxiety among EFL learners. *Educ. Inf. Technol.* 29, 2841–2855. doi: 10.1007/s10639-023-11950-y
- Al-Obaydi, L. H., Shakki, F., Tawafak, R. M., Pikhart, M., and Uгла, R. L. (2023). What I know, what I want to know, what I learned: activating EFL college students' cognitive, behavioral, and emotional engagement through structured feedback in an online environment. *Front. Psychol.* 13:1083673. doi: 10.3389/fpsyg.2022.1083673
- Ameloot, E., Tijs, R., Thomas, A., Rienties, B., and Schellens, T. (2024). Supporting students' basic psychological needs and satisfaction in a blended learning environment through learning analytics. *Comput. Educ.* 209:104949. doi: 10.1016/j.compedu.2023.104949
- Chen, V., Sandford, A., LaGrone, M., Charbonneau, K., Kong, J., and Ragavaloo, S. (2022). An exploration of instructors' and students' perspectives on remote delivery of courses during the COVID-19 pandemic. *Br. J. Educ. Technol.* 53, 512–533. doi: 10.1111/bjet.13205
- Conrad, C., Deng, Z., Caron, I., Shkurska, O., Skerrett, P., and Sundararajan, B. (2022). How student perceptions about online learning difficulty influenced their satisfaction during Canada's COVID-19 response. *Br. J. Educ. Technol.* 53, 534–557. doi: 10.1111/bjet.13206
- Derakhshan, A. (2021). Emergence distance education (EDE) role in the learning of English Language Skills during COVID-19 pandemic. *J. Teach. Lang. Skills* 40, 41–82. doi: 10.22099/jtls.2021.39849.2948
- Derakhshan, A., and Shakki, F. (2024). The opportunities and challenges of implementing online English courses in Iranian public and private schools. *J. Res. Appl. Linguist.* 15, 17–31. doi: 10.22055/RALS.2023.44418.3111
- Doncheva, J. (2020). Digital technologies in support of the educational process in the world around us, man and society, man and nature. Ruse, Bulgaria: Angel Kanchev University Publishing Center.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Drucker, P. (2017). The age of discontinuity: Guidelines to our changing society. Taylor & Francis Group: Routledge.

El-Henawy, W., and Suárez, M. (2023). Guest editorial: digital language learning and teaching: practices and perspectives. *Lang. Learn. J.* 51, 395–400. doi: 10.1080/09571736.2023.2225360

González-Lloret, M. (2020). Collaborative tasks for online language teaching. *Foreign Lang. Ann.* 53, 260–269. doi: 10.1111/flan.12466

Gopal, R., Singh, V., and Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Educ. Inf. Technol.* 26, 6923–6947. doi: 10.1007/s10639-021-10523-1

Hodges, C., Moore, S., Lockee, B., Trust, T., and Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educ. Rev.* 27, 1–12.

Huang, F., Teo, T., and Scherer, R. (2022). Investigating the antecedents of university students' perceived ease of using the internet for learning. *Interact. Learn. Environ.* 30, 1060–1076. doi: 10.1080/10494820.2019.1710540

Jeanjaroonsri, R. (2023). Thai EFL learners' use and perceptions of mobile technologies for writing. *Learn J.* 16, 169–193.

Klimova, B., and Al-Obaydi, L. H. (2023). Use of Mobile applications for foreign language learning among university students: needs and functions. *Int. J. Interact. Mob. Technol.* 17, 28–39. doi: 10.3991/ijim.v17i12.38541

Klímová, B., and Ibna Seraj, P. M. (2023). The use of chatbots in university EFL settings: research trends and pedagogical implications. *Front. Psychol.* 14:1131506. doi: 10.3389/fpsyg.2023.1131506

Klimova, B., Pikhart, M., Polakova, P., Cerna, M., Yayilgan, S. Y., and Shaikh, S. (2023). A systematic review on the use of emerging Technologies in Teaching English as an applied language at the university level. *Systems* 11:42. doi: 10.3390/systems11010042

Lee, J. S., and Sylvén, L. K. (2021). The role of informal digital learning of English in Korean and Swedish EFL learners' communication behaviour. *Br. J. Educ. Technol.* 52, 1279–1296. doi: 10.1111/bjet.13082

- Metruk, R. (2022). Smartphone English language learning challenges: a systematic literature review. *SAGE Open* 12:215824402210796. doi: 10.1177/21582440221079627
- Mortazavi, M., Nasution, M., Abdolazadeh, F., Behroozi, M., and Davarpanah, A. (2021). Sustainable learning environment by mobile-assisted language learning methods on the improvement of productive and receptive foreign language skills: a comparative study for Asian universities. *Sustain. For.* 13:6328. doi: 10.3390/su13116328
- Naghdi-pour, B. (2022). ICT-enabled informal learning in EFL writing. *J. Second. Lang. Writ.* 56:100893. doi: 10.1016/j.jslw.2022.100893
- Noskova, T., Pavlova, T., and Yakovleva, O. (2021). 'A study of students' preferences in the information resources of the digital learning environment. *J. Effic. Respons. Educ. Sci.* 14, 53–65. doi: 10.7160/eriesj.2021.140105
- Nurwahida, N. (2020). Students' perceptions of mobile apps: a needs analysis of EFL learners. *Int. J. Appl. Linguist. Parahikma* 2, 54–67.
- O'Neill, K., Lopes, N., Nesbit, J., Reinhardt, S., and Jayasundera, K. (2021). Modeling undergraduates' selection of course modality: a large sample, multi-discipline study. *Internet High. Educ.* 48, 100776–100711. doi: 10.1016/j.iheduc.2020.100776
- Oriogu, C., Ejemezu, C., and Ogbuiyi, C. (2018). The use of mobile devices in learning foreign languages: survey of a private university. *Libr. Philos. Pract.*
- Pham, T. N., and Nguyen, G. H. (2021). An investigation of student satisfaction in an online language learning course. *Int. J. Web Based Learn. Teach. Technol.* 16, 121–136. doi: 10.4018/IJWLTT.20210901.0a7
- Pikhart, M., Klimova, B., Al-Obaydi, L. H., Dziuba, S., and Cierniak-Emerych, A. (2022). The quantitative evaluation of subjective satisfaction with digital media in L2 acquisition in younger adults: a study from Europe, Asia, and Latin America. *Front. Psychol.* 13:946187. doi: 10.3389/fpsyg.2022.946187
- Qiao, S., Yeung, S. S., Zainuddin, Z., Ng, D. T. K., and Chu, S. K. W. (2023). Examining the effects of mixed and non-digital gamification on students' learning performance, cognitive engagement and course satisfaction. *Br. J. Educ. Technol.* 54, 394–413. doi: 10.1111/bjet.13249
- Qiao, H., and Zhao, A. (2023). Artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Front. Psychol.* 14:1255594. doi: 10.3389/fpsyg.2023.1255594
- Rad, H. S., Namaziandost, E., and Razmi, M. H. (2022). Integrating STAD and flipped learning in expository writing skills: impacts on students' achievement and perceptions. *J. Res. Technol. Educ.* 55, 710–726. doi: 10.1080/15391523.2022.2030265
- Rasheed, R. A., Kamsin, A., and Abdullah, N. A. (2020). Challenges in the online component of blended learning: a systematic review. *Comput. Educ.* 144:103701. doi: 10.1016/j.compedu.2019.103701
- Shaikh, S., Yayilgan, S. Y., Klimova, B., and Pikhart, M. (2023). Assessing the usability of chatgpt for formal English language learning. *Eur. J. Investig. Health Psychol. Educ.* 13, 1937–1960. doi: 10.3390/ejihpe13090140
- Sung, C. C. M. (2022). English only or more?: language ideologies of international students in an EMI university in multilingual Hong Kong. *Curr. Issues Lang. Plan.* 23, 275–295. doi: 10.1080/14664208.2021.1986299
- Tao, J., and Gao, X. A. (2022). Teaching and learning languages online: challenges and responses. *System* 107:102819. doi: 10.1016/j.system.2022.102819
- Tarhini, A., Hone, K., and Liu, X. (2015). A cross-cultural examination of the impact of social, organisational and individual factors on educational technology acceptance between British and Lebanese university students. *Br. J. Educ. Technol.* 46, 739–755. doi: 10.1111/bjet.12169
- Vnucko, G., and Klimova, B. (2023). Exploring the potential of digital game-based vocabulary learning: a systematic review. *Systems* 11:57. doi: 10.3390/systems11020057
- Wang, Y., Yasmin, F., and Akbar, A. (2023). Impact of the internet on English language learning among university students: mediating role of academic self-efficacy. *Front. Psychol.* 14:1184185. doi: 10.3389/fpsyg.2023.1184185
- Zamorova, K., and Klimova, B. (2023). The utilization of a reading app in business English classes in higher education. *Contemp. Educ. Technol.* 15:ep445. doi: 10.30935/cedtech/13364
- Zhang, L., Carter, R., Qian, X., Yang, S., Rujimora, J., and Wen, S. (2022). Academia's responses to crisis: a bibliometric analysis of literature on online learning in higher education during COVID-19. *Br. J. Educ. Technol.* 53, 620–646. doi: 10.1111/bjet.13191