

U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

Hariyanti Djafar¹, Nurlaily Sofyan²

^{1,2} Faculty of Education, Muhammadiyah University of North Maluku, Indonesia

ABSTRACT

Published Online: August 04, 2025

One of the persistent challenges in English language learning is students' hesitation to ask questions, often due to low self-confidence. This reluctance often stems from feelings of embarrassment, anxiety, or fear of making mistakes. To overcome these challenges, students frequently turn to digital tools that support their language learning, one of the most commonly used being the U-Dictionary application, available on platforms such as the Play store and Appstore. This study aims to explore the role of U-Dictionary as a supportive tool in English language teaching and learning, both from students' and teachers' perspectives. Employing a descriptive qualitative approach, this research investigates the advantages and disadvantages of using U-Dictionary in English as a Foreign Language (EFL) classroom. Findings indicate that U-Dictionary serves as a practical and accessible resource for enhancing vocabulary acquisition and enabling independent learning through features such as word definitions and instant translations. However, while the application offers convenience, excessive reliance on it may impede the development of students' critical thinking and analytical skills if not integrated with proper pedagogical strategies. Therefore, it is essential for educators to guide students in using such digital tools responsibly, ensuring that they remain actively engaged in constructing and evaluating language, rather than becoming passive recipients of information. U-Dictionary can be a valuable complement to English instruction, provided it is used thoughtfully within a well-structured learning framework.

KEYWORDS:

U-Dictionary, Digital Aids, EFL, E-Learning

INTRODUCTION

The use of media in the context of education holds a pivotal role in facilitating effective learning processes (Padang & Sitepu, 2023). Media serves as an intermediary that enhances the success of instructional activities within the classroom. In contemporary educational settings, the integration of media is becoming increasingly sophisticated in line with advancements in science and technology (Mphaga, 2024). This progress necessitates that educators remain responsive and adaptive to the evolving landscape of educational media to ensure optimal knowledge transmission and reception. As emphasized by Sethy (in Tayebinik, 2013), "We are living in an ever-changing world," indicating that the realm of education is continually transformed by technological revolutions, particularly through the integration of computers and digital tools (Kalyani, 2024).

Corresponding Author: Hariyanti Djafar

**Cite this Article: Hariyanti Djafar, Nurlaily Sofyan (2025). U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?. International Journal of Social Science and Education Research Studies, 5(8), 783-789*

Kumar Basak (2018) further asserts that "technology is playing a crucial role in our daily lives and it calls professionals, educators, and learners [to] reflect again over their basic beliefs in order to use technology for the re-design or re-engineering of education and training system" (Zhao, 2024). This highlights the imperative for both instructors and learners to embrace technological advancements not only as passive users but also as active agents in the creation and improvement of digital educational tools (SWARGIARY, 2024). These innovations contribute significantly to making the teaching and learning process more effective and accessible (Serdyukov, 2017).

Recent research and development in the field of Mobile-Assisted Language Learning (MALL) and Artificial Intelligence in Education (AIED) have introduced a new wave of language learning applications that are adaptive, data-driven, and user-friendly (Kukulka-Hulme, Agnes, et al. 2020). These tools provide learners with immediate feedback, pronunciation guidance, and personalized vocabulary suggestions based on usage patterns (CG, 2024). Applications such as U-Dictionary exemplify how

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

technology is not merely supporting but transforming the language learning experience (Hang & Van, 2020). The U-Dictionary app, in particular, offers integrated features such as bilingual translation, offline access, pronunciation audio, and contextual usage examples, all of which contribute to autonomous and accessible English learning environments. These developments reflect a paradigm shift from static media usage to intelligent, interactive learning ecosystems that support lifelong and ubiquitous learning (Radanliev, 2024).

In conjunction with the rapid development of online learning and e-learning modalities, experts in technological sciences have seized the opportunity to develop various digital learning tools (Ulanday et al., 2021). These tools are designed not only to generate economic value but also to support educational stakeholders, particularly teachers and students by providing practical, cost-effective solutions for both remote and in-person learning environments (Bezovski & Poorani, 2016). Through devices such as computers, laptops, and smartphones, educators and learners are now able to access a wide array of educational resources available online. These digital tools, offered through numerous platforms and applications, greatly assist teachers in performing their professional responsibilities more efficiently (Josué et al., 2023).

With the abundance of educational applications readily available for download, English language learners who possess mobile devices are increasingly inclined to utilize tools that can facilitate their learning (Stefanovic & Klochkova, 2021). This is especially relevant given the prevalent issue of students' reluctance to ask questions in English classes, often due to feelings of embarrassment or lack of confidence. For instance, learners may hesitate to seek clarification on vocabulary usage or word meanings (Alzubi, 2023). Consequently, digital tools such as online dictionaries easily accessible via platforms like the Play Store or App Store can serve as valuable resources to support independent language learning (Aithal & Aithal, 2023).

The rapid integration of digital tools into language learning has transformed how students and teachers engage with English as a Foreign Language (EFL) (Zou & Wang, 2024). One such tool, U-Dictionary, is widely used to support vocabulary development, sentence construction, and translation. However, while the application offers convenience and accessibility, questions remain regarding its actual pedagogical value and its impact on learner autonomy and critical thinking (Handayani, 2024). This study, therefore, seeks to address the following problem: "How does the use of U-Dictionary influence English language learning among students and teachers, particularly in relation to learner independence, critical thinking, and teaching effectiveness?" The purpose of this study was to investigate the role of U-Dictionary influence English language learning among students and teachers, particularly in relation to

learner independence, critical thinking, and teaching effectiveness?"

RESEARCH METHOD

This research was methodologically grounded in a qualitative descriptive approach to obtain an in-depth understanding of the observed phenomena. As articulated by Sugiyono (2015), descriptive research is a methodological approach that aims to address research problems by systematically portraying the characteristics of a subject or object based on phenomena occurring during the research process. Accordingly, qualitative descriptive research must be implemented in a procedural manner, encompassing stages such as data collection, data analysis, and the presentation of findings, all of which are grounded in empirical realities observed in the field.

The participants involved in this study comprised 24 students and 2 English teachers. Data were obtained through direct observation, semi-structured interviews, and document analysis, with the researcher serving as the principal instrument, in line with Creswell's (2007, p. 38) assertion that in qualitative inquiry, the researcher plays a central role in data collection and interpretation. Throughout the study, the researcher closely monitored English language learning activities facilitated by the U-Dictionary application. Additionally, an investigative approach was adopted, emphasizing the identification of factual issues encountered during the learning process, which were subsequently examined in depth through reflective and thematic analysis of the interview data.

RESULTS AND DISCUSSIONS

1. E-Learning Through U-Dictionary Utilization

Picture 1. E-Learning English Through U-Dictionary



Based on the rhythm of the image above, we illustrate that learning English can be supported with e-learning touches; one of them is by utilizing U-dictionary application. The U-Dictionary can show signs or as part of e-learning, because in face-to-face (offline) learning, teachers and students are greatly helped by occasionally applying the U-Dictionary online. Therefore, it can be considered as the right tool in helping students and teachers in the teaching and

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

learning process, as well as a small tool that at least touches on online learning or e-learning. But it doesn't stop here, the discussion that we would like to review from the results of this research consists of things that are pros and cons of using the U-Dictionary and its role in learning.

2. Teacher and Student Perceptions of the Role of the U-Dictionary

Teachers and students' perceptions of using U-Dictionary has been described as in the table below:

Table 1. Description of Students Perceptions of the Role of the U-Dictionary (UD)

No	Name	Response
1	FR	UD eased our worries in learning English. We no longer need to search for words alphabetically like in printed dictionaries. Because of that, we also benefit by not needing to buy a dictionary from a bookstore.
2	LS	I enjoy learning through listening. UD helps me because I can replay the audio repeatedly to hear the correct pronunciation in English.
3	NJ	It's modern learning, so it doesn't waste time.
4	LJ	U-Dictionary is like my private tutor wherever I am.
5	RL	For certain purposes, such as finding how a word is used in example sentences, it doesn't work without an internet connection. It has its pros and cons!
6	MU	Unfortunately, the search column can only translate single words.

The data presented in the table indicate that, provided an internet connection is available, students are able to utilize their mobile devices to access the U-Dictionary application as a tool to facilitate their understanding of unfamiliar English vocabulary and sentence structures. Even in offline learning environments, learners no longer rely on conventional printed dictionaries typically found in bookstores. Instead, they benefit from the practicality and efficiency of digital applications, which are readily downloadable from the App Store or Google Play, enabling them to acquire a substantial number of vocabulary items within a relatively short period.

This finding reinforces the perspective that Mobile-Assisted Language Learning (MALL) significantly contributes to vocabulary development and learner autonomy (Kukulka-Hulme & Shield, 2008). By integrating mobile dictionary applications into their learning routines, students are afforded the opportunity to engage with language content more actively and flexibly, unconstrained by time and location.

Although U-Dictionary's primary feature is word-level translation, students gain additional benefits from its pronunciation function. Repeated exposure to native-like pronunciation models allows learners to improve both the accuracy and fluency of their spoken English. This supports the claim by Zhang and Perez-Paredes (2021), who assert that pronunciation tools embedded in mobile language applications enhance learners' phonological awareness and listening comprehension.

A particularly noteworthy finding is that students perceive U-Dictionary as a personalized tutor during independent learning. In situations where immediate access to an English instructor is not possible, the application serves as an accessible alternative. Whether students seek information regarding word meaning, usage, or pronunciation, U-Dictionary mitigates the sense of isolation commonly associated with self-directed learning. Its constant availability supports the development of learner autonomy and fosters greater confidence in engaging with English independently. This aligns with Holec's (1981) concept of learner autonomy, which emphasizes learners' ability to take responsibility for their own learning.

In sum, students' perceptions underscore the pivotal role of U-Dictionary in promoting modern, autonomous, and technology-enhanced English language learning, particularly in contexts where real-time teacher support is unavailable.

Table 2. Description of Teacher Perceptions of the Role of the U-Dictionary (UD)

No	Name	Response
1	KL	<ul style="list-style-type: none"> ✓ The use of U-Dictionary has notably enhanced students' enthusiasm for learning. ✓ Students who have access to mobile devices are able to engage more actively in collaborative learning activities.
2	IS	<ul style="list-style-type: none"> ✓ Teachers primarily serve to correct inaccuracies in word usage, while the application allows students to engage in more autonomous learning. ✓ Nevertheless, a limitation of the tool lies in its inability to measure the authenticity of student output. It remains uncertain whether students produce their own work or merely copy content generated by the application.

It is widely acknowledged that educators aim to foster students' critical thinking and problem-solving abilities in the learning process. However, it is regrettable that modern learning—intended to offer increased convenience and

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

autonomy—can paradoxically create conditions in which students appear to be learning independently, yet fail to develop true independence.

The term “*independent but not independent*” as used by the author refers to a learning condition wherein students are granted the freedom to use digital tools such as U-Dictionary (UD), but instead of engaging in meaningful language production, they resort to copying and pasting sentences generated by the application. These outputs are then presented during classroom activities or submitted as written assignments, making it difficult for teachers to assess the authenticity of their work or determine the students’ genuine understanding.

Even when students openly admit that their work is a result of copying from UD, this further illustrates the absence of critical engagement with the material. Such practices hinder the development of essential cognitive skills and diminish the educational value of the learning experience. This concern aligns with Tavangarian et al. (2004), who warned that “the focus on technical gadgets and promising business models has influenced development in the wrong direction, at least as perceived from a constructivist point of view upon learning.” This statement highlights how the proliferation of technological tools—while promising in theory—may inadvertently derail the learning process when not accompanied by thoughtful pedagogical integration.

In this context, it becomes evident that although technology provides valuable opportunities for learning, its misuse can lead to surface-level engagement that undermines the cultivation of higher-order thinking skills.

3. Advantages of Using U-Dictionary

Traditional learning paradigms increasingly necessitate the integration of e-learning components to enhance instructional effectiveness. Based on the data obtained, the U-Dictionary application emerges as a highly reliable support tool within both traditional and e-learning contexts, particularly for students with limited or no foundational knowledge of English. Hameed et al. (2008) assert that traditional and electronic learning can be effectively integrated to facilitate more flexible and adaptive educational experiences. This assertion is corroborated by various empirical studies, including Supriyanto (2018), who found that e-learning contributes more significantly to student learning outcomes compared to conventional instructional methods.

Several advantages identified in this study regarding the use of the U-Dictionary application are as follows:

1. and fluency **Rapid vocabulary translation:** The application enables students to translate unfamiliar words efficiently, both from Indonesian to English and vice versa. According to Nation (2001), quick access to word meanings plays a crucial role in facilitating vocabulary acquisition and reading

comprehension, especially for language learners at the beginner level.

2. **Access to authentic pronunciation:** U-Dictionary provides pronunciation features based on native speaker recordings, which helps learners to model accurate pronunciation. As Gilakjani and Sabouri (2016) argue, listening to authentic pronunciation is essential in developing proper phonological awareness and oral fluency in a second language.
3. **Support for autonomous and collaborative learning:** The application allows for both independent and group study without requiring constant teacher intervention. This supports the principle of learner autonomy, which is considered a key component in effective language learning (Little, 2007).
4. **Facilitation of vocabulary retention:** By offering immediate access to word meanings and usage in context, the application enhances students’ ability to memorize and internalize vocabulary. As Schmitt (2008) points out, repeated and meaningful exposure to new vocabulary items is a strong predictor of long-term retention.
5. **Oral practice through repetition:** The application allows learners to practice speaking by repeatedly mimicking the translator’s voice, thereby reinforcing pronunciation and fluency. According to Thornbury (2005), repetition and spoken output are vital in developing automaticity in language use, especially in pronunciation building.

4. Disadvantages of Using U-Dictionary

Although the U-Dictionary application offers several pedagogical benefits, the findings of this study also reveal a number of limitations associated with its excessive or uncritical use. These drawbacks, if not addressed appropriately, may hinder the development of students’ language competence and academic integrity. The disadvantages identified are as follows:

1. **Lack of independence in sentence construction:** Continuous reliance on U-Dictionary may reduce students’ ability to compose original English sentences, as they tend to copy and paste pre-existing sentence suggestions provided by the application. This practice may impede the development of productive language skills, particularly writing and syntactic structuring (Hyland, 2003).
2. **Questionable authenticity of student work:** Teachers often find it difficult to assess whether the written output submitted by students truly reflects their linguistic ability or is merely the result of digital assistance. This raises concerns related to

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

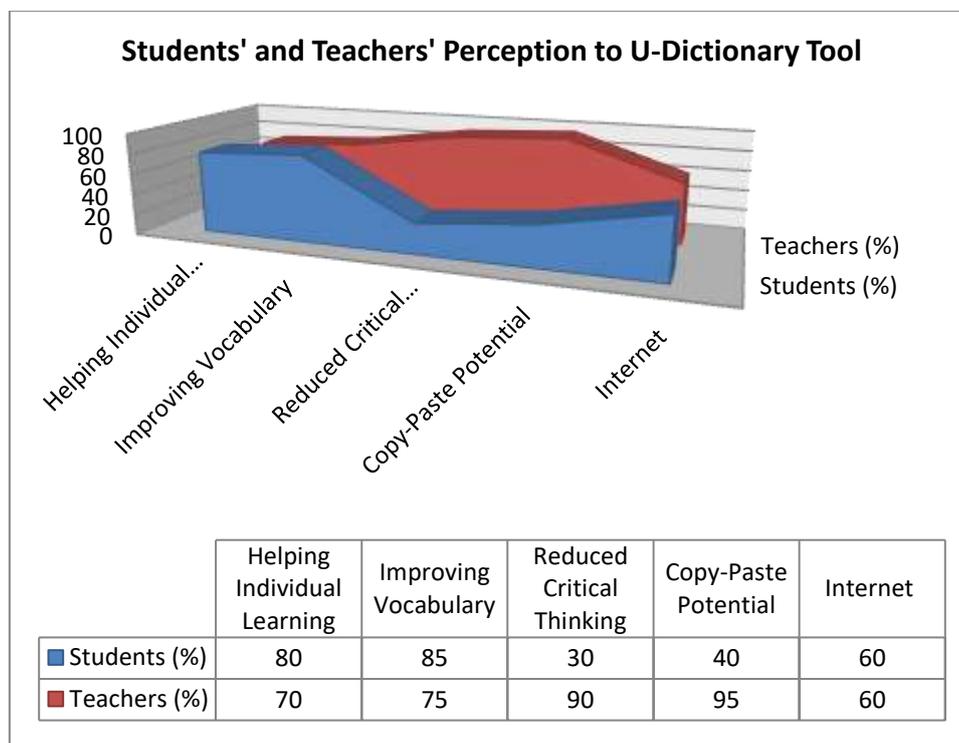
academic honesty and the authenticity of language production (Pecorari, 2003).

3. **Dependency on internet connectivity:** The application's advanced features—such as retrieving contextual examples or sentence usage—require a stable internet connection. In environments with limited or no internet access, the application becomes less functional, thereby limiting its instructional utility (Ally, 2009).
4. **Limited phrase and sentence retrieval:** The search function in U-Dictionary primarily focuses on word-level meanings and does not effectively support users in accessing multi-word expressions, idiomatic phrases, or full sentence examples. This restricts students' exposure to authentic language use in context.
5. **Potential for distraction:** Because the application is accessed through mobile devices, students may be

tempted to engage with non-academic content during learning sessions. The presence of multiple applications and notifications on smartphones can disrupt students' focus and reduce learning efficiency (Kuznekoff & Titsworth, 2013).

6. **Digital divide and inequity:** The use of gadget-based tools such as U-Dictionary inadvertently excludes students who do not have access to smartphones or stable internet connections. This digital gap may exacerbate educational inequality and hinder inclusive learning practices (Warschauer, 2004).

These limitations are further supported by quantitative data, as illustrated in the graph below, which provides a visual representation of user perceptions and usage barriers encountered in learning scenarios involving the U-Dictionary application.



The graph compares students' and teachers' perceptions of the five main aspects of using U-Dictionary in English language learning. The full interpretation for each aspect follows:

A. Supporting Individual Learning

The findings of this study indicate that 80% of students perceived U-Dictionary as highly beneficial in facilitating autonomous learning, with 70% of teachers also acknowledging its advantages. These results suggest a shared perception between students and teachers regarding the application's effectiveness in supporting independent language learning, albeit with students reporting slightly greater benefits. This aligns with the

observations of Godwin-Jones (2011) in *Emerging Technologies: Mobile Apps for Language Learning*, who noted that mobile-based applications, such as U-Dictionary, can significantly enhance autonomous learning and provide enriched language input. Similarly, Kukulka-Hulme and Shield (2008) emphasized that mobile learning tools are instrumental in promoting personalized and self-directed learning experiences.

Furthermore, the current study underscores the increasing reliance on digital tools in supporting individual learning processes, particularly in the context of English language acquisition. For instance, the development of students' vocabulary is often dependent

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

on the availability of digital media that can stimulate cognitive engagement. The data reveal that 85% of students reported a substantial positive impact of U-Dictionary on their vocabulary acquisition, compared to 75% of teachers. This finding implies that students regard U-Dictionary as a particularly effective tool for enhancing their lexical knowledge, a perception that is largely shared by teachers.

B. Limitations in Fostering Critical Thinking

The study reveals a notable disparity in perceptions regarding the potential negative impact of U-Dictionary on students' critical thinking abilities. While only 30% of students acknowledged the risk of merely copying translations without comprehension, a significantly higher proportion of 90% of teachers expressed serious concern over this issue. Educators fear that the application may inadvertently encourage academic dishonesty or foster passive learning habits, as students may rely excessively on instant translations rather than engaging in deeper cognitive processing. This concern is supported by Carr (2010) in *The Shallows*, who asserts that uncontrolled use of digital tools can diminish deep thinking and reflective abilities. Likewise, McPeck (1981) emphasizes that critical thinking requires deliberate and reflective intellectual engagement, not merely the rapid retrieval of information.

C. Internet Dependency as a Technical Constraint

Another key issue identified in this study pertains to the dependency on internet connectivity. Both students and teachers each represented by 60% of respondents equally acknowledged that access to a stable internet connection poses a significant limitation in the optimal use of U-Dictionary. This shared perspective highlights a practical challenge, particularly in regions where internet infrastructure remains inadequate. As noted by Stockwell (2010), internet accessibility is a critical factor determining the overall effectiveness of mobile-assisted language learning applications.

In light of these findings, it is essential for students who wish to leverage digital tools for language learning to ensure they have reliable and consistent internet access. Without such infrastructure, the pedagogical advantages offered by applications like U-Dictionary may be significantly compromised.

CONCLUSIONS

This study was conducted to examine the role of U-Dictionary as a digital tool in English language learning from the perspectives of both students and teachers, with particular emphasis on learner autonomy, critical thinking, and instructional effectiveness. The findings demonstrate that U-Dictionary contributes positively to the language learning process by offering accessible vocabulary resources, real-

time translation features, and various language inputs that support independent learning. For teachers, the application serves as a complementary instructional medium that aids in the reinforcement of linguistic competencies and classroom engagement.

Nonetheless, the study also highlights several critical limitations. The convenience offered by U-Dictionary, while beneficial, tends to encourage excessive reliance among students, which may diminish their ability to construct sentences independently and hinder the development of higher-order thinking skills. From the teachers' viewpoint, this dependency reflects a shift toward passive learning behavior, where learners prioritize quick solutions over reflective language production and meaningful engagement with content.

Furthermore, the research identifies a paradox within the concept of "independent learning" facilitated by digital tools: while students appear to learn autonomously, their dependency on technological aids—particularly in the absence of pedagogical guidance—may compromise the authenticity of their learning processes. In addition, the requirement for consistent internet connectivity presents a practical limitation, particularly in regions where digital infrastructure remains inadequate.

In addressing the central research problem—"How does the use of U-Dictionary influence English language learning among students and teachers, particularly in relation to learner independence, critical thinking, and teaching effectiveness?"—the study concludes that U-Dictionary assumes a dual role: both facilitative and inhibitive. When utilized with clear instructional strategies, it has the potential to enhance language acquisition. However, without appropriate pedagogical oversight, its use may inadvertently undermine critical thinking and authentic language production. It is therefore imperative for educators to implement structured learning interventions that integrate U-Dictionary meaningfully while promoting analytical thinking, creativity, and language autonomy among learners.

REFERENCES

1. Aithal, P., & Aithal, S. (2023). How to empower educators through digital pedagogies and faculty development strategies. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 7(4), 139–183.
2. Alzubi, A. (2023). The role of multimedia tools in Hashemite Kingdom of Jordan education classroom teaching in the digital era. *European Journal of Interactive Multimedia and Education*, 4(2), e02303.
3. Bezovski, Z., & Poorani, S. (2016). *The evolution of e-learning and new trends*. 6(3), 50–57.
4. CG, M. (2024). Innovations in teaching practices. *International Research Journal on Advanced*

Hariyanti D. et al, U-Dictionary as Media Aids in EFL E-Learning Classrooms: Independent Learning or Threat to Critical Thinking?

- Engineering and Management (IRJAEM)*, 2(05), 1469–1471.
5. Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.
 6. Handayani, F. (2024). THE ROLE OF TECHNOLOGY IN ENHANCING ENGLISH LANGUAGE LEARNING: A STUDY OF DIGITAL TOOLS AND THEIR IMPACT ON STUDENT ENGAGEMENT. *Berajah Journal*, 4(6), 1257–1266.
 7. Hang, L. T., & Van, V. H. (2020). Building Strong Teaching and Learning Strategies through Teaching Innovations and Learners' Creativity: A Study of Vietnam Universities. *International Journal of Education and Practice*, 8(3), 498–510.
 8. Josué, A., Bedoya-Flores, M. C., Mosquera-Quiñonez, E. F., Mesías-Simisterra, Á. E., & Bautista-Sánchez, J. V. (2023). Educational Platforms: Digital Tools for the teaching-learning process in Education. *Ibero-American Journal of Education & Society Research*, 3(1), 259–263.
 9. Kalyani, L. K. (2024). The role of technology in education: Enhancing learning outcomes and 21st century skills. *International Journal of Scientific Research in Modern Science and Technology*, 3(4), 05–10.
 10. Mphaga, J. (2024). THE SIGNIFICANCE OF MEDIA IN EDUCATION AND ITS INTEGRATION IN OPEN DISTANCE LEARNING (ODEL) INSTITUTIONS: THE INFLUENCE OF THE DIGITAL ERA. *EDULEARN24 Proceedings*, 889–898.
 11. Padang, A. R., & Sitepu, M. S. (2023). Utilizing educational media in the field of education fosters active learning within the classroom. *JP (Jurnal Pendidikan): Teori Dan Praktik*, 8(2), 95–100.
 12. Radanliev, P. (2024). Artificial intelligence: Reflecting on the past and looking towards the next paradigm shift. *Journal of Experimental & Theoretical Artificial Intelligence*, 1–18.
 13. Serdyukov, P. (2017). Innovation in education: What works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*, 10(1), 4–33.
 14. Stefanovic, S., & Klochkova, E. (2021). Digitalisation of teaching and learning as a tool for increasing students' satisfaction and educational efficiency: Using smart platforms in EFL. *Sustainability*, 13(9), 4892.
 15. SWARGIARY, K. (2024). *Language and learning: The crucial role of language in the teaching-learning process*. Google.
 16. Ulanday, M. L., Centeno, Z. J., Bayla, M. C., & Callanta, J. (2021). Flexible learning adaptabilities in the new normal: E-learning resources, digital meeting platforms, online learning systems and learning engagement. *Asian Journal of Distance Education*, 16(2).
 17. Zhao, Y. (2024). Exploring the Role of Social Media Platforms in Facilitating Collaborative Learning among EFL Students: A Case Study Approach in Vocational Colleges. *International Journal of Instructional Cases*, 8(1), 209–232.
 18. Zou, D., & Wang, Y. (2024). EFL Teachers in the Digital Era: A Journey of Adaptation. *Open Access Library Journal*, 11(4), 1–13.