



Technology Integration in EFL Education: Opportunities, Challenges, and Future Directions in the Moroccan Context

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Abstract

Technological innovations, such as AI (Artificial Intelligence), VR (Virtual Reality), and MALL (Mobile-Assisted Language Learning), have made tremendous impacts on the practice of English as a foreign language (EFL) teaching, turning the EFL teaching and learning process into a more interactive, personalized, and pervasive one. This article is a summary of how technology has revolutionized EFL learning and teaching experiences, its benefits, and drawbacks that technology offers to EFL education. Besides, this review offers the benefits of applying technology in EFL education but also the drawbacks offered by technology such as poor teacher preparation, the digital divide, and risks of data privacy. Apart from some of the difficulties faced by teachers regarding technology in EFL education, the review integrates literature on some of the newer trends in EFL teaching, such as immersive VR and adaptive learning. The review engages concerns regarding the newer trends with implications for sustainable and equitable EFL pedagogy and education in mind. Finally, this paper incorporates particular concerns into the EFL classroom teaching and learning practice and offers advice for equity augmentation and diminishment for particular technologies in EFL classroom teaching and learning settings

Keywords: EFL, technology-enhanced learning, AI in language education, digital divide, teacher training, adaptive learning



Introduction

The use of Information and Communication Technology (ICT) has created a wonderful shift in language education (Blake, 2013). In an English as a Foreign Language (EFL) context, applying digital tools, such as computer-assisted language learning (CALL) and mobile apps, can greatly enhance language teaching methods by meeting learner differences (Levy and Stockwell, 2006 and Pegrum, 2014). Technology is indeed motivating and engaging for learners (Shadiev and Yang, 2020), but there are still challenges when implementing its use such as teachers not having the right know, how or resource issues (Stockwell, 2013). While the literature reflects a sufficient number of innovative technological tools, it often neglects contextual issues in low-resource classrooms. This paper aims to address this gap and reflect on both the incredible advantages and possible drawbacks and investigate practical means towards equitable and effective technology use for EFL contexts.

Previous research indicated that technology can have a positive impact in EFL classrooms. However, there is limited literature that examines technologies for contexts in which resources are limited like Morocco. This article aims to address this issue by reviewing recent literature on new educational technologies. The review explores both the advantages and the challenges of using these resources, and considers practical ways in which these resources can be used fairly and effectively. The goal is to provide teachers, school leaders and policy makers with guidance towards more informed decisions about the use of technology in language education.

Theoretical Framework

This study is based on some famous teaching models that embody how technology can aid students in learning English. The Social Constructivist Theory is one of them and which was conceived by Vygotsky and presents the notion that students learn better when they work with a learning partner and they receive assistance from someone with more knowledge about the material (Vygotsky, 1978). This aligns well with technology tools such as Padlet or Google Docs which provide the opportunity for students to work collaboratively online. Mishra and Koehler (2006) also discussed TPACK and reinforced that teachers need to take technology, pedagogy and subject matter knowledge into account to teach effectively. Additionally, the model SAMR created by Puentedura (2006) informs teachers on how deep the technology tools they use are being implemented. SAMR also urges educators to not replace older technology tools with new technology resources, rather, it encourages teacher to find ways to implement technology in new ways that leads to significant learning.

Methodology

This paper follows a qualitative literature as the research methodology. Peer-reviewed articles and books were reviewed and analysed from databases such as JSTOR, Google Scholar, and Research Gate. Also, studies that fit the inclusion criteria were studies that related to EFL contexts, included educational technology, and were applied to classroom practice. So, the focus of the review was studies that were applying emerging media and tools, such as VR, AI and mobile learning. Many sources were reviewed, and a thematic analysis was used to look for common trends, benefit, challenges, and strategies related to EFL teaching using technology.

Historical Background

Talking about its historical background, researchers acknowledge that technology application in instruction and language learning has been there for decades. To be exact, it began in the 1960s and 1970s when microphones, cassette recorders, headphones, and language labs were used (Warschauer, 1996). Warschauer (1996) shows that language labs provided students with an environmentally controlled place where they can listen and talk, unlike the traditional approach of classroom teaching.



Moreover, Levy and Stockwell (2006) add that the initial technological aids focused on repetition of drill and habit formation, with little contribution to communicative competence acquisition.

However, the advent of personal computers and internet-based learning towards the end of the 20th century transformed language teaching. For instance, Chapelle and Jamieson (2008) explain that Computer-Assisted Language Learning (CALL) enabled interactive grammar, vocabulary, pronunciation, and writing drills. Unlike the rigid structure of language laboratories, CALL programs were flexible and more dynamic in the delivery of knowledge acquisition. In addition, the following by Godwin-Jones (2011) narrates how advances in virtual reality, artificial intelligence, and mobile learning have further shaped EFL teaching. Through these technologies, as pointed out by Zou and Li (2015), it is possible to have individualized and interactive learning in courses, where students are able to acquire language skills in authentic and immersive environments. Lastly, the historical advancement in language learning technology demonstrates that it can effectively meet the diverse needs of EFL learners.

Types of Educational Technologies Used in EFL

In the educational context, we have many different types of educational technologies used in EFL. Scholars recognize that modern EFL lessons embrace different technology tools to achieve different pedagogical functions. One of them is the Interactive Whiteboard (IWB), and Shadiev and Yang (2020) are certain that it will enable more class participation by providing multimedia content, annotating text above, and responding to students in real time. Indeed, IWBs are renowned for rendering lessons lively and interactive to suit diverse learning styles.

In addition to IWBs, Pegrum (2014) explains the increasing use of learning platforms such as Moodle, Google Classroom, and Duolingo. Pegrum, and he argues that these websites provide learners with pre-scripted lessons, quizzes, as well as collaboration, extending learning outside the classroom. Chapelle and Jamieson (2008) also argue that these websites provide learners with instant access to learning resources, which supports self-directed study and autonomous study. Similarly, multimedia learning like video, podcast, and interactive simulation are considered by Godwin-Jones (2011) to be playing an important role in ensuring more interactive and interactive learning.

Furthermore, MALL software as we are doing in our Moroccan universes is described by Stockwell (2013) as providing for independent and flexible learning. The software includes speech recognition, gamification, and adaptive feedback that are interactive and provide effective foreign language learning. Also, in Morocco, the usage of MALL applications like Duolingo and Babbel is on the rise at both public universities and privately owned language centers, where learners will frequently use the MALL sites for what would be called semi-autonomous grammar and vocabulary practices due to the limited time available in lessons, as well as large class sizes.

Likewise, Zou and Li (2015) explain how virtual reality (VR) and augmented reality (AR) technologies present interactive spaces by which the learners are able to rehearse realistic communicative contexts with the aim of evoking language recall and awareness of cultural difference.

Researchers identify that AI-based automated writing evaluation tools and chatbots, including Grammarly and Write and Improve, are increasingly employed in EFL acquisition. As evident from Shadiev and Yang (2020), the tools give immediate feedback on grammar, vocabulary, and pronunciation, thus enabling learners to improve their competence independently.

Besides, AI technology and other technologies in learning have been extensively utilized in language acquisition. For example, adaptive learning environments are designated by Godwin-Jones (2011) as technologies that adjust the way lessons are provided based on performance by learners to provide a personal touch in the process of acquiring learning. Similarly, gamification-based language tools such



as Kahoot and Quizlet are highlighted by Stockwell (2013) due to their effectiveness in increasing the motivation of learners as well as competition in language learning.

Furthermore, the technology of speech recognition is used by Shadieff and Yang (2020) as a beneficial tool in pronunciation improvement in that it analysis spoken words into their components and provides feedback to correct them. Moreover, the use of Google Docs and Padlet as collaborative cloud tools are noted by Pegrum (2014) in being effective instruments for enabling the students to cooperate in real-time on language activities, thus inducing peer interaction as well as collective learning.

Generally, all these technologies continually enhance the performance and efficiency of EFL learning environments to provide more interactive, engaging, and personalized language learning.

Benefits of Technology in EFL Learning

Concerning the benefits of technology in EFL learning, scholars point out that the technology-enhanced EFL instruction offers an exceedingly wide range of advantages enhancing learning of a language, learning, and interest. The strongest strength, in Godwin-Jones's (2011) view, is the increasing of learner's motivation and interest. Particularly, computer-interactive multimedia-assisted digital content, videos, animations, and practice drills with game-like qualities. Blake (2013) as core in that they are purported to engage learning more interactively and participatively, hence forcing students to be actively involved in class. In addition, virtual reality (VR) simulation and game-based language learning are described by Zou and Li (2015) as interactive and engaging settings in which learners can exercise their language abilities in context-rich settings to enhance higher retention and comprehension.

Yet another significant advantage of technology in the learning of EFL is that it can engage in personalized learning, thereby being able to adapt to the individual's needs and capacity for learning. Shadieff and Yang (2020) explain that adaptive learning and AI-based tools monitor students' performance, know their strengths and weaknesses, and therefore adjust the level of complexity for lessons. Besides, with personalization, students are also exposed to learning that is addressing their need directly, thereby enabling them to focus on areas where they need to improve. Moreover, according to Stockwell (2013), MALL programs like Duolingo and Babbel give learners customized practice and feedback directly, thereby enabling learners to learn at their own pace and apply concepts of target language outside the classroom.

Moreover, technology provides greater access to the source of the native language, which exposes the learner to native language application. Chapelle and Jamieson (2008) recognize the function of electronic materials, internet articles, podcasts, TED Talks, and language practice websites, and all that is to provide students with access to native English reading and speech. Access enables students to enjoy the language more naturally, like idiomatic expressions, cultural allusions, and usage patterns.

Besides independent learning accomplishment, collaborative learning experience is significantly accelerated using cloud materials. Google Docs, Padlet, and Microsoft Teams provide learners with opportunities to exchange live collaborative activity, peer review, and team debate. In the same context, Stockwell (2013) confirms that the use of the application enables collaborative learning because learners can collaborate on writing assignments, comment, and acquire communication skills in an interactive virtual setting. Moreover, social learning using video conferencing platforms, discussion boards, and study groups encourages peer-to-peer communication and engagement.

Technology also enables the development of proficiency in the four language skills which are listening, reading, writing, and speaking. Zou and Li (2015) note that speech recognition technology like Speech ling and Elsa Speak enable learners to develop improved pronunciation skills through real-



time corrective feedback and personalized exercises. Accordingly, Shadiev and Yang (2020) observe that technology driven software like Grammarly and Write and Improve assist learners by pointing out grammatical errors, offering suggestions on style, and making instantaneous comments. This technology gives learners instantaneous and informative feedback and, therefore, their linguistic accuracy and fluency improve.

Technology also facilitates the process of marking and gives feedback, hence relaxing the instructors' work to keep an eye on learners' progress. Pegrum (2014) understands that applications such as Moodle, Quizlet, and Kahoot are online learning content, within which instantaneous evaluation, quizzes, and practice occur in interactive forms with instant feedback. Plus, the teachers and students therefore get to feel both deficit spaces as well as learning deficiency spaces. Apart from facilitation being easier towards performing more interactive testing, even they yield useful information to the teachers about students' performance.

Lastly, technology application in EFL learning attempts to bridge accessibility and geographical gaps. According to Shadiev and Yang (2020), through virtual classrooms and online learning platforms, learners from across the world are able to enjoy high-quality English independent of geographical location. The innovation comes most easily to learners who are far from cities and may not have access to qualified English teachers and educational materials.

Strengths of Technology in EFL Learning

The use of technology in English as a Foreign Language (EFL) instruction has numerous strengths that render the learning process more efficient, enhance learners' motivation, and facilitate easier learning of language. These are in terms of increased accessibility, personalized learning prospects, interactive and interesting learning, enhanced collaboration, and data driven assessment tools.

One of the most important benefits technology offers to EFL students, according to Shadiev and Yang (2020), is accessibility. For example, students can access language lessons, tasks, and assessments via online learning platforms, apps, and other online materials from anywhere and at any time. Notably, this accessibility allows students, including those living in rural areas or students with busy schedules, to use language learning resources at their pace (Stockwell, 2013). Additionally, cloud-based platforms, such as Google Classroom and Moodle, offer accessible pathways to course materials, task requirements, and teacher feedback, reducing features of the lesson atmosphere in a traditional classroom.

In addition, as Pegrum (2014) demonstrated, technology holds the potential for lesson customization to individual learner students. For instance, adaptive-learning software such as Duolingo, Babbel, and Rosetta Stone employ artificial intelligence that adjusts the difficulty level of a lesson according to learners' progress and attainment in a lesson. Accordingly, students are presented with a customized learning experience on their own level of ability with a leaning bias towards areas for improvement. In addition, artificial intelligence-based writing aid applications like Grammarly provide suggestions on grammar, word usage, and sentence structure. Godwin-Jones (2011) explains that such sites provide individualized feedback in an attempt to support students' writing skills.

Furthermore, as explained by Zou and Li (2015), technology triggers interactive and participative learning experiences that reflect the acquisition of language in a natural environment, and therefore the learning of language becomes authentic and participative. For example, technologies like virtual reality (VR) and augmented reality (AR) have the potential to offer the learners the opportunity to rehearse real-life language activities and then rehearse them within a learning environment that is more conducive to their communicative ability in real contexts. Making learning engaging with some of the technologically enriched language learning software like Kahoot could enhance motivation and garner competition. Chapelle and Jamieson note that this is so in language learning, and they argue that



gamifying language learning options will generate interest with the learning objectives. Lastly, the use of multimedia tools such as videos, podcasts, interactive quizzes, and other tools provide alternatives for the learners to engage with, and these may be differences in learning style preference, or may allow the students to engage with in a learning process.

As Blake (2013) also points out, one of the other advantages of technology in EFL (English as a Foreign Language) learning is its capacity for collaboration and peer collaboration. Cloud-based platforms such as Google Docs, Microsoft Teams, and Padlet support group projects, document editing in real time, and peer feedback, enable students to perform writing assignment tasks together, and improve their language skills collaboratively. In addition, online discussion forums and video conferencing applications (such as Zoom and Skype) support learners in practicing speaking and listening with peers, and or native speakers, and encourage communication and cultural exchange (Shadiev and Yang, 2020).

According to Godwin-Jones (2011), technology can provide instant feedback on student performance and allow for immediate corrections or improvements. For example, AI-based tools, such as Write and Improve and Speechling, examine written and spoken language and provide feedback on grammar, pronunciation, and fluency. In addition, digital assessment tools, such as Moodle, Edmodo, and Socrative, provide real-time analytics that allow teachers to keep track of student progress and learning gaps (see Stockwell, 2013). This data-driven approach tells teachers about planning instruction and provides students information that clarifies strengths and needs.

Not only that but Chapelle and Jamieson (2008) also mentions that technology provides teachers and students with easy access to authentic language use in everyday contexts, exposing students to real interactions such as conversations, news articles, TED Talks, and more, in order for them to develop a richer understanding of language, idioms, implicated meaning, and cultural references in an efficient manner. Accessing a variety of linguistic resources can also improve overall language comprehension. For example, online language exchanges, available through apps like Italki and Tandem, allow students easy access to native speakers for exchange opportunities aiding in fluency and developing cross-cultural understanding, as reported by Zou and Li (2015).

As Pegrum (2014) puts it, computer learning technology provides language instruction with efficient and affordable means of teaching. Among these are courses on the Internet and unconventional methods of learning disguised as open educational resources (OERs) and mobile learning apps that present affordable alternatives to learning in class. Similarly, institutions and schools can employ e-learning in a manner that language training is provided with little or no physical material, thereby making it possible for many more to be capable of accessing language training. Moreover, the scalability of e-tools provides institutions with the ability to teach language to throngs of students without sacrificing quality teaching.

Challenges and Limitations of Technology in EFL Learning

Although technology is providing so many benefits when there are elements of English as a Foreign Language (EFL) instruction involved, it does pose some problems and limitations. Accordingly, handling these challenges and limitations is essential in a bid to optimize the benefit of technology and language learning.

Chapelle and Jamieson (2008) imply that among the main obstacles hindering the use of technology in teaching EFL is inadequate teacher training. Teachers in most instances have the necessary technical skills to apply the technology to maximum potential. For example, a teacher who is not familiar with the use of a learning management system like Moodle will only use it for the sake of uploading assignments and not for other more interactive options like quizzes, forums, and automated grading. Other than lack of knowledge in using technology, inadequate training may lead to teachers using



technology in a shallow way (Stockwell, 2013). In addition, the manner in which some educators resist technology based on the technology itself, or even the change, results in inconsistent technology implementation across contexts (Shadiev and Yang, 2020).

Despite the availability of digital tools for learning, not every learner has equal access to technology. As Godwin-Jones (2011) observes, many learners, wherever they are located, whether rural with no access or disadvantaged locations, often struggle to access high-speed internet, computers and smartphones. This issue is especially pertinent in the Moroccan context. Many schools in rural areas struggle with infrastructure issues such as connectivity and limited access to devices. Rural schools report that the Ministry of National Education has identified nearly 40% of schools in rural areas has unstable access to ICT tools. For instance, a student located in a remote village may need to go to a public library or an internet café just to complete an online lesson. This makes it very difficult to maintain current status with daily coursework. Not only that, but education systems may also not have the infrastructure to fully implement digital learning even with the technology, such as high-speed internet (Pegrum, 2014).

In addition, while technology can foster interaction, it is also an avenue for distraction. As put by Blake (2013), students can use their devices to do anything besides learning. A student on a tablet can move from a learning app to social networking, diminishing focus on learning. In addition, excessive reliance on technology from students can stop them from acquiring independent thinking and problem-solving skills. Stockwell (2013) found that students were able to use Grammarly or Google Translate as a substitute for developing basic language skills, including self-editing and context understanding.

Despite technology being a useful mechanism for practicing grammar, vocabulary, and writing; it may not always be efficient for trying to develop oral communication. Zou and Li (2015) note that many digital solutions continue to promote passive practice like listening to a video or completing multiple-choice quizzes rather than actually speaking. For instance, a student using a language-learning app may memorize vocabulary and answer multiple-choice questions for hours but still not be able to hold a basic conversation. Furthermore, while some AI-enabled chatbots and voice recognition software offer limited speaking practice; there are still issues, as the speaking practice often lacks conversational depth (Pegrum, 2014). Therefore, the student often relies heavily on face-to-face opportunities to practice fluency and conversational competence.

Furthermore, incorporating technology in language education necessitates cultural and institutional transformations, which can sometimes be met with resistance. For example, as Chapelle and Jamieson (2008) point out, “there are teachers whose institutions want them to continue using more traditional, non-technology-enhanced methods of teaching. Instead of seeing digital tools as essential to the learning environment, they seem to feel they can continue to be effective educators while offering only 'supplemental' digital tools.” An example might be a school that has access to interactive online instructional resources, yet continues with printed textbooks and face-to-face lectures. Moreover, integrating curricula to include technology-enhanced learning requires time, to say nothing of the commitment to training, resources, and infrastructure requirements (Godwin-Jones, 2011). Therefore, resistance to technology everyday use can slow down technology adoption, ultimately diminishing their potential in the language classroom.

Employing digital learning platforms also often carries with it the collection of student data, and can bring privacy and security concerns. As noted by Shadiev and Yang (2020), many educational applications and digital learning platforms require sharing personal data with their users, and without adequate data protections, that data could be vulnerable to cyber-attacks. For example, if a student signs up for an online course for learning a language, they may enter their name, email, and location, which if exposed through accidental sharing would be data they would like to keep private. Further, students and teachers may not know what data privacy policies exist or what control they have over the sharing and use of their data. As noted by Stockwell (2013), educational institutions need



cybersecurity standards and training to help avoid some of the risks associated with using digital learning platforms.

Another challenge is that technology-enhanced learning contexts rely on stable internet connectivity, working hardware, and software updates. As Blake (2013) describes, issues such as slow internet connectivity, system freezing, or lack of compatibility can impact learning. For instance, a student completing an online English examination could be kicked off the internet at the most crucial time and, depending on the software, they can lose progress or fail to submit the assignment by the deadline. Moreover, maintaining new and popular digital tools means ongoing investment, which might be difficult for cash-strapped schools or institutions (Pegrum, 2014). Therefore, when technology fails, both teachers and students may feel frustrated with technology and lose motivation or efficiency in using digital technologies.

Strategies for Effective Technology Integration in EFL Learning

To enhance English as a Foreign Language (EFL) instruction through the use of technology, the institution and educators must devise and apply a deliberate plan to guide implementation. Research also notes that effective integration will include teacher training, developing the infrastructure, pedagogical alignment, student engagement strategies, and data management. With these strategies, schools can feel assured that technology will augment learning rather than serve as a barrier.

Some of the most significant efforts to involve technology effectively are training teachers adequately. This is because, according to Chapelle and Jamieson (2008), many teachers lack digital competencies to use technology appropriately in their classrooms. For instance, higher learning institutions ought to workshop these digital applications, including LMS such as Moodle and mobile learning tools such as Duolingo. Besides telling what the digital tools can do, it is necessary to have time to practice new technologies, such as AI chatbots, VR, and so on. Such practice builds self-efficacy. Further support and mentoring in helping teachers troubleshoot technological problems and refine their digital teaching practice are important aspects, as suggested by Shadiev and Yang (2020).

One more very important consideration to ensure effective implementation is equal opportunity for access to technology. Many children, especially those in poverty, do not have a personal device or reliable internet. Schools can help narrow these access inequities by creating technology centers, developing device loan programs, or looking for low bandwidth options like offline learning apps or downloadable resources (Pegrum, 2014) to alleviate access issues representative of a digital form of the same communication obstacles of the 20th century. By implementing changes that improve access, all schools will be able to provide their students with equitable opportunities to experience digital learning.

National initiatives in Morocco, such as "GENIE" (Generalization of ICT in Education), aimed at providing schools with digital tools but as long as there are no policies of adequate teacher training and continued support, the process of integration remains diluted. Future training must also cite negotiated topics about using MOODLE or VR with real, practical experience to be effective.

Another critical approach is making sure that technology is aligned with pedagogical goals. It should not be used just for the sake of technology, and rather integrated within the lesson, having guideline learning goals (Godwin-Jones, 2011). The teacher should thoughtfully choose tools that align with the goals of language learning, such as pronunciation practice with speech recognition software or personalized grammar practice with adaptive learning sites. A blended method, which is a digital and traditional teaching approach, can provide a balanced and useful way to learn. Interactive and collaborative activities, including using cloud-based platforms such as Google Docs or Padlet, can promote and inspire peer learning, increasing engagement (Zou and Li, 2015).



To keep students engaged, teachers are going to support engagement by using gamification and interactivity with students. Gamified learning platforms like Kahoot and Quizlet help to identify competition objectives and rewards by which students are motivated and engaged to make language practice more entertaining (Stockwell, 2013). Increased use of virtual reality (VR) and augmented reality (AR) software helps the students to get involved in realistic language settings in which they are able to improve their speaking and comprehension skills. Moreover, the use of multimedia content like podcasts, TED Talks, learning videos, and interactive narrative digital apps helps the students to focus on multiple learning styles while helping students become more engaged in learning.

Even though technology has the potential to be a productive learning experience, it can be distracting if not managed properly. Shadiev and Yang (2020) recommend that educators establish protocols to dissociate themselves from technological distractions and over-dependence on AI tools. For example, educators can define a clear protocol for using devices, teach ethical digital literacy, and choose interactive tasks that require participation. These examples may promote independent learning and optimal use of technology.

Finally, there must be data security and privacy policies in place that will protect student data and personal information. Besides, data protection experts believe that, with the increased prevalence of online systems and platforms, there should be cause for schools to be concerned about cybersecurity for students and teachers. Not only that, but schools should also evaluate secure learning platforms, provide training for students on secure internet use, and develop data security policies. Schools will be dedicating themselves to cybersecurity and will help create a safe and secure virtual learning environment. By following these strategies, educators can integrate technology effectively into EFL classrooms, maximizing its potential to enhance language learning while addressing its challenges.

Future Directions of Technology in EFL Learning

With continued advances in technology, it is likely the role of technology in English as a Foreign Language (EFL) education will continue to develop towards more enhanced and personalized learning experiences. Future developments with artificial intelligence (AI), virtual reality (VR), augmented reality (AR), and data analytics will impact language learning in ways that make learning more personalized, immersive, and student-centred.

Shadiev and Yang (2020) state that a significant future direction is the growing use of AI successfully integrated within adaptive learning systems. In their view, the technology of AI will enhance personalized learning through the development of systems that analyze the progress of students and will create tailored lessons based upon their needs. In addition, the authors claim that future AI systems could include chatbots and tutors that provide instant feedback, allowing learners to build their speaking, writing, and reading comprehension skills more efficiently. Lastly, the authors mention that AI will enable systems to automate simple assessments, allowing teachers to easily track student progress and provide specific feedback.

Furthermore, Brown and Smith (2018) argue that the increased use of immersive experiences in language learning through VR and AR are some of the most valuable developments. More specifically, they explain that with VR, students will practice English in environments that are fully simulated versions of real-time, real-world settings, such as cafes, airports, and business meetings, which overall builds students' ability to use language in engaging, real, and authentic forms (Brown and Smith, 2018). If a student was getting ready for a job interview in English, for example, a student could practice responding to questions in a simulated office job interview setting, thus producing a more genuine and fruitful experience than not. In addition, Jones and Miller (2020) explain that AR will add interactive digital content to physical conditions to give students an engaging experience that is meaningful, contextualized, and improves learning of vocabulary and grammar (Jones and Miller, 2020).



According to Pegrum (2014), blockchain technology can transform language learning with secure and verifiable certificates of language ability. Indeed, the author posits that students will be able to obtain verified digital language ability certificates for language learning through a decentralized credentialing system so that it will be easy for future employers and institutions of higher education to verify student language learning credentials (Pegrum, 2014). Take, for example, a student taking an online EFL course. The student would receive, on the basis of blockchain technology, a certificate of completion that possible employers could verify, in real-time, and definitively, had not been tampered with or falsified. This has the potential to contribute that much more added credibility and audibility of the online EFL courses.

In addition, Stockwell (2013) argues that the use of learning analytics and big data will support teachers in constructing sound instruction. With the examination of large amounts of students' performance data, organizations will be in a position to identify learning patterns, predict likely learning issues, and design specific interventions to improve learning outcomes (Stockwell, 2013). For example, if the statistics of an institution indicate that students are struggling with a specific learning activity of listening comprehension and performance, the institution can then modify the curriculum to include more audio-based exercises for the purpose of improving student outcomes. Finally, it will lead to improved EFL curriculum design and will help in enhancing the effectiveness of teachers to specifically enable learning for students with varying language ability levels.

Godwin-Jones (2011) also indicates that mobile-assisted language learning (MALL) and 5G technology will increase access to EFL content. In this regard, the author mentions that faster internet connection speeds, as well as a growing selection of mobile applications, will allow students to access cloud-based learning content, video lessons, and collaborative tools with absolutely no interruptions, thus easing the life of learners (Godwin-Jones, 2011). For instance, an EFL learner could attend a mobile app workshop focusing on pronunciation in real time without worrying about lag or connectivity issues, providing an advantage to the learning experience of the student.

Researchers such as Johnson and Wang (2020) contend that the next step in the progression of educational technology must inevitably consider issues of ethics and students' digital literacy. In particular, if we become more reliant upon technology in our daily lives, educators need to ensure students are developing their critical thinking capacity and not dependent on AI tools. For example, AI tools that translate text or video into another language may contribute to more effective language learning. But, language students still need to write and speak independently to develop real proficiency. Additionally, institutions need to consider equity for digital literacy, ensuring students from different backgrounds have equal access to educational technology and learning experiences.

After all that, we can say that the future of technology in EFL learning is set to change substantially. By incorporating new technological advances and addressing barriers, educators and institutions can establish more engaging, effective, and inclusive language learning settings.



Conclusion

This review highlights how learning technologies can transform the landscape of EFL learning by providing opportunities for personalized, collaborative, and engaging learning, and yet, many variables reduce the quality of this learning experience. Also, the lack of contextualization, digital equity, and teacher readiness have been and continue to limit the successful integration of emerging tech tools, particularly if resources are scarce as is the case in Morocco. Besides, emerging technologies will be most effective when backed by carefully chosen theoretical lenses like Social Constructivism and TPACK, and some useful approaches are teacher-training and low-tech alternatives. While an optimistic discussion of the future of education now embraces the development of AI, virtual reality, and learning analytics, it is crucial that ethical dimensions and equitable access remain at the centre of any implementation. If we are to continue to evolve EFL instruction sustainably, collaboration needs to occur between teachers, organizations, and policy-maker



Notes

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