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# Investigating the Potential Use of Virtual Learning Environments in EFL Teaching: A Case Study of Second Life

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## Introduction

With the globalized world that brings technology to life, the popularity of digital tools and the need for the Online education system in classes is increasing day by day. Within the context of English as a Foreign Language (EFL) education, Choi and Lee's (2020) study underscores the role of digital technology in providing adaptive functionalities, individualized feedback, and multimedia components tailored to diverse learning styles. The need for pupils to have greater creativity, interaction, adaptability, and agility in their learning has grown in the 21st century due to the importance of HOT Skills (Higher Order Thinking Skills). According to Chee (2007), as opposed to conventional language classrooms that were furnished with basic items like chairs, desks, and a blackboard, classrooms today are evolving into various "virtual worlds" that give students greater room and freedom. In a similar vein, Baek and Lee (2021), assert that "in the near future, wearable technology, augmented reality, virtual reality, and the metaverse will all be widely accessible and offer students a more engaging and authentic learning environment" (p. 1268). Since the "Net Generation" of young people, who have grown up with modern technology, are fascinated by Online games and 3D multi-user environments (MUVEs), educators and schools have begun to adopt the concept of 3D virtual learning to see what educational implications these MUVEs can hold (Chen, 2016). Within this frame, Second Life (SL), with over eight million users, has developed into the most well-known and well-liked multi-user virtual environment since its founding in 2003.

SL is a platform where students can practice their language skills by conversing with native speakers, to boost student motivation (Wehner et al., 2011). It was noted that, generally, the research utilizing Second Life consistently expressed greater favorable feelings regarding all the motivational factors in language education (Wang & Shao, 2012; Balçıkanlı, 2012; Aydın, 2013; Saraç, 2014). However, despite the growing recognition of virtual platforms in the field of language education, there remains a significant scarcity of research focused on its potential as a language-learning and teaching tool. Accordingly, this study reports Second Life experiences and the perspectives of pre-service EFL teachers regarding the use of SL for literature learning and teaching.

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# Literature Review

## Virtual Reality in Foreign Language Education

Virtual reality is a type of contextualized learning tool defined as an "immersed 3D virtual environment in which a learner acts through an avatar to engage with the other avatars for the explicit purpose of learning" (Kapp & O'Driscoll p. 55). In terms of interaction it is important to understand the differences between immersive and non-immersive VR (Sadler, 2017). Ferdig et al. (2018), describe non-immersive virtual reality as a computer-based environment or simulation, encompassing devices like iPads, laptops, or desktop computers. In contrast, immersive virtual reality is characterized by the user experiencing themselves within the simulated environment, often facilitated by a head-mounted viewer (as cited in Eutsler & Long, 2021). This study's research fits the description of non-immersive VR.

Virtual reality learning should incorporate components that encourage immersion, interaction, and imagination as well as sustainable development-related features. This leads to the appropriation of a significant amount of visual, aural, and tactile information since learners are in control of virtual things, places, or circumstances that seem convincing to them (Su & Chang, 2019).

Research on virtual worlds claimed a variety of drawbacks such as technical and economical issues, slow internet connections, time lags, update requirements, fees (Aydın, 2013; Saraç, 2014), navigational challenges, issues with 3D interface use, inexperienced teachers, and issues with classroom use (Chittaro & Ranon, 2007). According to Howard-Jones (2011), the impact of particular applications is determined by how they are developed and used (by whom, when, and for what purposes). With this regard, Kessler (2020), suggests that *The TESOL Technology Standards* serve as criteria for English instructors and students in all contexts of instruction around the world.

## Integrating Second Life in the EFL Classroom

Described as an online synchronous environment, Second Life offers limitless possibilities and a life without boundaries, guided by imagination. Linden Lab has developed a platform with diverse objects and experiences for users to explore. Widely utilized globally by individuals, businesses, educators, government agencies, and non-profits, SL constitutes over 90% of the virtual world market (Schiller, 2009, p. 92).

Many colleges and universities engage with SL for educational and research purposes. From an educational standpoint, SL enables learners to delve into their lessons and provides opportunities for practical application in scenarios that might be rigid in traditional classrooms. Enabling voice chat and permitting avatars to utilize specific body language in Second Life could also lead to the development of applications for language instruction and distance learning, leveraging the support provided for avatar engagement and communication (Kazazoğlu, 2014; Can & Şimşek, 2015). According to İstifçi et al. (2011), the interaction in SL has the quality of "authentic language" and gives learners of foreign languages access to new words and grammatical structures with rules. Thus, SL is expected to enhance both linguistic and intercultural abilities (Lee, 2004). Furthermore, Hişmanoğlu (2012), highlights the potential advantages of using SL to teach English and literature to EFL students with the ability to practice speaking with English speakers from all over the world, both native speakers and non-native speakers.

## Second Life and its Impact on 21st Century Skills Development: A Focus on the 4Cs

The past research underscores the promising role of Second Life in nurturing the 4Cs in educational contexts as follows:

Critical thinking is nurtured through the exploration of complex scenarios in virtual environments. Studies (Salt et al. 2008; Wang, 2005) demonstrate that Second Life simulations stimulate critical thinking by requiring learners to analyze, evaluate, and make decisions within realistic contexts.

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Creativity flourishes in the open and customizable spaces of Second Life. Baker et al. (2009), define SL as a "platform where users can create content including objects, buildings, furnishings, and landscapes" (p. 60). Lin and Wang (2021), delve into the educational consequences of integrating VR technology into an English classroom to boost students' creative self-assurance and intrinsic motivation.

Effective communication is promoted with immersive language practice. Previous studies (Liaw, 2019; Liang, 2012) suggest that Second Life contributes to the improvement of communication skills by promoting linguistic proficiency and fostering intercultural understanding.

Second Life's collaborative features have been studied in various research (Peterson, 2012; Cooke-Plagwitz, 2008; Shih & Yang, 2008). Findings suggest that virtual teamwork in this platform promotes collaborative problem-solving, teamwork, and a sense of shared responsibility among learners.

## Research Methodology

A qualitative case study was used in this study to look into pre-service EFL teachers' perceptions of using SL for literature learning and teaching. Accordingly, semi-structured interviews, essays, and a focus-group meeting that gave additional sources of insights into the study's analysis to articulate participants' perspectives on learning and teaching literature in SL were conducted. According to the definition of a case study, it is an in-depth examination of bounded systems, such as an activity, event, process, person, or group, based on a significant amount of data collecting (Creswell, 2012; Yin, 2003).

### Participants

The participants were 43 third-year students of the English language teaching department at a state university in İstanbul, Türkiye. The study is administered for a language and literature class course project within the second term of 2021. Prior to the study, the participants had taken courses to develop English language skills, English literature, culture, technology, and communication. Accordingly, their potential for reflecting on opinions on English teaching, literature, and technology can be considered reasonable to carry out the study. Besides, they have taken Online courses throughout the COVID-19 pandemic period. Accordingly, the participants' proficiency in computerized courses and Online learning has been developed for the past two years (2019-2020). However, with regard to the SL device, the participants had not previously employed it, indicating their first experience with this virtual technology.

### Instruments

The participants' individual essays, semi-structured interviews after each VR session, essay, and a focus group meeting to wrap up the study are all examples of sources for qualitative data. The qualitative study aimed to collect essays on participants' second life experiences including pictures, dialogues, and literature facilities. Additionally, participants are requested to write 3 authentic literary activities (pre-while-after/post) within a lesson plan. Instructions:

> Second Life Task:
> Your assignment is to search for and go to the locations within Second Life. Accordingly, you will need to visit the locations of at least four foreign language education institutions and take a snapshot at each location. The next step is to write an essay outlining your individual Second Life experiences and discuss its potential as a language-learning tool in literature learning and teaching.

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## Data Collection

Data were gathered in the fall of 2021 during an undergraduate language and literature teaching course with 43 junior EFL students. It is crucial to note that the researcher was the participants' course instructor and has conducted research on the use of SL in EFL teaching (Kazazoğlu, 2014). In this study, the VR classes were held in a computer teaching lab and conducted over five consecutive weeks. In the initial phase of the study, PTs were introduced to VR and SL. The teachings in each 90-minute session were designed to help PTs envisage VR in their language classrooms and built on the prior experience to go at a speed set by the participants (Pearson et al., 2019). The perceptions of the VR course experience have been defined at the end of each session via semi-instructed interviews.

## Research Questions

1. What are the potentials of Second Life when used for literature learning and teaching?
2. What are the shortcomings of Second Life when used for literature learning and teaching?

## Data Analysis

In order to answer the two qualitative research questions of the study, the participants were asked to write an argumentative essay about the pros and cons of Second Life for literature teaching and learning after their actual experience with Second Life. The written data elicited from the participants was opened in MAXQDA for inductive thematic analysis (Braun & Clarke, 2006). Accordingly, first, 743 open codes were created after reading the data many times. Next, the codes that were relevant to each other were grouped under 49 categories/axial codes. Finally, the categories were grouped under two higher-order themes/selective codes, namely *potentials of Second Life when used for literature teaching and learning* and *shortcomings of Second Life when used for literature teaching and learning.* To ensure that the obtained codes were credible, 20% of them (N = 147) were coded by a second coder who had conducted many qualitative research studies in the area of L2 education. The second coder disagreed with the first coder on five codes. The obtained inter-coder agreement coefficient based on their coding was 97%. The two coders tried to resolve their disagreements by discussing the reason for choosing the codes. Finally, they made a few revisions and reached a complete agreement on the codes.

# Findings and Discussion

## Theme 1: Potentials Of Second Life When Used for Literature Teaching and Learning

The first theme generated in this research was the *potential of Second Life when used for literature teaching and learning.* Within this theme, as portrayed in Table 1, 35 categories emerged. The categories with the highest code frequency are visually presented in Figure 1; visiting literature/education-integrated locations (F = 137), boosting literature learning (F = 45), being interesting and engaging (F = 39), communication/community-building with people around the world (F = 37), being effective for educational/literature-teaching purposes (F = 36), simulating real-life literary content/environments (F = 34) and having interactivity features (F = 32).

Some of the excerpts from the participants' reported experiences of Second Life's potential for boosting literature learning and teaching are presented below:

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*"It is possible to learn a lot of new things in* Second *Life thanks to the communication you have with people."*

*"Everyone I encountered in the game was* very *helpful."*

*"I joined groups and clubs related to* literature *from the search section."*

*"Later, we attended an event called* Literature *and Language Intelligence at Inspiration Island, which was also very enjoyable."*

*"The game developers' interview was shown on a big screen with their Second Life avatars as if they were the guests of a reality show in the game which was a pretty satisfying scene."*

*"In these rooms, we encounter a beautiful* harmony *of visualization and vocalization of important literary works."*

*"The Macbeth concept was well-designed and* well-*structured indeed."*

*"I got a chance to walk around in the castle, and I even sat on Macbeth's throne."*

*"I went to different Islands such as French Island, Book Club Island, Japan, Chinese Island, Learn it Town English City, Little Santorini, Stanford University, Stanford University Library, The British Council Island, Club India, The Canal, London City, Education and so on."*

*"You can meet with the* characters *and visit the places where Macbeth takes place."*

*"I enjoyed visiting the Museum of Sacred and Narrative."*

*"Moreover, the fact that the ghosts are telling the words from the book seemed so interesting to me."*

*"Using interactions within Second* Life *can enhance students' engagement with course content."*

*"Second Life provides a space for* students *to work together on projects."*

*"Some great classical music was* playing *in the background."*

*"Second Life with an updated User*-Interface *can possibly become a great tool for literature teaching that could benefit from the communicative ways of the platform."*

*"Second Life is an educational virtual video game platform where language learners can spend their time dealing with developing foreign language skills."*

*"It made me appreciate literature even* more*."*

TABLE 1
*Potentials of Second Life When Used for Literature Teaching and Learning*

| Categories | Code Frequency |
|---|---|
| Visiting literature/education-integrated locations | 137 |
| Visiting book cafes/clubs/libraries | 33 |
| Wandering in literature-integrated islands | 25 |
| Visiting educational institutes and rooms | 18 |
| Visiting universities simulating real-life universities | 10 |
| Going to literature-based destinations | 10 |
| Attending literary events and organizations | 10 |

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| | |
|---|---|
| Opportunity for key-word searching places | 5 |
| Visiting museums | 3 |
| Visiting churches | 1 |
| Visiting theaters | 1 |
| Walking around castles | 1 |
| Visiting science circles for writing/literature | 1 |
| Visiting art galleries | 1 |
| Visiting buildings for famous literary pieces | 1 |
| Boosting literature learning | 45 |
| Facilitating immersive learning | 6 |
| Facilitating active learning | 6 |
| Encouraging multisensory learning | 2 |
| Boosting discovery learning | 2 |
| Enhancing authentic learning | 2 |
| Facilitating problem-based learning | 1 |
| Facilitating deep learning | 1 |
| Being interesting and engaging | 39 |
| Communication/community-building with people around the world | 37 |
| Being effective for educational/literature-teaching purposes | 36 |
| Simulating real-life literary content/environments | 34 |
| Having interactivity features | 32 |
| Learning in a group/through collaboration with others | 27 |
| Players discussing and sharing ideas/writings about literature | 26 |
| Availability of visual, auditory, and textual/multimodal content | 22 |
| Offering literary content and activities (designed expertly) | 21 |
| Opportunities to create Avatars | 17 |
| Being directed to (book) reading activities | 17 |
| Being an enjoyable experience | 16 |
| Boosting the (foreign) language skills | 14 |
| Boosting writing skills | 6 |
| Improving speaking skills | 2 |
| Improving listening skills | 2 |
| Boosting reading skills | 1 |
| Availability of Online tutors/help from other players | 13 |
| Being motivating for students | 12 |
| Opportunity for finding educational/literary maps | 12 |
| Being easy/simple to work with | 11 |
| Lowering students' affective filters | 11 |
| Being a fun experience | 10 |
| Opportunities for the realization of one's unlimited imagination | 10 |
| Opportunities for having new roles/identities | 8 |
| Experiencing a personalized literature instruction/learning | 7 |
| Involving and boosting creativity | 6 |
| Visiting simulated literary characters | 6 |
| Having easy access to virtual literary books | 6 |
| Overcoming constraints of physical presence in a place | 6 |
| Being cost-/time-effective | 6 |
| Spending time with other players who love literature | 5 |
| Opportunities for experiencing a unique reality | 4 |
| Being excellent for distance education | 4 |
| Having a 3-D learning environment | 3 |
| Providing (a)synchronous learning opportunities | 3 |
| Meeting the diverse needs of learners | 3 |

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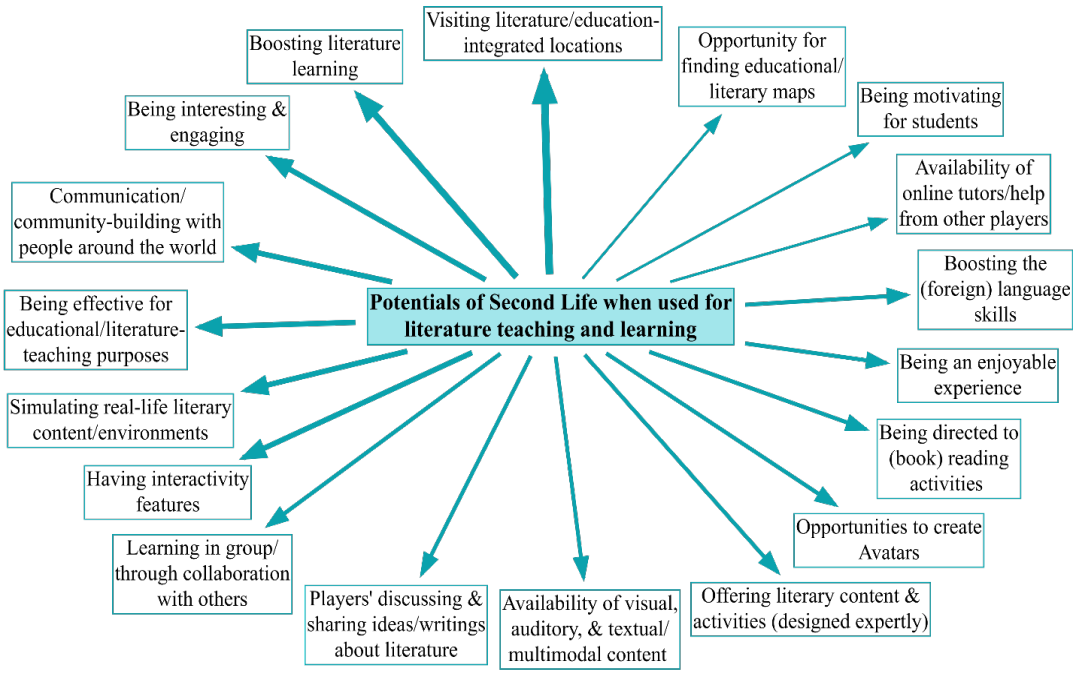



*Figure 1*. Potentials of Second Life when used for literature teaching and learning.

## Theme 2: Shortcomings Of Second Life When Used for Literature Teaching and Learning

The second theme generated in this study was named *shortcomings of Second Life when used for literature teaching and learning*. Within this theme, as shown in Table 2 and Figure 2, 14 categories were created. These categories included technical issues (F = 36), experiencing a range of negative emotions (F = 11), understanding/adjusting to the game being difficult (F = 9), being appropriate only for adult learners (F = 5), not being appropriate for teaching (literature) (F = 4), not being good for students unfamiliar with computer games (F = 2), finding no one in libraries/literature rooms (F = 2), entering some places requiring permission (F = 2), existence of some meaningless locations (F = 1), offering limited character avatars (F = 1), risk of experiencing computer-gaming addiction (F = 1), discussions being less effective than those in real life (F = 1), not being a preferable game for a long-time use (F = 1), and many book clubs in the game being inactive (F = 1).

Some excerpts from the participants revealing their reported experiences about the shortcomings of using Second Life for literature teaching and learning are presented below:

> *"I do not think it is a game that I would prefer to play for a long time."*

> *"Although I have an* average *quality gaming laptop, most of the items that belong in the worlds of the game appear with a delay."*

> *"I wasn't able to enter the main library building as the room required my access to it, so my trip to this nice-looking place was cut short."*

> *"I* was *all by myself in the literature rooms, meaning that nobody uses this platform for purposes of literature and teaching literature."*

> *"The exploration and* adaptation *process to this Online platform should be studied under assistance.*

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*"After checking out the* game*, I've decided it would be a bad idea to try and teach literature here."*

TABLE 2
*Shortcomings of Second Life When Used for Literature Teaching and Learning*

| Categories | Code Frequency |
|---|---|
| Technical issues | 36 |
| Items appearing with delay in the game | 6 |
| Having outdated graphics | 6 |
| Having high system requirements | 5 |
| Not having a good user interface | 4 |
| Slowing down the computer processing | 3 |
| Having a problematic server | 3 |
| Being badly optimized | 2 |
| Requiring a good internet connection | 2 |
| Having low quality | 1 |
| Having a low user count | 1 |
| Leading to fast laptop battery draining | 1 |
| Experiencing a range of negative emotions | 11 |
| Low motivation | 3 |
| Confusion | 3 |
| Disappointment & frustration | 2 |
| Boredom | 1 |
| Anger | 1 |
| Low engagement | 1 |
| Understanding/adjusting to the game being difficult | 9 |
| Being appropriate only for adult learners | 5 |
| Not being appropriate for teaching (literature) | 4 |
| Not being good for students unfamiliar with computer games | 2 |
| Finding no one in libraries/literature rooms | 2 |
| Entering some places requiring permission | 2 |
| The existence of some meaningless locations | 1 |
| Offering limited character avatars | 1 |
| Risk of experiencing computer-gaming addiction | 1 |
| Discussions being less effective than those in real life | 1 |
| Not being a preferable game for long-time use | 1 |
| Many book clubs in the game being inactive | 1 |

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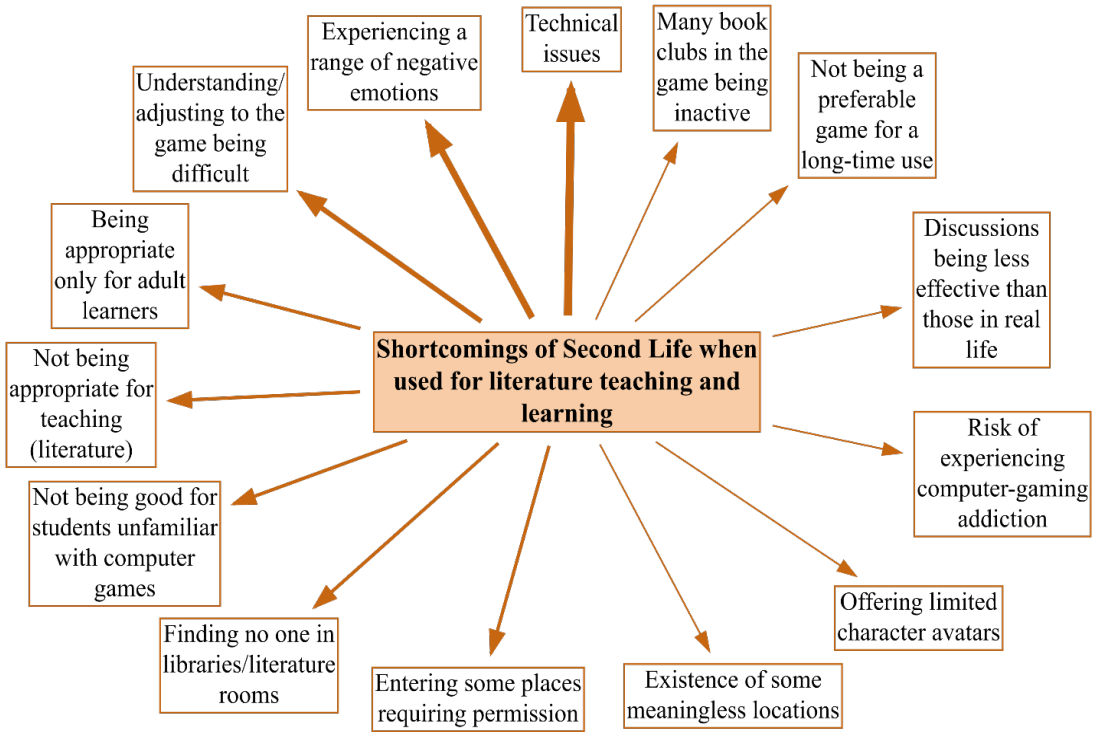



*Figure 2*. Shortcomings of Second Life when used for literature teaching and learning.

Overall, the results showed that based on the participants' experiences with Second Life, the reported benefits (F = 666) significantly outweighed the shortcomings (F = 77) of Second Life for literature teaching and learning.

## Conclusion

In this study, the findings suggest that VR-assisted language learning through the use of SL can facilitate EFL learning and enhance both affective and cognitive factors. This finding is consistent with prior studies on students' views regarding the benefits of VR-integrated instruction in EFL education (Chen, 2003; Lin, 2002; Ayres, 2002; Kalaycı & Humiston, 2015; Craddock, 2018; Wang et al. 2020).

Significant implications for EFL students' willingness to learn and teach literature with virtual tools are drawn from the current study. The majority of the participants have positive attitudes toward the SL platform in terms of having real-life literature experience by visiting virtual literature-integrated locations (%137), boosting literature learning (%45), being interesting and engaging (%39), and being effective for literature teaching (%37). Similarly, Birhan et al. (2019), highlight the positive effects of using a virtual environment on teaching language and literature. However, some of the participants perceived some disadvantages of using SL in education in terms of having technical problems (%36), experiencing negative emotions (%11), and having difficulty in adjusting the game features (%9) which are in line with the past studies (Baker, et al. 2009; Wang & Shao, 2012; Saraç, 2014). Nevertheless, this study reveals that the advantages of using VR in English teaching significantly outweigh the disadvantages.

This study also reveals new findings on the practicality of using the SL platform in literature learning and teaching for its perceived attributes to the 4C's of 21st-century skills; communication, collaboration, creativity, and critical thinking.

Overall, incorporating VR and practice could facilitate pre-service EFL teachers' advancement in both learning and teaching literature. However, few teachers incorporate VR into their lessons, despite the

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potential benefits of VR for increasing student enthusiasm and learning (Eutsler & Long, p. 31). With this regard, to evaluate the many features of VR's potential for teaching English, more research is required. This study could be limited by technical problems such as unstable internet connections, power outages, or device malfunctions. Furthermore, it's possible that participants had trouble understanding the instructor's instructions or found the tasks difficult.

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## References

Aydın, S. (2013). Second life as a foreign language learning environment: A review of research. *Turkish Online Journal of Distance Education, 14*(1), 53–63.

Ayres, R. (2002). Learner attitudes toward the use of CALL. *Computer Assisted Language Learning, 15*(3), 241–249.

Baek, J. S., & Lee, C. H. (2021). Effects of mobile-assisted blended learning on university students' English speaking proficiency in Korea. *The Journal of Asia TEFL, 18*(4), 1266–1284.

Baker, S. C., Wentz, R. K., & Woods, M. M. (2009). Using virtual worlds in education: Second life as an educational tool. *Teaching of Psychology, 36*(1), 59–64.

Balçıkanlı, C. (2012). Language learning in second life: American and Turkish students' experiences. *Turkish Online Journal of Distance Education, 13*(2), 131–146.

Birhan, A.T. (2019). Teaching language and teaching literature in virtual environment by Maria Luisa Carrio-Pastor (eds)., Springer Verlag, Singapore. *Journal of Language and Education, 5*(3), 111–113.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Can, T., & Şimşek, I. (2015). The use of 3D virtual learning in training foreign language pre-service teachers. *Turkish Online Journal of Distance Education, 16*(4), 114–124.

Chee, Y. S. (2007). Embodiment, embeddedness, and experience: Game-based learning and the construction of identity. *Research and Practice in Technology Enhanced Learning, 2*(1), 3–30.

Chen, J. C. (2016). The crossroads of English language learners, task-based instruction, and 3D multi-user virtual learning in Second Life. *Computers & Education, 102*, 152–71.

Chen, P. (2003). *EFL student learning style preferences and attitudes toward technology-integrated instruction* [Unpublished doctoral dissertation]. University of South Dakota.

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Choi, H., & Lee, C. H. (2020). Learner autonomy in EFL reading with digital technology at secondary school level. *The Journal of Asia TEFL, 17*(4), 1323–1345.

Chittaro, L., & Ranon, R. (2007). Web3D technologies in learning, education and training: Motivations, issues, opportunities. *Computers & Education, 49*(1), 3–18.

Cooke-Plagwitz, J. (2008). New directions in CALL: An objective introduction to Second Life. *CALICO Journal, 25*(3), 547–557.

Craddock, I. M. (2018). Immersive virtual reality, google expeditions, and English language learning. *Library Technology Reports, 54*(4), 7–9.

Creswell, J. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.

Eutsler, L., & Long, C. S. (2021). Preservice teachers' acceptance of virtual reality to plan science instruction. *Educational Technology & Society, 24*(2), 28–43.

Ferdig, R. E., Gandolfi, E., & Immel, Z. (2018). Educational opportunities for immersive virtual reality. In J. Voogt, G. Knezek, R. Christensen, & K.-W. Lai (Eds.), *Second handbook of information technology in primary and secondary education* (pp. 1–12). Springer International Handbooks of Education.

Hişmanoğlu, S. (2012). Prospective EFL teachers' views on English language teacher training program. *Journal of Research in Education and Teaching, 1*(2), 330–341.

Howard-Jones, P. (2011). *The impact of digital technologies on human well-being*. Nominet Trust.

İstifçi, İ., Lomidazde, T., & Demiray, U. (2011). An effective role of e-learning technology for English language teaching by meta-communication actors. *Turkish Online Journal of Distance Education, 12*(4), 201–211.

Kalaycı, S., & Humiston, K. R. (2015). Students' attitudes towards collaborative tools in a virtual learning environment. *Educational Process: International Journal, 4*(1–2), 71–86.

Kapp, K. M., & O'Driscoll, T. (2010). *Learning in 3D: Adding a new dimension to enterprise learning and collaboration*. Pfeiffer.

Kazazoğlu, S. (2014). Technology-based interaction in foreign language teaching: The case of Second Life. *Dil Dergisi, 164*, 39–51.

Kessler, G. (2020). Professionalizing your use of technology in English language teaching. In C. Coombe, N. J. Anderson, & L. Stephenson (Eds.), *Professionalizing Your English Language Teaching*. Springer.

Lee, L. (2004). Learners' perspectives on networked collaborative interaction with native speakers of Spanish in the US. *Language Learning & Technology, 8*(1), 83–100.

Liang, M. Y. (2012). Reimagining communicative context: ELF interaction in Second Life to learn EFL. *Journal of Language, Identity, and Education, 11*(1), 16–34.

Liaw, M. L. (2019). EFL learners' intercultural communication in an open social virtual environment. *Journal of Educational Technology & Society, 22*(2), 38–55.

Lin, N. T. (2002). *Motivation and attitude toward integrated instruction through technology in college-level EFL reading and writing in Taiwan* [Unpublished doctoral dissertation]. University of Pittsburgh.

Lin, Y. J., & Wang, H. C. (2021). Using virtual reality to facilitate learners' creative self-efficacy and intrinsic motivation in an EFL classroom. *Education and Information Technologies, 26*(4), 4487–4505.

Pearson, P. D., McVee, M. B., & Shanahan, L. E. (2019). In the beginning: The historical and conceptual genesis of the gradual release of responsibility. In M. B. McVee, E. Ortlieb, J. Reichenberg, & P. D. Pearson (Eds.), *The gradual release of responsibility in literacy research and practice* ((Vol. 10, pp. 1–21). Emerald Publishing Limited.

Peterson, M. (2012). EFL learner collaborative interaction in Second Life. *ReCALL, 24*(1), 20–39.

Salt, B., Atkins, C., & Blackall, L. (2008*). Engaging with Second Life: Real education in a virtual world literature review*. SLENZ Project for the New Zealand Tertiary Education Commission.

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Sadler, R. W. (2017). The continuing evolution of virtual worlds for language learning. In C. A. Chapelle & S. Sauro (Eds.), *The handbook of technology and second language teaching and learning* (pp. 184–201). Wiley Online Library.

Saraç, H. S. (2014). Benefits and challenges of using second life in English teaching: Experts' opinions. *Procedia-Social and Behavioral Sciences, 158*, 326–330.

Schiller, S. Z. (2009). Practicing learner-centered teaching: Pedagogical design and assessment of a Second Life project. *Journal of Information Systems Education, 20*(3), 369-381.

Shih, Y. C., & Yang, M. T. (2008). A collaborative virtual environment for situated language learning using VEC3D. *Journal of Educational Technology & Society, 11*(1), 56–68.

Su, C. H., & Cheng., T. W. (2019). A sustainability innovation experiential learning model for virtual reality chemistry laboratory: An empirical study with PLS-SEM and IPMA. *Sustainability, 11*(4), 1027.

Wang, C. H. (2005). Questioning skills facilitate Online synchronous discussions. *Journal of Computer Assisted Learning, 21*(4)*,* 303–313.

Wang, C. P., Lan, Y. J., Tseng, W. T., Lin, Y. T. R., & Gupta, C. L. (2020). On the effects of 3D virtual worlds in language learning—A meta-analysis. *Computer Assisted Language Learning, 33*(8), 891–915.

Wang, F., & Shao, E. (2012). Using second life to assist EFL teaching: We do not have to sign in to the program. *TechTrends, 56*(4), 15–18.

Wehner, A., K., Gump, A. W., & Downey, S. (2011). The effects of Second Life on the motivation of undergraduate students learning a foreign language. *Computer Assisted Language Learning, 24*(3), 277–289.

Yin, R. K. (2003). *Case study research: Design and methods.* Sage.

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