



EFL teachers' teaching with video-conferencing and additional technology: A systematic literature review

Ibrahim Muhammad✉¹

¹American University of Armenia, Armenia

Article Info

Article History:
Received on 20
November 2024
Approved on 30 March
2025
Published on 31 March
2025

*Keywords: EFL
teachers;
videoconferencing; ICT
tools; teachers'
technological practices;
educational technology*

Abstract

This systematic review aimed to contribute to insights into the vital role of implementing independent ICT tools in teaching with video-conferencing (VC). The study focused on what technological tools EFL teachers' use in VC-based contexts, how and why teachers use these tools, and the impact of the tools on the development of students' language skills. The analysis of 64 studies published between 2010 and 2022 indicated that teachers mostly use learning management systems and various additional tools such as PowerPoint slides, websites, and online quizzes. The results also indicate that the number of studies that targeted speaking skills was higher than those that focused on other skills, with reading being investigated by very few studies. Concerning the challenges, a lack of digital preparedness on the part of both students and teachers was reported. The impact of these tools was mostly positive in terms of raising the interaction and communication elements along with skills improvement. The findings can be beneficial for EFL teachers, course designers and EFL trainers in VC-based contexts by developing their awareness of the necessity of implementing specific technological tools to gain the expected skills-related outcomes.

✉Correspondence Address:
Yerevan, Armenia
E-mail: abrahamamouhammad@gmail.com

INTRODUCTION

Video-based conferencing is a synchronous communication medium in which users can easily share visual and audio facilities (Krutka & Carano, 2016). Videoconferencing has distinct features of combining both oral and visual elements with such essential modalities (Bailey et al., 2020). In spite of the fact that previous studies have proved the effectiveness of videoconferencing-based EFL classes in developing English language skills (Foronda & Lippincott, 2014; Kumar et al., 2015), other studies (Nilayon & Brahmakasikara, 2018; Nova, 2020; Nurieva & Garaeva, 2020; Orhan, & Beyhan, 2020; Permatasari, 2018; Sefiani, 2021) have revealed significant drawbacks such as lack of interaction on the part of students, time constraints on class content and adopting the same traditional methods that are followed by EFL teachers in face-to-face settings. This was accompanied by challenges in assessing students' skills. In conclusion, the findings of these studies showed that teachers were not always able to keep students focused on the English language content, which resulted in conspicuous increased anxiety and lack of confidence on the part of students. Accordingly, using additional technological tools combined with or integrated into video conferencing might solve these problems by maximizing the language input, adding the interaction component to the class, and providing an opportunity for more real-life application of the class content.

There are various tools that seem to contribute to the overall development of learners' English language abilities. Budiarta & Santosa (2020) and Santos (2020) showed that Flipgrid has a positive impact on students' speaking and listening skills, their confidence and their anxiety. The results of these studies were reported by comparing two face-to-face classes (one implementing Flipgrid and the other without Flipgrid). The fact that such studies are conducted in face-to-face contexts means that information must be gathered about the efficiency of these skills in EFL VC-based contexts. Flipgrid is an independent and interactive technological tool that enables students to record videos in response to questions posted by the teacher. Students can also reply to their classmates' videos by recording a video, commenting and reacting. Such a tool may compensate for the time constraint since students will do Flipgrid tasks out of the class timeframe and with no connection issues due to the ability to carry out the task later after class if connection issues occurred in class. Moreover, students can take their time preparing the video, recording and discarding parts of it in addition to other options that reduce the anxiety level.

In the same vein, Chiang (2020), Kapsalis, et al. (2020) and Kaur and Nadarajan (2020) conducted studies that proved the effectiveness of Kahoot as a formative assessment tool in face-to-face EFL settings. This tool enables students to participate in answering questions, in class, with a username, which may reduce anxiety and provide a chance, through the game, for them to take part in class actively and in a fun way. Kahoot can also assess students' performance by, for example, displaying the most difficult questions for reviewing at the end without mentioning students' names. The latter can reduce students' stress while learning.

Although studies on particular online tools show the effects on students' language skills, an overview of tools and effects on language skills and sub-skills in VC-based contexts seems to be missing. Such an overview might help teachers to integrate these tools in VC-based contexts. This systematic literature research therefore concentrates on creating an overview of the technological tools in VC-based contexts that support students' language development.

Literature review

In previous systematic reviews, the integration of independent technological tools in general online learning contexts was unfolded as a by-product of the whole process, meaning that these studies mentioned the independent tools while discussing the VC platforms considering that these were all technologies that serve the VC class without specifying the implications related to the independent tools. Some studies focused solely on the effectiveness of the tools integrated into video-conferencing applications while other studies concentrated on the efficiency of independent technological tools in online education in general rather than in particular EFL VC-based contexts. For instance, Hamad and Metwally (2019) conducted a study with the aim of uncovering the efficiency of technology use. One of the study sections related to video-conferencing mentions that previous studies showed the significant educational effectiveness of the break-out feature with Zoom as an effective speaking practice for the reason that it is similar to the grouping and pair-up practices in face-to-face classes. Furthermore, Bond (2020) carried out a systematic review that synthesized the findings of 89 studies examining, as one of the study purposes, the most commonly used tools in response to the

emergency situation resulting from COVID 19. This study states that video-recording and other social networking sites were the most widely used technologies. This study also indirectly showed that these tools were implemented on VC platforms such as Zoom and Google Classroom without referring to the activities or the aims of using these tools. In another systematic review, Mohtar and Yunus (2022) investigated 40 articles to identify the most essential technological components of triggering motivation and engagement in VC-based classes. The authors stated that gamification and the use of an e-portfolio are the most effective tools when it comes to virtual online classrooms. They also noted that the online classroom content should be modified by integrating interactive ICT tools to avoid shifting to a class mode or simply lecturing. Regarding LMS (learning management systems) tools, Gamage et al. (2022), in a study that focused on Moodle only, reviewed 538 articles to examine the affordances of Moodle systems in online learning contexts before and during the pandemic. The findings reveal that LMSs have proved their value in engaging students in learning and in the interactive assessment of the learning process. Regarding the technological tools implemented for writing skills development, Handayani and Handayani (2020) conducted a systematic review to demonstrate the most effective writing tools that were integrated in EFL university online learning during the pandemic. According to the synthesis of the papers in this study, the three technological writing tools most frequently implemented were: (1) "Paragraph Punch" for its full support in all the stages of writing, (2) Edmodo, and (3) "Pro Writing Aid" for its combining of the features availed by Microsoft Office Word, Google Documents, and Google Chrome. "Pro Writing Aid" enables students to autonomously test themselves in addition to the extensive assistance during the writing process. According to the findings of the study, Edmodo is also highly interactive and motivating, in addition to its prominent use as a learning management system and its approach to the writing process and writing assessment (tasks assignment, quizzes and feedback). As for the EFL speaking skill, the research by John and Yunus (2021) confirms the importance of social media such as "Instagram, Youtube, Telegram" and other technological tools such as "Voice Thread" in developing students' English language skills in online learning contexts. This study reviewed 36 journal articles that were published in the period from 2016-2021. Finally, according to Nawir and Tsuraya (2021), Kahoot and Quizizz promoted positive attitudes on the part of EFL students and teachers, and the authors concluded that these tools have proved their potential in enhancing interaction and the learning process overall. Moreover, this was reinforced by the positive attitudes of both EFL students and teachers. Their review study exhaustively analyzed nine articles during 2020. Interestingly enough, their findings also demonstrated that EFL teachers showed lack of training and digital literacy when implementing technological tools in VC-based contexts, and this resulted in confusion concerning which tool best fits which language level or age category (teenagers vs. adults).

The above-mentioned studies indicate that the use of technologies in online and video-conferencing contexts is gradually gaining prominence in the literature. Recent primary research, specifically after the breakout of COVID 19, further concentrates on the use of ICT tools in completely VC-based or partly VC-based contexts (blended); nonetheless, the existing systematic reviews are still in the initial phase of reviewing studies focusing on the general implications of moving to the online mode of learning without analyzing the studies that target specific EFL technological teaching and learning practices such as those related to the use of independent ICT tools. The importance of such an analysis would be in illustrating whether ICT tools could eliminate some of the challenges that EFL learners grapple with in VC-based contexts. Such challenges could be related to a lack of digital preparedness by students and teachers, and the inability to use the proper ICT tools to target a skill in addition to the lack of interaction and motivation in class. The current study will delve deeper into the subtleties pertinent to EFL teacher's integration of ICT tools in VC-based EFL contexts. Furthermore, the value of carrying out this study lies in equipping EFL teachers with valuable insights about the significance of using specific ICT tools in favour of maximizing EFL input and output in VC-based classes.

The scope of this research is determined by the following research questions:

- (1) Which technology tools are commonly used in VC-based EFL contexts?
- (2) What are the aims of applying these tools in terms of the four skills?
- (3) What are the teacher-related practices in terms of the four skills?
- (4) What are the effects of using these technology tools on language skills development in VC-based EFL contexts?
- (5) What are the barriers to integrating technological tools in VC-based EFL contexts?

METHODS

This study implemented a narrative analysis design for synthesizing the results and listing them in tables. The Preferred Reporting Items for Systematic Review and Meta-Analyses (Page et al., 2021) (PRISMA) 2020 were adopted in this respect. The checklist was consulted to carry out this systematic review. These checklist items (see Figure 1) mainly include the four phases of identification, screening, eligibility and inclusion.

This inquiry involved searching the electronic databases of a large research university in the Netherlands. The search criteria were as shown in Table 1.

Table 1. The main search criteria

Key Words	Category	Search Criteria
VC platforms	field and	Videoconferencing OR video conferencing OR video- conferencing OR VC based* OR VC-based* OR zoom OR Google classroom OR Microsoft teams OR MS Teams OR skype OR Zhumu OR VOOV OR online teaching OR online learning
English with technology	teaching	English OR ESL OR EFL AND search in any field: Tool* OR ICT tool* OR ICT-tool* OR application* OR technology*
Skills		Read* OR listen* OR speak* OR write*.

Note: *indicates the finding of a large number of results.

The researcher also applied other exclusion criteria so as to exclude studies in completely different fields. The inclusion requirements and exclusion criteria are shown in Tables 2 and 3.

Table 2. The exclusion criteria

Exclude the topics related to:
Literature and English Literature
Biomedicine
Life science and technology
Science

Table 3. The inclusion criteria

Inclusion Criteria
The study:
(a) deals with the effect of technological tools on developing English language skills
(b) is written in English
(c) is conducted in VC-based EFL contexts (or the VC part in blended learning contexts) rather than face-to-face ones
(d) is published and peer-reviewed in EFL, ESL or education journals

The selected papers were reviewed thoroughly including the title, the abstract and the full text in order to check their compliance with the inclusion criteria. During the search process, certain articles were excluded since they focused on general teaching contexts rather than on English language teaching, or they were not consulted via open access. Furthermore, after applying the inclusion and exclusion criteria, the search yielded 961 studies, of which 64 were included and 897 were excluded (see Table 4 for the excluded studies).

Table 4. The number of studies excluded based on research requirements

Exclusion Criteria	Number of articles excluded
No focus on English language teaching classes	154
No focus on additional ICT tools	21
No focus on synchronous	683

VC-based contexts	
Systematic reviews	11
No open access	8
Other languages	2
Duplicate	18

This study implemented a narrative analysis design for synthesizing the results and listing them in tables. For each study, the whole paper was vigorously analyzed, and coded in relation to the aspects of technological tools applied, teachers' technological practices, teachers' aims, the impact of the tools and practices, and the challenges or barriers identified. Finally, a quality check was carried out by experienced researchers by selecting a few of the papers included and excluded to assess their eligibility.

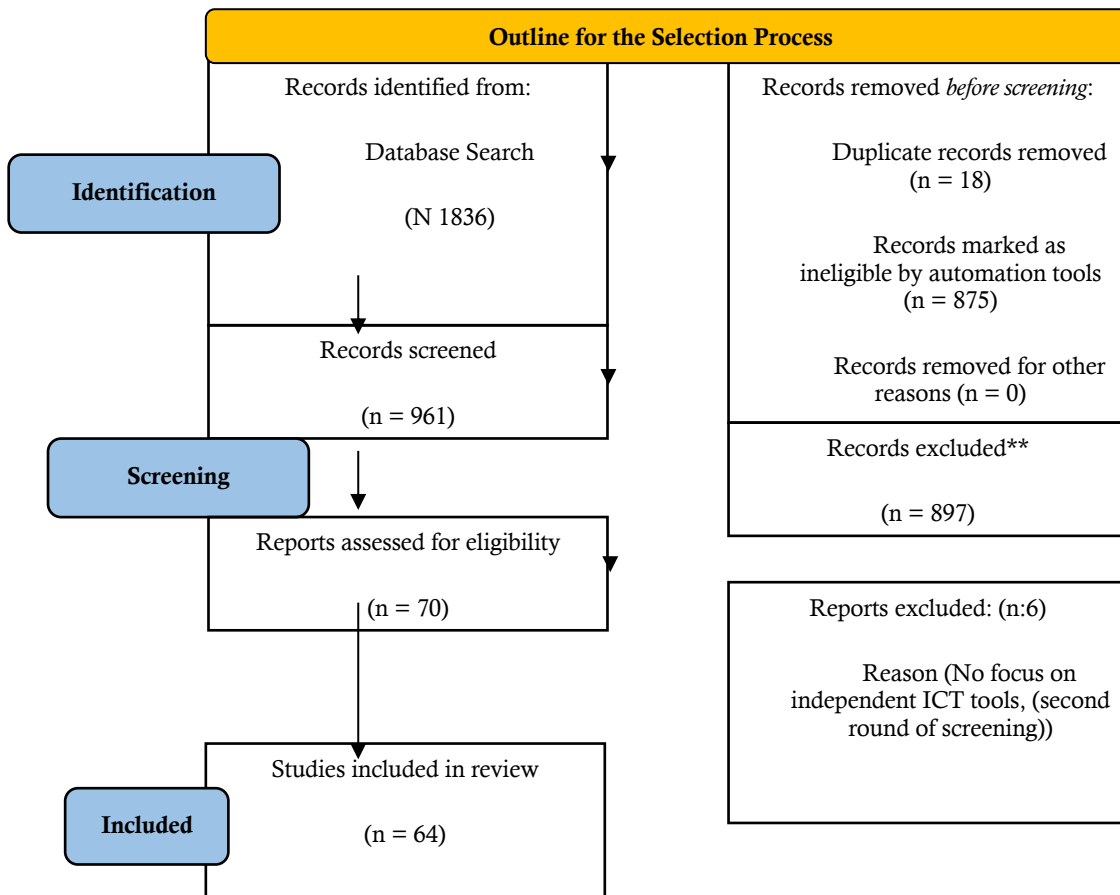


Figure 1. Articles screening and selection

FINDINGS AND DISCUSSION

The study is guided by research questions that mainly involve inquiries about the most commonly used ICT tools in EFL VC-based contexts and teachers' practices that accompany these implemented tools, with the potential resulting impact on learners' language development. In addition, the questions focus on teachers' rationale behind their practices while using the tools and the challenges that might arise during the process for both teachers and students. The results section is structured so that all results are presented in relation to the four language skills (speaking,

listening, writing and reading). Furthermore, this section deals with the assessment aspect of the tools in addition to students' and teachers' challenges when implementing the additional tools.

Technological tools

All sixty-four studies revealed the implementation of a variety of ICT tools in VC-based English language teaching contexts. The results show that LMS platforms such as learning management systems Moodle, Schoology, Edmodo, Google Classroom, and the Criterion platform were used extensively as they were mentioned in twenty studies. Table 5 illustrates the tools implemented in specific categories.

Furthermore, the papers showed a range of VC platforms such as Zoom, Skype, Microsoft Teams, Google Hangout, Adobe Connect, Tencent Meeting, Cisco Webex Meetings, i2istudy, Google Classroom, Polycom View station, Dingtalk and Speakapp. Finally, the educational contexts were either completely VC-based or blended.

Table 5. The ICT tools implemented

Category	Tools
Communication Tools	QQ, Whatsapp, Wechat, Line, Facebook,
Learning Management Systems	Unipus, Pigai, Moodle, Schoology, Edmodo, Google Classroom, the Criterion platform, Skolplattform
Content Creation Tools	Online discussion forums, Collaborate ultra, podcasts, Canvas, Genially.com, blogs, Bingel UR play, Faststone, OneNote, Flipgrid, Speakapp, Padlet, Mosoteach Platform, Google Drive, langblog, PowerPoint slides, video recorder, Prezi Kahoot, Quizziz, online questionnaires, Quizlet.com, Google Forms, Mentimeter,
Assessment Tools	Secondlife, 3Dmaps.
Virtual Augmented Reality Tools	Youtube, Google Drive, online dictionaries, Gleeups, Slido, Moocs, PDF reader, Kaoshiyan, Wordwall.net, Wikis, online links and exercises, Youlish, online visual prompts.
Web-based Tools	

Teachers' aims

The studies reviewed report a variety of aims using the technological tools. These aims relate to each of the four skills of "Reading, listening, speaking and writing" in addition to the assessment aspect. This also resulted in a varying impact on learners' language outcomes.

Speaking

The review results indicate clear aims behind implementing specific tools for speaking. The aims were as follows: preparation for oral practice using PowerPoint slides (Bailey et al., 2020; Li, 2022; Xu et al., 2021), using online images to enhance speaking output (Çolak and Balamani, 2022; Freiermuth, & Huang, 2021; Saito & Akiyama, 2017, Yeh and Lai, 2019), enriching spoken vocabulary using online dictionaries, summarizing and recalling video input through speaking (Li, 2022; Qiu & Qiu, 2022), creating and self-recording podcasts (Asoodar et al., 2016), preparing the speaking topic by discussing it beforehand via social media and collecting information about it from Wikis (Van & Bannink, 2016, Yen et al., 2015), and the aim of producing speaking instructions properly using virtual maps (Levak & Son, 2017).

Listening

The aims of utilizing the listening-specific tools related to both listening practice and for assisting in the pre- and post-listening stages. The aims can be implicitly realized by the following practices: uploading podcasts to LMS for students' listening before class discussions (Asoodar et al., 2016), uploading videos to LMS for students to watch before class tasks (Nguyen & Nguyen, 2021), students' choosing of movies from a website for follow-up tasks (González-Lloret, 2020), following and listening to directions via SecondLife application (Levak and Son, 2017) in addition to listening to VC-based live speech (Lee's et al, 2018). The listening skill was approached through various methods in different studies such as turning listening into speaking practice, authentic real-life listening situations and podcasts (Sardegna and Molle, 2010).

Writing and reading

Supporting students' writing input and output seems to be the main reason for implementing some tools. The main practices that were reported in the studies prove this main aim. Such activities included reacting (in a written form) to teacher-posted threads in online forums (Bailey et al., 2020; Çolak & Balaman, 2022; Stepanyan et al., 2014), uploading written assignments to LMS in response to teachers' prompt in LMS (Bailey et al., 2020; Hussein et al., 2020; Wilson et al., 2018), sending feedback via teacher-student WhatsApp groups, extracting vocabulary and ideas from TED Talks to include it in writing and writing peer-assessment via blogs (Kleanthous, 2021).

Reading practices were not mentioned as frequently as other skills. The aims were therefore limited to using the tools for facilitating the explanation of the reading materials. This was achieved by the use of PowerPoint slides for showing class content (Lin et al., 2021; Osipov et al., 2015; Terhune, 2016), online images for vocabulary retrieval, and websites for extensive reading (González-Lloret's, 2020).

Teachers' practices and impact***Speaking***

The papers show a range of speaking activities using certain tools. First, in the presentation method using PowerPoint slides, the teacher asked students to prepare presentations about specific concepts for the purpose of enhancing their speaking skills. This practice resulted in improved pronunciation, higher motivation levels, and enhanced grammar skills in addition to higher fluency and accuracy.

Second, through the use of images online, students had to respond orally to visual prompts, which resulted in higher speaking interaction. Other practices included the use of online dictionaries for assisting students with finding or checking vocabulary while completing the speaking tasks. Wikipedia was also used for showing images with the intention of presenting contextual information about the new words. These practices led to overall speaking improvement and maximized vocabulary use.

Third, accompanying listening with speaking by watching videos or by listening to presentations was referred to in three studies. In relation to videos, students had to listen to videos either in the online class or before class by uploading the videos to Moodle and watching them, which resulted in enhanced communication and improved awareness of new forms but the extent of use of these forms was not high. In other studies, students had to listen to another speaker in a different VC room using PPT slides, which was followed by an oral discussion.

Fourth, virtual maps were used for imparting instructions to students, who were in teams, for reaching certain places and destinations. The paper did not mention any outcomes for this practice.

Fifth, certain studies stated the use of tools that indirectly targeted the speaking practice, such as creating podcasts, using Wikis, using online websites, and social media. As a pre-class use of Wikis and Facebook, students collected information from Facebook and Wikis related to the speaking content (cultural notions) and discussed this in class. The impact was enhanced meaning negotiation and speaking levels. The impact on the speaking performance was described as mostly positive, but with no improvement in some cases.

Listening

According to the studies, listening practices were centered on the following practices: first, listening was embedded in a real-life simulated practice where learners had to follow the team leader's instructions for the aim of reaching various locations in the virtual-reality SecondLife application. This activity happened synchronously in class.

Second, PowerPoint slides were adopted for listening in a study where students had to listen to a speaker from another online classroom using PPT slides. This was followed by oral discussion in class. In spite of the fact that these were the only listening-related practices, it is clear that listening was unintentionally reinforced during the other speaking activities. Students' awareness of the targeted structures increased but with very little effect in terms of the ability to use these structures properly.

Third, in relation to videos, students had to choose a movie from Netflix then write about it in Google Docs with follow-up PPT presentations with no mentioned results or impact. In another paper, students had to watch videos featuring authentic naturally occurring conversations with the purpose of having them focus on targeted communication strategies and forms. It is noticeable that exposing students to videos was a repeated pattern for enhancing listening (Alimyar, 2021; Bergdahl & Nouri, 2020; Lenkaitis 2019; Lin et al., 2021; Nguyen & Nguyen 2021; Owen 2021; Qiu & Qiu 2022; Taghizadeh &

Ejtehad,2021; Tarteer et al., 2022). According to these studies, the impact ranged from moderate language gains to enhanced listening in some cases.

Writing

The practices of writing included tools to provide feedback on the writing output and turning students' input into a written output.

First, starting with the practice of asynchronous online forums, the teacher posted a thread using online discussion forums or Facebook posts where the students had to reply to the thread and to each other asynchronously. It is believed by teachers, according to the studies, that this would maximize the writing outcome and vocabulary.

Second, another prominent use of ICT tools was the use of LMS for uploading writing assignments. Concerning the results, improved writing performance was reported in the Hussein et al. (2020) study with no significant improvement in the Bailey et al. (2020) study.

Third, as far as writing feedback is concerned, some of the teachers sent feedback by annotating on students' files in Moodle, while other teachers used a WhatsApp student-teacher group for discussing the feedback. Additionally, in one case, Wilson et al. (2018) stated that the LMS platform (The Criterion) provided instant feedback on students' writing, to which the teacher added further feedback. There were no mentioned results of this practice.

Finally, in relation to videos, students had to extract vocabulary from TED Talk videos and reflect on critical thinking questions based on the videos through blogs. In addition to the above-mentioned practices, students had to collaboratively complete writing tasks through blogs.

Reading

The reading practices were mainly related to comprehension check and assisting with the presentation of the materials.

First, the teachers used PowerPoint slides for displaying the reading texts in combination with oral questions directed to students for checking their comprehension of the text. Another follow-up activity was playing a vocabulary memory game with the assistance of online images. According to the results, this practice was boring for students. Other studies revealed the same practice of presenting the reading materials on PowerPoint slides for clarifying certain concepts in the reading material. As for the results, there were moderate gains in the first study with positive attitudes in the latter. Finally, a different practice was having students choose a book review from the Amazon website and discuss that in class.

Assessment

Regarding assessment, practices of feedback and testing seem to be abundantly present in the practices for both summative and formative assessment. Such practices were conducted using the following tools: LMS, online quizzes, Kahoot, Quizziz, Google Forms, Google Drive, social media (Facebook, WhatsApp), and Mentimeter. In addition to the assessment practices, certain studies included ICT tools for facilitating the teaching-learning process. For instance, the use of LMS was a back-up strategy in Wang's (2020) study where students who missed in-class quizzes or tests were able to go back to Moodle and do them. Regarding feedback, Aljohani & Hanna (2021) discussed the notion of audio and video feedback that the teacher uploaded to LMS. Furthermore, the study of Jiang (2021) presented the feedback dialogue via QQ with the goal of elaborating on the initial feedback. In the same study, the teacher had students upload their assignments to the Pigai tool, which provided instant feedback, and this was followed by additional feedback by the teacher. Additionally, in the same context, Unipus was used for automated scoring of students' listening and reading. Furthermore, online quizzes were done with automated scoring at the end of the quiz. Finally, for testing purposes, Moorhouse and Wong (2022) also showed the inclusion of Kahoot and Quizziz for assessing students' comprehension of the class materials. In addition, Google forms were used for the same purpose of assessing. Finally, Mabur & Suwartono (2021) referred to the use of web browsers in their studies without mentioning the specific practices.

Mahapatra (2021) conducted a multiple case study to investigate feedback and assessment practices used by online EFL VC-based teachers. The participating teachers were from India, Nepal and Bangladesh. The study demonstrates certain formative assessment tools used for different skills such as meta-writing quizzes (Google forms) for assessing writing, online quizzes for explicit assessment of the grammar and the overall component, Mentimeter for getting students' take on their performance and their

peers' performance, voice and video recordings for providing detailed feedback on all skills, and Google forms for assessing grammar and vocabulary with automated feedback (descriptive rubrics).

In the same study, teachers used WhatsApp for answering students' inquiries, Flipgrid for enhancing speaking, Google Drive and Facebook for sharing class materials. It is worth noting that teachers expressed challenges related to individual feedback, describing it as time-consuming and almost unachievable. They therefore opted for group feedback. Despite the fact that the study did not state specific language-related results, the findings referred to the overall positive attitude towards the online tools mentioned, especially Google Docs and Forms although teachers needed some time to familiarize themselves with the tools.

Challenges with tools implementation

The included papers disclosed challenges mainly related to lack of digital preparedness on the part of both students and teachers, heavy workload for students and teachers due to the applications and the whole distance education process, involving in some cases time-consumption and lack of interaction. The study by Marchlik & Zubala (2021) illustrated challenges with lack of digital preparedness for using ICT tools, and this was accompanied with the need of training teachers their use. In addition, teachers found that the use of independent technological tools in VC-based contexts was time-consuming. Finally, teachers stated that they found it challenging to choose the proper activities using the specific tools. Table 6 shows similar challenges that were found in other studies.

Table 6. Particular challenges with integrating the tools

Study	Challenges
Asoodar et al. (2016)	No students had prior experience with podcasts or creating podcasts. Listening to or creating podcasts was time-consuming for students. Students experienced difficulties with using LMS.
Hussein (2020)	Pressure and heavy workload of homework after using Moodle and following assignments by teachers (student side).
Jiang (2021)	Lack of skills on the part of students. Increased feedback work for teachers.
Mabrur & Suwartono (2021)	Lack of digital literacy skills on the part of students. Teachers' low digital literacy skills.
Stepanyan et al. (2014) and Li (2022)	The use of ICT tools led to lower learners' interaction.
Sun & Yang (2022).	Use of tools is distracting since there is no prior knowledge of using the tools.
Alimyar (2021)	Unfamiliarity with the tools (therefore time-consuming).
Alimyar & Lakshm. (2021)	Preparing Kahoot tasks is time-consuming.
Atmojo and Nugroho (2020)	Digital preparedness (teachers and students)
Luy (2022)	Challenges with selecting the most appropriate activities
Zou & Li (2018)	Adapting to the new mode of assessment is overwhelming.

Discussion

This systematic review investigated the most common ICT tools in English VC-based contexts in addition to the technological practices, aims and challenges while implementing these tools. The data resulted in six main categories of the implemented tools: communication tools, learning

management systems, content creation tools, assessment tools and web-based tools. This chapter seeks to discuss the findings of the study in relation to the above-mentioned categories.

Learning management systems

Learning management systems seem to be indispensable in the EFL VC-based context. This is due to the fact that these tools are not only used for assisting the whole teaching-learning process, but also for contributing to the writing, reading and listening practices in addition to the implicit assessment aspect. For instance, Unipus was implemented by teachers for assessing students' writing and listening tests in an automated way. The literature mentions the same practices of LMS assistance with the writing skills (Handayani & Handayani, 2020). Previous studies also stated the importance of LMS in facilitating the VC course progress with regard to uploading the teaching materials and tasks (Gamage et al., 2022). Clearly, this category of tools brings about positive results, with no prominent negative points being demonstrated in the current study. On the other hand, teachers are advised to always think of innovative ideas when using learning management systems, rather than sticking to the main feature of uploading class materials.

Communication tools

Communication tools were shown to be of equal importance to other tools. According to the results, teachers needed these tools for a variety of purposes. As a part of facilitating teacher-student and student-student communication, certain tools such as WhatsApp, Line and QQ were implemented mostly in the form of groups for students and teachers. The study by Novarita et al. (2023) reveals similar results that prove the usefulness of communication tools. According to the study, WhatsApp groups were easy to use and contributed strongly to the learning process through chat, video calls and audio calls. This communication took place among students and between students and teachers. Additionally, feedback practices through these communication tools were described as useful in the reviewed papers. Some teachers went further by uploading class materials to Facebook and even using Facebook posts as discussion forums for improving writing skills. In the same vein, previous studies noted the benefit of using communication tools for improving the speaking skill during VC-based English classes (Ying et al., 2021). Although these tools seem to offer considerable support in promoting the flow of activities within the class, integrating a variety of them in the same class setting might be distracting to students. Most importantly, the teacher should explain to students the goal behind using these tools for avoiding any other practices that students might tend to get involved in, such as using the communication groups for side chats.

Content creation tools

It could be inferred from the results that teachers' use of content creation tools in VC-based contexts might be considered as a divergence from the traditional method of restricting students to the content of textbooks with no potential for applying this knowledge outside the context of the book. One example of this is the use of PowerPoint, Canvas, and Prezi that helped learners further familiarize themselves with the speaking output along with the production phase. It seems that such a notion is in line with the previously mentioned literature regarding the fact that ICT tools could eliminate the drawbacks of English VC-based classes where the whole context is close to traditional face-to-face contexts (Nilayon & Brahmakasikara, 2018; Nova, 2020; Nurieva & Garaeva, 2020; Orhan & Beyhan, 2020; Permatasari, 2018; Sefiani, 2021). Thus, it can be perceived that content creation tools play a vital role in actualizing the speaking input and making learning more authentic by connecting what is learnt in class with issues in the outside world (Ozverir et al., 2016). The concept of enhancing writing fluency through online discussion forums was common in more than one study in this systematic review. Reflecting on that in the literature, Zülal's (2021) systematic review highlighted the positive impact of online discussion forums and Facebook collaborative writing tasks. Moreover, the literature shows a wider variety of content creation when it comes to enhancing writing. An example of this is (Handayani and Handayani's, 2020) systematic review that was previously mentioned in this paper. The study shows Paragraph Punch, Edmodo, and Pro Writing Aid as tools for improving writing and assisting writing practices.

Web-based tools

Web-based tools are part of teachers' practices for different purposes and skills. Websites were recurrently used as both learning materials (such as listening to podcasts and reading texts) and for practising previously learned language items with websites that provide exercises and feedback. In

addition, YouTube videos were used for follow-up speaking practice and for completing listening tasks. Setting up listening and speaking purposes while using videos might have the potential benefits of developing dual-skill outcomes at the same time. In respect of using the web-based tools for specific skills, these tools were minimally used for reading skills. Online PDFs were mainly used, and the rationale was simply to help explain the lesson content. More emphasis should therefore be placed on integrating independent ICT tools into reading. The literature indicates a contradictory result in some cases. For instance, a systematic review conducted by (Zhu et al. 2020), by reviewing 39 studies, resulted in a variety of reading web-based practices related to annotations, online quizzes, Google docs, Slice, Diigo and annotation playgrids for sharing the activities on social media. Finally, it is worth noting that teachers should be aware of the aims behind using the web-based tools and follow a plan accordingly. Otherwise, the random implementation of a tool (such as playing a video only for the sake of watching) will not lead to any clear outcomes.

Assessment tools

Assessment tools were mostly of the gamification type. These tools contribute to reducing the feedback burden on the teacher as they referred to this challenge in the studies reviewed. In this respect, the use of online assessment platforms like Kahoot, Quizizz, Mentimeter and some automatic-feedback platforms such as the Criterion Platform (LMS) might be a suitable practice. These tools can assess students' progress formatively and summatively in fun and engaging ways. The literature supports the use of assessment tools for becoming familiar with students' progress and eventually continuing in the course with differentiated teaching approaches depending on the results of the quiz (Martin, et al. 2019). Additionally, previous studies confirm the necessity of integrating assessment tools that feature the gamification elements (Mohtar & Yunus, 2022). In spite of the fact that these tools appeal to students in terms of their gamification nature, teachers should provide a variety of them in class rather than sticking to the same tool, as this will result in a monotonous pattern leading to students losing interest in the tools.

CONCLUSION

Since most of the studies showed that integrating independent ICT tools in VC-based EFL contexts had a positive impact, it can be concluded that it is essential to have these tools present in any VC-based EFL context in order to provide interaction and motivation elements. This effect is approved in previous studies especially from the viewpoint of raising motivation and interaction levels together with increased language outcomes (Mohtar & Yunus, 2022; Nawir & Tsuraya, 2021). Furthermore, Reinholz et al., (2020) suggest that VC teachers should implement the proper tools for leveling up the communication and interaction among students. The studies in this paper proved that these tools raised motivation and interaction in addition to other skills-development-related results such as enhancing pronunciation, listening, writing, and vocabulary along with positive attitudes on the part of students. Reflecting on some of the challenges, there appears to be an urgent need for training of students and teachers in the use of ICT tools before starting the VC-based EFL course. Some of the results imply that using additional tools in VC-based settings might incur a heavy feedback load for teachers; it is therefore advisable to implement appropriate organizational procedures at the beginning of every course. An instance of this could be assigning a part of the feedback to students (peer feedback) or integrating ICT tools that provide instant feedback, after which the teacher can provide additional feedback. Similar challenges were shown in the Ying et al. (2021) systematic review as learners mentioned that recording and preparing oral presentations was a time-consuming process.

The studies reviewed in this paper provide information about technological tools that could be useful for the English teaching-learning process when applied in VC-based contexts. Hopefully, this study will draw the attention of VC-based EFL teachers, syllabus designers and those in charge of the process to the vital role of these tools in raising the efficiency of VC-based classes in terms of skills development, interaction and engagement, and the overall positive attitudes on the part of students. To gain deeper insight in this respect, future systematic reviews could concentrate on the tools used in one skill at a time. Reading tools, for instance, were not fully investigated in this paper due to the lack of reading-focused papers; this could be a basis for future systematic reviews.

In this review, particular independent ICT tools were explored in relation to the language skills they can improve. It appears that these tools have the potential of targeting all the four skills (speaking, reading, writing and listening). Furthermore, it is clear that the same tool can be exploited

for targeting more than one skill at a time, such as the tools that target both listening and speaking. Certain challenges were also revealed, such as students' and teachers' lack of familiarity with the tools. EFL stakeholders in VC-based contexts could benefit from this study by developing a rationale when integrating any independent ICT tool, which could include considering which skill a particular tool could improve. The results of the study might also contribute to emphasizing the importance of teachers' and students' training before using these tools in a VC class.

FUNDING STATEMENT

- The authors did not receive support from any organization for the submitted work.
- No funding was received to assist with the preparation of this manuscript.
- No funding was received for conducting this study.
- No funds, grants, or other support was received.

REFERENCES

- Alfadda, H. A., & Mahdi, H. S. (2021). Measuring students' use of zoom application in language course based on the technology acceptance model (TAM). *Journal of Psycholinguistic Research*, 50(4), 883-900.
- Aljohani, N. J., & Hanna, B. E. (2023). 'I do not know what's that word in English, but I will tell you about my cousin': EFL learners' communication strategies in online oral discussion tasks. *The Language Learning Journal*, 51(2), 223-237.
- Alimyar, Z., & Lakshmi G, S. (2021). A study on language teachers' preparedness to use technology during COVID-19. *Cogent Arts & Humanities*, 8(1), 1999064.
- Ames, K., Harris, L. R., Dargusch, J., & Bloomfield, C. (2021). 'So you can make it fast or make it up': K-12 teachers' perspectives on technology's affordances and constraints when supporting distance education learning. *Australian Educational Researcher*, 48(2), 359-376. <https://doi.org/10.1007/s13384-020-00395-8>.
- Asoodar, M., Marandi, S. S., Vaezi, S., & Desmet, P. (2016). Podcasting in a virtual English for academic purposes course: Learner motivation. *Interactive Learning Environments*, 24(4), 875-896. <https://doi.org/10.1080/10494820.2014.937344>
- Atmojo, A. E. P., & Nugroho, A. (2020). EFL classes must go online! Teaching activities and challenges during COVID-19 pandemic in Indonesia. *Register Journal*, 13(1), 49-76.
- Bailey, D. (2021). Interactivity during Covid-19: mediation of learner interactions on social presence and expected learning outcome within videoconference EFL courses. *Journal of Computers in Education (the Official Journal of the Global Chinese Society for Computers in Education)*, 9(2), 291-313. <https://doi.org/10.1007/s40692-021-00204-w>
- Bailey, D., Almusharraf, N., & Hatcher, R. (2020). Finding satisfaction: Intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, 26(3), 2563-2583. <https://doi.org/10.1007/s10639-020-10369-z>
- Belt, E. S., & Lowenthal, P. R. (2021). Video use in online and blended courses: A qualitative synthesis. *Distance Education*, 42(3), 410-440. <https://doi.org/10.1080/01587919.2021.1954882>
- Bergdahl, N., Nouri, J., & Fors, U. (2020). Disengagement, engagement and digital skills in technology-enhanced learning. *Education and information technologies*, 25(3), 957-983.
- Bin Dahmash, N. (2021). Synchronous and asynchronous English writing classes in the EFL context: Students' practices and benefits. *Arab World English Journal (AWEJ)*, 12(2), 833-882.
- Bond, M. (2020). Schools and emergency remote education during the COVID-19 pandemic: A living rapid systematic review. *Asian Journal of Distance Education*, 15(2), 191-247.
- Budiarta, I. K., & Santosa, M. H. (2020). TPS-Flipgrid: Transforming EFL speaking class in the 21st century. *English Review: Journal of English Education*, 9(1), 13-20.
- Chiang, H. H. (2020). Kahoot! in an EFL reading class. *Journal of Language Teaching and Research*, 11(1), 33-44.
- Çolak, F., & Balaman, U. (2022). The use of online dictionaries in video-mediated L2 interactions for the social accomplishment of virtual exchange tasks. *System (Linköping)*, 11(3), 106, 102772. <https://doi.org/10.1016/j.system.2022.102772>
- Dao, P., Duong, P.-T., & Nguyen, M. X. N. C. (2021). Effects of SCMC mode and learner

- familiarity on peer feedback in L2 interaction. *Computer Assisted Language Learning*, 10(1), 1-29. <https://doi.org/10.1080/09588221.2021.1976212>
- Fischer, I. D., & Yang, J. C. (2022). Flipping the flipped class: Using online collaboration to enhance EFL students' oral learning skills. *International Journal of Educational Technology in Higher Education*, 19(1), 15.
- Freiermuth, M. R., & Huang, H. (2021). Zooming across cultures: Can a telecollaborative video exchange between language learning partners further the development of intercultural competences?. *Foreign Language Annals*, 54(1), 185-206. <https://doi.org/10.1111/flan.12504>
- Gamage, S. H., Ayres, J. R., & Behrend, M. B. (2022). A systematic review on trends in using Moodle for teaching and learning. *International Journal of STEM Education*, 9(1), 1-24.
- González-Lloret, M. (2020). Collaborative tasks for online language teaching. *Foreign Language Annals*, 53(2), 260-269. <https://doi.org/10.1111/flan.12466>
- Güngör, M. N., & Güngör, M. A. (2021). Reconceptualizing testing in times of COVID-19 from an activity theory lens: A narrative inquiry of a test-designer's experiences. *The Asia-Pacific Education Researcher*, 30(6), 531-539. <https://doi.org/10.1007/s40299-021-00627-0>
- Grammens, M., Voet, M., Vanderlinde, R., Declercq, L., & De Wever, B. (2022). A systematic review of teacher roles and competences for teaching synchronously online through videoconferencing technology. *Educational Research Review*, 100461.
- Hamad, M., & Abdelsattar Metwally, A. (2019). Using technology towards promoting online instructional scaffolding: Literature review. *Arab World English Journal (AWEJ) Special Issue: The Dynamics of EFL in Saudi Arabia*.
- Handayani, F., & Handayani, N. D. (2020). The potential of online writing tools for EFL university students during the Covid-19 pandemic. *JEE (Journal of English Education)*, 6(1), 9-9.
- Hussein, E., Daoud, S., Alrabaiah, H., & Badawi, R. (2020). Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Children and Youth Services Review*, 119, 105699. <https://doi.org/10.1016/j.childyouth.2020.105699>
- Jiang, L., & Yu, S. (2021). Understanding changes in EFL teachers' feedback practice during COVID-19: Implications for teacher feedback literacy at a time of crisis. *The Asia-Pacific Education Researcher*, 30(6), 509-518.
- John, E., & Yunus, M. M. (2021). A systematic review of social media integration to teach speaking. *Sustainability*, 13(16), 9047.
- Jung, Y., Kim, Y., Lee, H., Cathey, R., Carver, J., & Skalicky, S. (2019). Learner perception of multimodal synchronous computer-mediated communication in foreign language classrooms. *Language Teaching Research*, 23(3), 287-309.
- Kapsalis, G. D., Galani, A., & Tzafea, O. (2020). Kahoot! as a formative assessment tool in foreign language learning: A case study in greek as an l2. *Theory and Practice in Language Studies*, 10(11), 1343-1350.
- Kaur, P., & Nadarajan, R. (2020). Language learning and teaching using Kahoot. *International Journal of Modern Education*, 2(5), 19-28.
- Kleanthous, A. (2021). Engaging students in online language learning during a pandemic. in *International conference on human-computer interaction* (pp. 456-468). Cham: Springer International Publishing.
- Krutka, D. G., & Carano, K. T. (2016). Videoconferencing for global citizenship education: Wise practices for social studies educators. *Journal of Social Studies Education Research*, 7(2), 109-136.
- Kumar, C. B., Potnis, A., & Gupta, S. (2015). Video conferencing system for distance education. in *2015 IEEE UP Section Conference on Electrical Computer and Electronics (UPCON)* (pp. 1-6). IEEE.
- Kurucova, Z., Medová, J., & Tirpakova, A. (2018). The effect of different online education modes on the English language learning of media studies students. *Cogent Education*, 5(1), 1523514. <https://doi.org/10.1080/2331186X.2018.1523514>
- Lee, J. S., Nakamura, Y., & Sadler, R. (2018). Effects of Videoconference-Embedded Classrooms (VEC) on learners' perceptions toward English as an International Language (EIL). *ReCALL (Cambridge, England)*, 30(3), 319-336. <https://doi.org/10.1017/S095834401700026X>

- Lenkaitis, C. A., Calo, S., & Venegas Escobar, S. (2019). Exploring the intersection of language and culture via telecollaboration: Utilizing videoconferencing for intercultural competence development. *International Multilingual Research Journal*, 13(2), 102-115.
- Levak, N., & Son, J.-B. (2017). Facilitating second language learners' listening comprehension with Second Life and Skype. *ReCALL (Cambridge, England)*, 29(2), 200-218. <https://doi.org/10.1017/S0958344016000215>
- Li, B. (2022). Ready for online? Exploring EFL teachers' ICT acceptance and ICT literacy during COVID-19 in mainland China. *Journal of Educational Computing Research*, 60(1), 196-219. <https://doi.org/10.1177/073563312111028934>
- Lin, S. L., Wen, T. H., Ching, G. S., & Huang, Y. C. (2021). Experiences and challenges of an English as a medium of instruction course in Taiwan during COVID-19. *International Journal of Environmental Research and Public Health*, 18(24), 12920.
- Luy, D. T. T. (2021). Remote teaching amid the Covid-19 pandemic in Vietnam: Primary school EFL teachers' practices and perceptions. *AsiaCALL Online Journal*, 13(1), 1-21.
- Ma, W., & Luo, Q. (2022). Pedagogical practice and students' perceptions of fully online flipped instruction during COVID-19. *Oxford Review of Education*, 48(3), 400-420.
- Mabrur, I. A. M., & Suwartono, T. (2021). Junior high school students' readiness to participate in e-learning and online EFL classes during the COVID-19 pandemic. *International Social Science Journal*, 71(241-242), 153-161. <https://doi.org/10.1111/issj.12271>
- Mahapatra, S. K. (2021). Online formative assessment and feedback practices of ESL teachers in India, Bangladesh and Nepal: A multiple case study. *The Asia-Pacific Education Researcher*, 30(6), 519-530. <https://doi.org/10.1007/s40299-021-00603-8>
- Martin, F., Budhrani, K., Kumar, S., & Ritzhaupt, A. (2019). Award-winning faculty online teaching practices: Roles and competencies. *Online Learning*, 23(1), 184-205. <https://doi.org/10.24059/olj.v23i1.1329>
- Marchlik, P., Wichrowska, K., & Zubala, E. (2021). The use of ICT by ESL teachers working with young learners during the early COVID-19 pandemic in Poland. *Education and Information Technologies*, 26(6), 7107-7131.
- Metwally, A. (2019). Using technology towards promoting online instructional scaffolding: Literature review. *Arab World English Journal (AWEJ) Special Issue: The Dynamics of EFL in Saudi Arabia*
- Mohamad, M., Rashid, N., & Wan, M. W. M. (2017, March). The advantages and disadvantages of e-dictionaries to enhance vocabulary learning of ESL learners. in *Asian Conference on Education & International Development 2017 Official Conference Proceedings*. http://papers.iafor.org/wp-content/uploads/papers/aceid2017/ACEID2017_34731.pdf
- Mohtar, M., & Yunus, M. M. (2022). A systematic review of online learning during COVID 19: Students' motivation, task engagement and acceptance. *Arab World English Journal (special issue)*, 202-215. <https://dx.doi.org/10.24093/awej/covid2.13>
- Moorhouse, B. L., & Wong, K. M. (2022). The COVID-19 pandemic as a catalyst for teacher pedagogical and technological innovation and development: Teachers' perspectives. *Asia Pacific Journal of Education*, 42(sup1), 105-120. <https://doi.org/10.1080/02188791.2021.1988511>
- Nawir, M. S., & Tsuraya, A. S. (2021). Teachers' perceptions of the challenges in the online EFL teaching: A review of previous studies. *Lentera Pendidikan: Jurnal Ilmu Tarbiyah dan Keguruan*, 24(2), 215-223.
- Naz, S., Rasheed, M., & Rasheed, T. (2019). The role of smartphones in learning English: A study of learners' perspectives. *International Conference on Research in Humanities, London United Kingdom*, 1, 17-28
- Nilayon, N., & Brahmakasikara, L. (2018). Using Social network sites for language learning and video conferencing technology to improve English speaking skills: A case study of Thai undergraduate students. *LEARN Journal: Language Education and Acquisition Research Network*, 11(1), 47-63.
- Nova, M. (2020). Videoconferencing for speaking assessment medium: Alternative or drawback. *Journal of English Education and Applied Linguistics*, 9(2), 111-128.
- Novarita, N., Afifah, N., Awalludin, A., Anam, S., & Noermanzah, N. (2023). Using WhatsApp group in the online English learning process at university during the Covid-19 pandemic. *IJLECR (International Journal of Language Education and Cultural Review)*, 9(1), 42-55.

- Nguyen, U. N., & Nguyen, L. V. (2021). Resilience to withstand COVID-19 crisis: Lessons from a foreign language institution in Vietnam. *CALL-EJ*, 22(2), 40-55.
- Nurieva, G., & M Garaeva, L. (2020). Zoom-based distance learning of English as a foreign language. *Journal of Research in Applied Linguistics*, 11(Proceedings of the 7th International Conference on Applied Linguistics Issues (ALI 2020), Saint Petersburg, 13-14 June 2020), 439-448.
- Oksana, C., & Olena, S. (2021). E-dictionary use in language acquisition. *Education and Science of Today: Intersectoral Issues and Development of Sciences*, 2, 147-148.
- Orhan, G., & Beyhan, Ö. (2020). Teachers' perceptions and teaching experiences on distance education through synchronous video conferencing during Covid-19 pandemic. *Social Sciences and Education Research Review*, 7(1), 8-44.
- Osipov, I. V., Prasikova, A. Y., & Volinsky, A. A. (2015). Participant behavior and content of the online foreign languages learning and teaching platform. *Computers in Human Behavior*, 50, 476-488. <https://doi.org/10.1016/j.chb.2015.04.028>
- Owen, C., Enticott, E., Harlowe, J., Kolber, S., Rees, E., & Wood, A. (2022). Teaching during lockdown: English teachers' experiences in the time of covid-19. *English in Australia*, 56(2), 7-19.
- Ozverir, I., Herrington, J., & Osam, U. V. (2016). Design principles for authentic learning of English as a foreign language. *British Journal of Educational Technology*, 47(3), 484-493.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Systematic Reviews*, 10(1), 1-11.
- Palungtepin, M. (2021). Conversation cloud: A videoconferencing learning ecology for Thai undergraduate EFL learners. *System (Linköping)*, 103, 102648. <https://doi.org/10.1016/j.system.2021.102648>
- Permatasari, Y. D., Nurhidayati, T., Rofiq, M. N., & Masrukhin, A. R. (2021). The task-based language teaching as method in Google Classroom application for English learning approach. *IOP Conference Series. Earth and Environmental Science*, 747(1), 12052. <https://doi.org/10.1088/1755-1315/747/1/012052>
- Prince, M., Felder, R., & Brent, R. (2020). Active student engagement in online STEM classes: Approaches and recommendations. *Advances in Engineering Education*, 8(4), 1-25.
- Racheva, V. (2018). Social aspects of synchronous virtual learning environments. in *AIP conference proceedings*, 2048. <https://doi.org/10.1063/1.5082050>
- Reinholz, D. L., Stone-Johnstone, A., White, I., Sianez, L. M., & Shah, N. (2020). *A pandemic crash course: Learning to teach equitably in synchronous online classes*.
- Saito, K., & Akiyama, Y. (2017). Video-based interaction, negotiation for comprehensibility, and second language speech learning: A longitudinal study. *Language Learning*, 67(1), 43-74. <https://doi.org/10.1111/lang.12184>
- Santos, J. C. D. (2020). *Improving speaking fluency through 4/3/2 technique and self-assessment facilitated by video recording (Master's thesis)*. Universidad Casa Grande. Departamento de Posgrado.
- Schenker, T. (2017). Synchronous telecollaboration for novice language learners: Effects on speaking skills and language learning interests. *ALSIC: Apprentissage des Langues et Systèmes d'Information et de Communication*, 20(2).
- Sefiani, E. E. (2021). *The challenges of teaching English for young learners through e-learning in Covid-19 time (Skripsi)*. Tarbiyah dan Keguruan.
- Singh, C. K. S., Singh, T. S. M., Abdullah, N. Y., Moneyam, S., Ismail, M. R., Tek, E., & Singh, J. K. S. (2020). Rethinking english language teaching through Telegram, WhatsApp, Google Classroom and Zoom. *Systematic Reviews in Pharmacy*, 11(11), 45-54.
- Stepanyan, K., Mather, R., & Dalrymple, R. (2014). Culture, role and group work: A social network analysis perspective on an online collaborative course. *British Journal of Educational Technology*, 45(4), 676-693. <https://doi.org/10.1111/bjet.12076>
- Sun, Q., & Yang, Z. (2022). 'We lose a lot of value': Feedback on English for academic purposes speaking skills in online teaching in a UK-China joint-venture university. *Assessment & Evaluation in Higher Education*, 47(4), 622-635.
- Van Der Zwaard, R., & Bannink, A. (2016). Nonoccurrence of negotiation of meaning in task-based synchronous computer-mediated communication. *The Modern Language Journal (Boulder, Colo.)*, 100(3), 625-640. <https://doi.org/10.1111/modl.12341>

- Taghizadeh, M., & Ejtehad, A. (2021). Investigating pre-service EFL teachers' and teacher educators' experience and attitudes towards online interaction tools. *Computer Assisted Language Learning*, 1-35. <https://doi.org/10.1080/09588221.2021.2011322>
- Tarteer, S., Badah, A., & Khlaif, Z. N. (2022). Employing Google Classroom to teach female students during the COVID-19 pandemic. *Computers in the Schools*, 38(4), 300-321. <https://doi.org/10.1080/07380569.2021.1988318>
- Terhune, N. M. (2016). Language learning going global: Linking teachers and learners via commercial Skype-based CMC. *Computer Assisted Language Learning*, 29(6), 1071-1089. <https://doi.org/10.1080/09588221.2015.1061020>
- Qiu, N., & Qiu, X. (2022). A study on the application model of blended teaching in English language teaching in colleges and universities under the ecological and internet perspectives. *Journal of Environmental and Public Health*, 2022, 4962753-4962753. <https://doi.org/10.1155/2022/4962753>
- Wang, C. (2020). Employing blended learning to enhance learners' English conversation: A preliminary study of teaching with Hitutor. *Education and Information Technologies*, 26(2), 2407-2425. <https://doi.org/10.1007/s10639-020-10363-5>
- Washburn, D. F. (2021). Korean EFL learner preference for text-based digital composing during emergency remote learning. *English Teaching*, 76(2), 131-152.
- Wigham, C. R., Satar, M. (2021). Multimodal (inter)action analysis of task instructions in language teaching via videoconferencing: A case study. *ReCALL (Cambridge, England)*, 33(3), 195-213. <https://doi.org/10.1017/S0958344021000070>
- Wilson, D. A., Dondlinger, M. J., Parsons, J. L., & Niu, X. (2018). Exploratory analysis of a blended-learning course redesign for developmental writers. *Community College Journal of Research and Practice*, 42(1), 32-48. <https://doi.org/10.1080/10668926.2016.1264898>
- Wong, Kevin M, & Benjamin Luke Moorhouse, 'Digital competence and online language teaching: Hong Kong language teacher practices in primary and secondary classrooms'. *System (Linköping)*, 103(2021), 102653.
- Xu, Q., Chen, S., Wang, J., & Suhadolc, S. (2021). Characteristics and effectiveness of teacher feedback on online business English oral presentations. *The Asia-Pacific Education Researcher*, 30(6), 631-641. <https://doi.org/10.1007/s40299-021-00595-5>
- Xu, Y., & Buckingham, L. (2021). Adaptation to emergency remote teaching: An ESOL course for older Chinese learners. *Open Learning: The Journal of Open, Distance and e-Learning*, 20(5), 1-17.
- Yang, W., & Yang, L. (2021). Evaluating learners' satisfaction with a distance online CLIL lesson during the pandemic. *English Teaching Learning*, 46(2), 179-201. <https://doi.org/10.1007/s42321-021-00091-5>
- Yeh, H.-C., & Lai, W.-Y. (2019). Speaking progress and meaning negotiation processes in synchronous online tutoring. *System (Linköping)*, 81, 179-191. <https://doi.org/10.1016/j.system.2019.01.001>
- Yen, Y.-C., Hou, H.-T., & Chang, K. E. (2015). Applying role-playing strategy to enhance learners' writing and speaking skills in EFL courses using Facebook and Skype as learning tools: A case study in Taiwan. *Computer Assisted Language Learning*, 28(5), 383-406. <https://doi.org/10.1080/09588221.2013.839568>
- Ying, Y. H., Siang, W. E. W., & Mohamad, M. (2021). The challenges of learning English skills and the integration of social media and video conferencing tools to help ESL learners coping with the challenges during COVID-19 pandemic: A literature review. *Creative Education*, 12(7), 1503-1516.
- Zhang, Cong, Xun Yan, & Junju Wang, 'EFL teachers' online assessment practices during the COVID-19 Pandemic: Changes and mediating factors'. *The Asia-Pacific Education Researcher*, 30 (2021), 499-507.
- Zhu, X., Chen, B., Avadhanam, R. M., Shui, H., & Zhang, R. Z. (2020). Reading and connecting: Using social annotation in online classes. *Information and Learning Science*, 121(5/6), 261-271. <https://doi.org/10.1108/ILS-04-2020-0117>
- Zou, B., Li, H., & Li, J. (2018). Exploring a curriculum app and a social communication app for EFL learning. *Computer Assisted Language Learning*, 31(7), 694-713.

- Zou, M., Kong, D., & Lee, I. (2021). Teacher engagement with online formative assessment in EFL writing during COVID-19 pandemic: The case of China. *The Asia-Pacific Education Researcher*, 30(6), 487-498.
- Zülal, A. Y. A. R. (2021). The systematic review of studies about web-based learning in language teaching context. *E-Kafkas Journal of Educational Research*, 8(2), 123-136.