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Original Paper

The Use of Innovation Technology in Pedagogical Practices of L2 Reading Comprehension: An Annotated Bibliography

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Abstract

Teaching reading as a second/foreign language has gained increasing significance in the educational field. Investigating pedagogical methods has become one of the major areas of research in the expanding field of teaching second language (L2) reading comprehension. Many researchers have addressed various pedagogical aspects and issues related to this field. This annotated bibliography is designed for researchers and instructors working on developing modern technological techniques of teaching reading in second/foreign language settings and to provide a solid theoretical and pedagogical background based on many types of data from various angles and contexts. It attempts to provide an overview of and highlight research studies related to teaching L2 reading comprehension through updated digital methods with applications and recommendations based on previous research studies. The sources listed in this annotated bibliography are journal articles arranged alphabetically by author, and for each work there is a brief non-evaluative synopsis of the study's objectives, instruments of data collection and results.

Keywords

L2, EFL, ESL, Digital teaching, Reading comprehension, Reading skill, Teaching methods, Technology, Electronic

1. Journal Articles

1. (Abbasian & Azeez, 2021)

This study involved forty elementary and intermediate second-stage Arabic and Kurdish students enrolled in the English language department in Cihan University, Erbil. Six sessions were conducted: three sessions implemented a traditional class structure for the control group, and three implemented flipped teaching for the experimental group. Pretests and post-tests had been arranged to measure students' reading comprehension levels before and after the intervention. In the control group,

participants had reading texts only in the class without any prior knowledge given at home. They had an explanation for the texts, disused its content and answered related questions. Participants in the experimental group received three texts via email. The teacher also provided these participants with instructions about how to study and use online resources such as Google and dictionaries. Moreover, meetings on Google Meet had been arranged with the participants in this group before the sessions to provide them with prior knowledge about the reading topic. During the actual class, these students and the teacher discussed the text, and the students answered all of the questions. The results of the study showed that students performed better when they received instructions and had prior knowledge about the reading materials via flipped classes. Most students in the experimental group passed their reading comprehension exams and were more interactive during tasks and classroom discussions than those in the control group. The study shows that applying flipped classes in teaching L2 reading is beneficial in enhancing students' reading abilities.

2. (Ahmed, 2019)

In the present study, the effects of using WhatsApp to improve students' L2 reading and writing skills were investigated. The participants in the study were 20 English as a foreign language (EFL) undergraduate student in the English language department in University of Aden. The researcher asked the students to join a WhatsApp group and engage in several steps for a period of two months. First, he gave them a pretest to assess their reading and writing abilities. Next, they received daily articles and were required to read them, write comments, and paraphrase them. The researcher continued to send questions and articles via WhatsApp to motivate students to chat and discuss topics related to the reading materials. At the end of the course, the students received a post-test presented as one article to read, with relevant questions to answer. They also completed a questionnaire investigating their experience and their predictions regarding using WhatsApp in L2 classes. The study proved that using WhatsApp in teaching L2 reading and writing skills is beneficial, as it improved students' grammatical accuracy and vocabulary and shortened the time needed for comprehending the given texts. Comparing students' pretest and post-test answers showed a significant development in their reading and writing performance. Students' responses to the questionnaire revealed their positive attitudes towards learning English through WhatsApp. They also considered it very effective in developing their reading and writing skills. Students also found that using WhatsApp in language learning was very motivating as they learned from each other and practiced English as a means of communication. They also agreed that tasks that they received through WhatsApp had a highly significant impact on developing their L2 reading and writing abilities. Thus, this study proves that using WhatsApp in teaching L2 reading skills is very effective.

3. (Assaf et al., 2020)

This semi-experimental research examined the effect of incorporating mobile-assisted language learning (MALL) presented via an electronic collocation-based instructional program (mobile app) on improving Jordanian students' reading comprehension. The researchers designed an electronic

instructional program that focused on electronically familiarising students with collocations presented in their textbook. To achieve this, collocations were collected by conducting a content analysis and were identified, grouped and fed into Quizlet (a flashcard mobile application). Fifty male Jordanian students studying English as a foreign language participated in the study. They were grouped into two sections, an experimental group and a control group. Also, a reading comprehension pretest and post-test were conducted to assess students' language improvement. The tests consisted of a reading passage followed by five literal comprehension questions and five inferential comprehension questions. With the experimental group, the researcher utilised the Quizlet mobile app to teach lexical collocations, whilst the control group received traditional classroom instruction. The study found that an electronic collocation-based instructional program is a useful tool for improving L2 reading comprehension. Participants enjoyed learning through the program and were interested in improving their lexical collocations. They also gained experience in using the Quizlet app and became autonomous learners. The study concluded that incorporating MALL, such as via Quizlet, is beneficial in enhancing students' L2 reading comprehension.

4. (KhuramShahzad et al., 2021)

This quasi-experimental study aimed to investigate the effect of using computer-mediated instruction (CMI) on Pakistani EFL students' achievement in reading comprehension at the secondary level. Participants were divided into two groups; one was taught through traditional methods, and the other was taught via CMI presented through immersive reading software that enables students to write anything and have it read by the software. It also provides the meaning of words and increases students' reading fluency. The teacher gave students different tasks and assignments based on reading texts, all of which the students completed through the immersive reader program. Results of pretests and post-tests indicated that students' reading comprehension improved significantly, when compared to that of the control group, by applying CMI-based teaching methods.

5. (Ali, 2021)

A qualitative study conducted on intermediate English as a second language (ESL) students aimed to investigate the value of using digital devices in teaching L2 reading skill. The researcher observed students and their teacher while they used digitalised language input through gadgets such as laptops, notepads and smartphones in Larkana's context, in Pakistan. The data of the study were collected through four stages. First, the researcher determined the criteria for observation. Second, he selected relevant excerpts from the observation. Third, data were codified, and patterns were categorised into themes. Finally, qualitative analysis to describe the data was conducted. The findings indicated that using technological devises to present reading materials was effective in acquiring L2 reading skills and enhancing reading fluency. The study also revealed that by using digital devices, students' immersion in reading L2 texts increased. In addition, students' phonic awareness and fluency increased when they used smartphones to listen to native speakers through authentic dialogue and/or videos, enhancing their L2 assimilation, vocabulary and elision. Moreover, the observation showed that

teachers could share reading materials with students through social media, such as WhatsApp or email, and elevate this content from easy to more difficult levels. Using digital technology in teaching L2 reading enabled teachers to give students reading homework and ask them to practice it digitally at home. The study also revealed that students' critical, inferential and literal reading skills could be enhanced through digitised input.

6. (Azmuddin et al., 2020)

This study used a mixed methods approach to examine the effect of electronic annotation mechanisms on improving students' online reading. The study was conducted on students enrolled in an English for specific purposes course in the West Sumatra College of Economics. Annotated data (DAT) were collected through the Interactive Reading for Academic Disciplines (iREAD) platform. This platform has many online functions such as discussion forums, video and audio features and DAT. The researcher focused on DAT, which allows students to digitally highlight and annotate reading materials and take notes online about the texts that they read. Texts were selected based on students' language proficiency levels. Participants were required to do several tasks using the DAT in iREAD: namely, highlighting parts of a text; writing comments - either words, sentences and/or paragraphs -and saving them; identifying and highlighting topic sentences and supporting details; and rewriting the highlighted parts using their comments in their own words. Data were analysed thematically using codes and creating themes in which two categories were identified. First, annotation related to keywords or main ideas and summarised ideas was coded in data analysis. The second category of annotation involved marking vocabulary. The researcher also interviewed participants to investigate their perceptions of the use of DAT techniques on enhancing their online reading comprehension. The results of the study showed that the use of DAT supports students' online reading comprehension. That is, utilising DAT features such as highlighting tools and writing notes on digital texts generates interactive reading in which students are able to contextualise and synthesise ideas and deal with texts' syntactic and discursive features. These finding also indicate that using online annotations could enhance students' discussion in class. To sum, DAT has an effective role to facilitating and supporting online reading comprehension.

7. (Bahari et al., 2021)

The purpose of this study was to investigate the effect of computer-assisted language learning (CALL) on developing Iranian students' L2 reading performance and enabling them to apply reading strategies in an automatic, unconscious way. The researchers applied the computer-assisted interactive reading model (CAIRM) at three levels, which were applied in three experimental groups: bottom-up, top-down and interactive-approach. The results indicated that the interactive approach was the most influential level of CAIRM implementation. Tools and strategies of CALL had a positive impact on students' reading proficiency. The study also supports updated teaching styles and students' various learning styles. In addition, the data showed that students had positive perceptions of the applied model in both distance and blended learning environments.

8. (Bao, 2017)

The author of this study aimed to explore the effect of applying multimodality in teaching reading for college English majors in an intensive reading course at a university in Mongolia. The participants in the study were 110 students studying in two parallel classes: an experimental group and a control group. The researcher taught reading through multimodal reading in the experimental classroom and used ordinary multimedia teaching methods with the control group. The multimodalities included several modes of meaning; specifically, these were visual, audio, gestural and spatial. The researcher used reading-test papers, a pretest, reading quizzes, and a post-test as data sources. The results of the study indicated that students' scores were similar on the pretest, whilst the experimental group's scores improved on the post-test. Thus, the author concluded that the application of multimodality had the positive impact of improving students' L2 reading comprehension.

9. (C. M. Chen et al., 2019)

This quasi-experimental study attempted to investigate the impact of applying a web-based collaborative reading annotation system (WCRAS) with gamification mechanisms on improving Taiwanese students' L2 digital reading comprehension. The researchers adopted game-based learning theory to promote learning performance. With the experimental group, the researchers employed WCRAS with gamification mechanisms, whilst only WCRAS was used with the control group. They found that the gamified WCRAS had many benefits for improving students' L2 reading skills. First, it motivated students to make annotations and engage in collaborative annotations. Second, the results indicated that students who had the gamified WCRAS generated higher quality annotations than those without it. The study proved that helping students to produce high-quality annotations would enhance their reading comprehension.

10. (Erya & Pustika, 2021)

This descriptive qualitative research study investigated Indonesian students' perceptions of the use of the new comic platform Webtoon to improve reading skill. Webtoon is a website and a cartoon and presents digital comics. Fifty students enrolled in a university's English education program participated in this study. Non-numerical data collected through questionnaires consisted of seven items, including five statements and two questions. The findings indicted that most students agreed that Webtoon enhanced their reading comprehension, and it was easy to use. The data also showed that most students found using Webtoon motivated them to read texts and improve their comprehension. Moreover, the study revealed that the special features of Webtoon, such as the availability of comics, audio and video files, and stories, encouraged students to download and use it in their L2 reading comprehension lessons.

11. (Hazaea & Alzubi, 2016)

The authors of the present study investigated the effect of applying mobile technology in English language classes to improve students' L2 reading comprehension. The participants in the study were 30 male EFL Saudi university students in the preparatory year. Freebody and Luke's (1990) four resources

model of reading practices within MALL was used in the study. Students were encouraged to use mobile features and specific applications while reading. Pretests and post-tests were administered to students to measure their reading comprehension improvement. Self-reflection journals, offline and online dictionaries, online resources and WhatsApp group were used both within and outside the classroom. The authors also conducted semi-structured interviews with five participants. The findings of the study showed that using online resources and mobile applications enhanced students' participation in that they shared images, photos of summaries, mind maps, new vocabulary, parts of speech and pronunciation. It also indicated that pedagogical uses of mobile applications had a positive effect on students' L2 reading comprehension, given that they extended their reading practices, finding words' meanings and correct pronunciation. Students also had positive attitudes towards utilising a mobile application in improving their L2 reading comprehension.

12. (Hu & Yu, 2021)

The study attempted to investigate the influence of applying information and communication technology (ICT) presented in social media on improving adolescents' digital reading skill. Four databases of school students (URL: http://www.oecd.org/pisa/data/) were selected and retrieved from four cycles of the Programme for International Student Assessment (PISA). Step-by-step analyses of 767,511 students in the PISA digital reading assessment were conducted. The results revealed that the students who had a positive attitude towards using social media in the reading classroom had better digital reading performance and assessment than those who had negative attitudes. Also, the findings showed that the effect of using social media outside the classroom on students' digital reading is determined by the kind of social media used (e.g., chatting applications, online games, and online news), the purpose of its use and the context.

13. (Hsieh & Huang, 2020)

The present experimental study attempted to investigate the impact of e-books on developing students' English reading abilities. Forty-nine seventh-grade students participated in the study and were divided into two groups, with twenty-four in the experimental group and twenty-five in the control group. The researcher used the electronic edition of the Hanlin Junior High School English Textbook, Book Two. The e-book involved searching and highlighting functions, animations, PowerPoint slides, computer games for unit review practice and other interactive features, such as native speakers' audio and visual aids presented in dynamic images and captions. The teaching procedure for a lesson consisted of the following steps: warming-up (introduction and discussion); theme word (a theme word teaching and sentence-making activity); sentence pattern (sentence pattern teaching and grammar activity); reading text (pre-reading questions, reading text out loud, post-reading questions and animation) and a review exercise. An achievement test was also conducted via a computer game and checking answers to measure students' learning outcomes and receptive English language skills during the intervention. Moreover, the researcher conducted focus groups to interview students in the experimental class to investigate their attitudes towards using an e-book in class. After six weeks of intervention, the

achievement test indicated that using an e-book in teaching English reading skill had a positive effect on students' language proficiency. The e-book supported reading through multimedia content such as audio and annotation features. The interviews showed that applying several classroom activities is beneficial in language classes, as they motivate students and increase their attention in the classroom.

14. (Kamalova et al., 2021)

The study investigated the effect of applying online simulators (a set of online tests) on literary reading with students in primary school. Students were required to think about a text they had read and analyse a literary work by determining the topic, the main idea of the work and the author's point of view. The researcher developed and placed the simulators on an online test pad and applied them in three stages: stating, forming and controlling. First, the researchers created the experimental platform. Second, they assessed the reading competence of the participants based on the digital literacy of primary school students. Third, a reflection was conducted based on the result of developing the online simulator. The online reading training results indicated that utilising a digital simulator developed younger schoolchildren's reading competence and the qualities of a literate reader within them. Also, it had a positive effect on shaping students' digital literacy. Students' attitudes towards reading books, their reading comprehension techniques and their ability to choose books were remarkably improved.

15. (Kumara & Sampath Kumar, 2018)

The authors of this study investigated the effect of applying ICT on students' reading habits, including the purposes that drive students to read, the type of information sources that they prefer to read and the impact of ICT on their reading habits. The researchers distributed a questionnaire that was filled out by 440 university students in the areas of arts, science and commerce. The study revealed that students are interested in reading sources on the internet, and their reading habits are positively affected by ICT availability and use. Also, students preferred to read online, as they found it less expensive and more convenient than printed books. Thus, the study indicated that universities and teaching institutes should facilitate the use of ICT in language learning programs and reading classes.

16. (Kuo et al., 2010)

The present study examined the effect of utilising a reading comprehension (RC) platform on improving students' English reading abilities. The participants in the study were Taiwanese students from a public elementary school in Taiwan. The RC platform includes several types of media and pictured reading texts. Students had to use the platform to read the texts and utilise the other media to facilitate their comprehension. The researchers conducted pre- and post-tests on English reading comprehension to examine students' reading comprehension proficiency changes. Also, a questionnaire was distributed to investigate students' opinions and attitudes towards using an RC platform to improve their reading comprehension. The results of the study showed that students achieved higher scores on post-tests than on pretests. The results of the questionnaire showed that students enjoyed reading via the RC platform and preferred the online instruction. They also mentioned that the RC platform facilitated their English language learning processes. The researchers concluded that the RC platform

enriched students' English language learning experience and enhanced their reading comprehension.

17. (Kim, 2020)

The effect of Zoom technology as an educational tool was the focus of this experimental study that utilised Zoom video lectures to teach reading skills. Students enrolled in a liberal arts English reading class for freshmen at a Seoul university were the participants in the study. The researcher uploaded video lectures to the control group every week. The remote videos included information about pre-reading and reading activities. The researcher also used a university forum to get students to discuss topics and ask questions related to the reading texts. All the procedures that were applied with the control group were also used with the experimental group. However, the researcher in the experimental group added video lectures and used a real-time video lecture via Zoom once every two weeks to enable students to understand the assigned text and to engage in discussion during the lectures. To compare students' achievement, two tests were conducted for both the control and experimental groups. A questionnaire was also conducted with students in the experimental group to reveal their perceptions of Zoom video lectures in reading classes. Statistical Package for the Social Sciences software (SPSS) were used to analyse and compare the results. The results of the study indicated that using remote video via Zoom technology had a positive effect on learners' English reading achievement. The researcher found that Zoom video lectures implemented in the experimental group had a better effect on students' reading comprehension than the video lectures implemented in the control group. The findings show that using Zoom in reading classes must be supplemented by data, uploading and downloading video and screen management functions. However, participants' responses to the questionnaire present their neutrality or dissatisfaction with using Zoom video lectures. The reasons for dissatisfaction include being uncomfortable with mechanical errors, having poor image quality and the screen freezing at times. Thus, the researchers concluded that instructors should be knowledgeable on how to implement technological tools such as Zoom in reading classes and develop class activities and strategies implemented in video lectures.

18. (Liu et al., 2020)

The aim of this study was to compare the effects of online instruction and traditional literature textbook methods on improving students' L2 reading comprehension. The participants in the study were 72 male and female students between 18 and 19 years old distributed into two classes, the control and experimental groups. The experimental group had instruction via an electronic textbook published by Chinese People's Education Press for senior school Grade 3, Unit 2, United Kingdom. During the lesson, the teacher presented prepared materials such as an internet site and pictures and videos related to the content of the lesson; the teacher then required students to browse relevant websites and use online dictionaries and other electronic tools. For example, the teacher also used broadcast video of the United Kingdom, presented pictures and had students discuss related topics. The teacher also required the students to surf the internet sites, read materials, do exercises and submit answers online. Students also used social media (Chinese Platforms) such as WeChat or QQ to discuss questions and information

about the reading materials. Meanwhile, the teacher in the control group explicitly followed the textbook and used the traditional teaching approach without the internet. To assess students' progress, pretests and post-tests were carried out with the experimental and control groups. The findings proved that using the internet in L2 reading classes is an effective medium in language instruction. Participants who had internet access in the classroom and were exposed to online reading materials had better scores than the students who did not. The study showed that online instruction has many advantages for language learners and, in particular, for reading comprehension classes, such as increasing students' motivation, participation and discussion and exposing them to supporting materials such as images, dictionaries and videos.

19. (Mu'afah et al., 2021)

This research study investigated designing and using the smartphone application prototype named Seeds, which implemented three-phase reading techniques to teach reading skills. The first phase had three different titles of descriptive text with different forms of reading activities. The activities were divided into three reading stages: pre-reading, whilst-reading, and post-reading. Its features included a pop-up glossary, re-reading, 'show score' and 'share score'. The second phase included the book as an e-manual in the form of a .pdf. The third phase included reading techniques with reading activities implemented in the application. Activities centred around the following types: multiple-choice, true-false, crossing out wrong words, short answers and drag-and-drop. Moreover, other features such as pictures, background music, and colourful pages were included in the application to motivate students. The results of applying the application in teaching L2 reading showed that it facilitates students' independent learning, as it includes score features and an answer key. The application also enabled students to read texts and do reading activities on their smartphones without an internet connection. Thus, the designed application helped students to develop their reading skills through independent learning.

20. (Nurbaet & Apsari, 2022)

This case study represented an attempt to teach narrative reading texts through the implementation of the scientific method to digital storytelling. Researchers used a classroom observation sheet on a WhatsApp group to record how the teacher applied this approach. The scientific approach includes several stages in teaching and learning: observing, questioning, experimenting, associating and communicating. The teacher presented video containing narrative text and showed students videos about narrative text to begin the lesson in order to stimulate their thinking. Next, the teacher asked students questions about the language of narrative text, definitions and genre. Then, students discussed narrative text materials. Following the discussion, students were divided into groups and completed exercises through Google Forms. The teacher then asked them to share their knowledge by stating which questions they had found difficult, evaluating information and elaborating on the details of the actions. Finally, the teacher again discussed with the students the general structure, definition, language and types of narrative texts to confirm the facts that had been reported and evaluated. The study found

that applying the steps of the scientific method would be a successful tool in teaching and learning narrative text. Also, the use of digital storytelling increased students' interest in learning and reading narrative texts.

21. (Pahamzah et al., 2022)

The researchers in this qualitative study examined the effectiveness of utilising the software Kahoot in teaching vocabulary and improving students' L2 reading skill. Kahoot is an ICT game that allows instructors to explain ideas and concepts and deliver content. It also allows teachers to examine students' learning and achievements in the classroom. Participants in the study were 26 L2 postgraduate university students. Active research was conducted using Kahoot in three sessions with a total of three meetings per cycle. Also, the reading and vocabulary pretest and post-test consisted of multiple-choice items in the classroom. In addition, the researchers employed Kahoot to apply activities such as reading texts, asking and answering comprehension questions and arranging words in sentences. Also, observations, document analysis and questionnaires were used to collect data. The findings of the study revealed that Kahoot is a learning medium that enabled students to work in a group cooperatively. Also, the results indicated that students' vocabulary learning and reading comprehension improved as a result of having used Kahoot. Moreover, the software increased students' interest in learning English and enabled them to practice it outside the classroom.

22. (Wijewanth, 2021)

This experimental research study aimed at investigating the utilisation of multimodal texts presented in documentaries in a virtual language classroom to enhance reading comprehension. The participants in the study were first-year university students studying English as a requirement of their preparatory year. The researcher conducted the study using Google Classroom and divided the participants into control and experimental groups. A documentary with subtitles in English was given to the experimental group, and a transcript of the documentary was given to the control group. Reading materials were given to the participants through Google Classroom and followed by three kinds of activities: multiple choice, gap-fill and a vocabulary test. These tests were evaluated to compare the results of the two groups. The researcher also distributed a questionnaire at the end of the study to investigate students' views of the effectiveness of the intervention in promoting their reading comprehension. The results revealed that using digital multimodal texts presented in documentaries' content could promote L2 students' reading comprehension. It also found that digital texts motivated and encouraged students to learn a new language. Moreover, students' exposure to English was increased by using digital texts.

2. Conclusion and Implications

This annotated bibliography was an attempt to clarify how language teachers and researchers have invented and used special technological tools in teaching L2 reading comprehension. The previously mentioned research studies investigated the effect of using technology in teaching L2 reading skills in different contexts and using different technological facilities (Kim, 2020; Liu et al., 2020; Nurbaet &

Apsari, 2022; Pahamzah et al., 2022; Wijewanth, 2021), focusing on developing students' L2 reading comprehension. Based on the findings of these studies, I conclude that utilising technology in teaching L2 reading comprehension is beneficial, having many advantages for improving the reading skills of language learners. For example, they can access a wide range of online reading materials, accompanied with audio, video and pictures. Technology also makes it possible for language learners to use facilities such as dictionaries, annotated services and discussion rooms. The studies also showed that technology makes it possible to create special platforms with specific features to promote students' L2 reading comprehension. Moreover, these technologies can be integrated to enable students to practise reading skills inside and outside the classroom. Teachers would also be able to engage students in reading exercises by sending them tasks and reading materials through different applications and technological services. Thus, I recommend all L2 teachers to adopt technology in their teaching practices and to motivate students to increase their use of electronic facilities to learn and practise L2 reading.

3. Recommendations

Although the range and quantity of new technology applications for teaching reading skills online have grown (Chapelle & Sauro, 2020), more studies are still needed to investigate the use of technology in teaching cognitive and metacognitive reading strategies (X. Chen et al., 2016). In particular, very few studies have focused on a limited number of cognitive strategies, such as annotation and making summaries (Azmuddin et al., 2020; C. M. Chen et al., 2019), whereas many other reading strategies need to be addressed and taught via technological interventions. For example, teachers need special platforms and applications that are designed to acknowledge students with metacognitive reading strategies and raise their awareness of the importance of each reading strategy and when and how to use it during reading (Chapelle & Sauro, 2020). Also, applications should be designed to train students to monitor their reading, reflect on their level of understanding, and identify and plan their reading tasks (ibid.). Furthermore, technological services should be designed to enable readers to use reading strategies until they can apply them unconsciously while reading. Moreover, teachers should prepare technology in a way that enables students to tackle the reading materials via both top-down and bottom-up methods (Birch, 2008; Grabe, 2009). They could activate readers' background knowledge about the reading materials by using online facilities such as visual and auditory features to enhance their reading comprehension. They could also promote bottom-up strategies by making facilities such as dictionaries and highlighting accessible to readers. Moreover, teachers should manipulate technology to promote collaborative reading to create learning opportunities for language learners (Chapelle & Sauro, 2020).

Language instructors should be aware of the various technological services and use them in the classroom. For example, teachers should be acquainted with utilising word cloud warmers, video pre-reading warmers, quick response reading races, skimming and scanning, and readathons, whose use is very effective in L2 reading classrooms (Stanley, 2013). Chapelle & Sauro (2020) also classified

technological tools for teaching reading into four categories: self-developed courseware, online activities, commercial/freeware and computer-mediated communications. Language teachers should select the appropriate technological tool to teach a specific L2 reading skill.

Taking together the findings of the studies outlined above, the lack of deep engaging of various technological features in teaching L2 reading comprehension and the positive learning impact of using technology in language classroom, further research studies need to be conducted. It is recommended that educators and language teachers fully activate the application of technology in teaching L2 reading and investigate its impact on students' learning and development.

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