



The evolution of online extensive reading and web-based platforms in EFL/ESL: A narrative review of impacts, challenges, and future directions

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Abstract

Engagement in extensive reading (ER) on the internet provides learners with unparalleled access to diverse digital resources, positioning online extensive reading (OER) as a transformative extension of traditional ER practices. OER combines the principles of ER with the affordances of modern technology, offering interactivity, multimedia features, and adaptive tools that foster reading proficiency, vocabulary growth, and motivation. This paper thoroughly reviews OER's development and its impact on English as a foreign language/English as a second language (EFL/ESL) education over the past decade (2014–2024), analysing 43 peer-reviewed studies from Scopus and Web of Science. Adopting a narrative review methodology, this study utilises a structured literature matrix to synthesise the findings, critically analyse, and evaluate the key data from diverse research studies, offering a comprehensive understanding of OER's pedagogical implications. The findings demonstrate that OER significantly enhances learners' engagement and autonomy, particularly when integrated with interactive platforms. However, challenges such as inadequate technical support, progress tracking difficulties, and digital literacy disparities hinder its full potential. To address these barriers, this paper advises policymakers to strengthen digital infrastructure, invest in digital literacy programmes, and provide ongoing professional development for educators. Expanding access to graded online reading materials and overcoming these challenges will enable OER to integrate effortlessly into modern educational ecosystems, enhancing language-learning outcomes, fostering engagement, and promoting autonomy in digital environments.

Keywords: extensive reading; online extensive reading; EFL/ESL learners; web-based platforms; impacts; challenges; future research directions

Introduction

Background

Over the past two decades, extensive reading (ER) has been the subject of comprehensive investigation and has been firmly established as an effective instructional approach in English language learning (Ateek, 2023). Renowned for its pivotal role in enhancing reading skills, enriching vocabulary acquisition, and boosting motivation among learners of English as a foreign language (EFL) and English as a second language (ESL), ER stands as an indispensable approach to language acquisition, promoting both active engagement and comprehension (Beglar & Hunt, 2014; Day & Bamford, 1998; Grabe, 2008; Meniado, 2021; Nation, 2009).

Recent advancements in digital and online technologies have transformed EFL/ESL learners' engagement in OER with diverse reading materials as digital platforms now enable interaction with highly accessible and interactive resources (Timotheou et al., 2023). Online extensive reading (OER), a digital adaptation of traditional ER practices, has garnered significant scholarly interest for its potential to optimise language-learning outcomes (Nation & Waring, 2020). OER emphasises reading extensive content online for pleasure and comprehension, aiming primarily to develop language skills and instil a sustained love for reading (Suk, 2017).

Despite OER's advantages, such as access to diverse materials and interactive features, the transition from traditional ER to OER poses specific challenges that require further research (Zhou & Day, 2021). A notable challenge in implementing OER programmes is effectively monitoring and tracking students' progress (Chang & Renandya, 2017). For many international EFL/ESL learners, reading in English can be daunting due to the language's complexity, low confidence, and lack of interest in English ER (Hartshorn et al., 2017; Mikami, 2017). Moreover, Day and Zhou (2021) highlighted technical issues with the Xreading Library and challenges in managing OER platforms, including a limited selection of graded materials that are suitable for adult learners.

In recent years, a substantial body of quantitative research has examined student engagement with OER across various online platforms (Meniado, 2021; Ounissi et al., 2023). However, comprehensive literature reviews focused on OER and web-based platforms remain scarce. Notably, few narrative review studies in indexed journals have explored OER within this specific context. Although Day (2015) anticipated an increased reliance on OER resources and platforms, such as the Moodle Reader module, significant gaps persist in understanding their long-term impact on learner engagement and educational outcomes.

While empirical research on OER has expanded, comprehensive review articles from the past decade (2014–2024) that examine OER's theoretical foundations, effects, challenges, and future directions are limited. Such reviews are essential, as they synthesise current research, identify knowledge gaps, and establish a cohesive framework for future studies, ultimately advancing the field (Borenstein et al., 2011; Petticrew & Roberts, 2006). Without this foundation, constructing a comprehensive understanding of OER remains challenging, complicating the development of informed educational strategies (Dodgson, 2021). Additionally, a thorough review offers practical recommendations for educators and strategic guidance for policymakers seeking to implement effective OER practices in digital contexts. This effort aims to generate actionable insights that support enhanced language learning for practitioners and researchers alike.

Related Literature

Extensive Reading and Technology

Reading experts widely acknowledge that ER fosters significant improvements in both receptive and productive language skills, particularly when students cultivate regular ER habits (Bamford

& Day, 2004; Day & Bamford, 2002; Krashen, 2004; Renandya et al., 2018; Richards & Schmidt, 2013). As an essential instructional strategy, ER enhances academic performance and strengthens reading pedagogy (Yamashita, 2008). Furthermore, it contributes to linguistic and educational success, notably advancing vocabulary development and reading fluency among ESL learners (Horst, 2005; Nation, 2015; Pigada & Schmitt, 2006). Several scholars have argued that achieving significant and rapid outcomes from an ER programme in the short term is challenging, as it demands sustained commitment and time (Huang, 2015; Yamashita, 2008). Consequently, ER is conceptualised as a deeply personal reading journey, wherein learners engage with extensive printed or digital reading materials consistently over extended periods to maximise their exposure and benefits (Grabe & Stoller, 2001).

Over recent decades, the widespread adoption of technology and the growing accessibility of the internet have catalysed ongoing innovation and notable advancements in education (Dwivedi et al., 2019; Gilbert, 2015; Kaufman & Gregoire, 2015; Sarker et al., 2019; Wagner & Compton, 2012). ESL learners increasingly benefit from flexible and convenient access to digital reading resources, including stories, comics, encyclopaedias, and news outlets. Rahimi and Yadollahi (2017) underscored the emergence of digital storytelling, a pedagogical approach that integrates computer technology with narrative techniques to serve as a transformative educational tool. Likewise, Frazel (2010) highlighted the ability of digital storytelling to create an engaging and dynamic milieu for language learning, supporting auditory and visual learners while fostering the sustainable integration of technology into education.

Online Extensive Reading as a Pedagogical Approach

OER encompasses voluntary reading practices conducted within the expansive and dynamic online environment (Coiro, 2003, 2012). Its primary aim is to cultivate a love for reading while encouraging consistent habits. Coiro (2012) emphasised OER's capacity to link readers with diverse digital platforms, highlighting that learners' attitudes and confidence in navigating the internet strongly influence their motivation and reading performance. The affordability of e-books and the constant availability of digital libraries have prompted educational institutions to reconsider integrating digital and online reading resources into curricula (Gerlich et al., 2011).

E-books enhance users' experience through customisable features, such as adjustable fonts and screen settings, alongside multimedia tools like hyperlinks to reference materials, which streamline learning (Huang, 2013; Lai & Chang, 2011). However, certain ESL students find OER difficult to engage with and experience discomfort when reading on screens, which can lead to disengagement and hinder their active participation (Myrberg & Wiberg, 2015).

Engaging effectively with OER requires more than just reading for pleasure; it also necessitates keeping pace with advancements in information and communication technology and comprehending how to navigate and utilise online resources efficiently. Johnson et al. (2016) emphasised the importance of teaching students how to enhance their digital literacy for academic use, since many are surrounded by technology from an early age. Similarly, Gilbert (2014) argued that educators must equip students with the skills needed to interact with digital and online texts effectively in today's tech-driven world.

Fostering Literacy and Digital Skills Through OER

Experts in reading have long acknowledged that ER plays a pivotal role in enhancing both receptive and productive language skills, contributing to improved linguistic capabilities by fostering consistent reading habits (Bamford & Day, 2004; Day & Bamford, 2002; Krashen, 2004; Renandya et al., 2018; Richards & Schmidt, 2002; Yamashita, 2008). OER encompasses

a variety of voluntary reading activities conducted in the digital realm, primarily aimed at promoting enjoyment and cultivating a regular reading habit (Coiro, 2003, 2012). Coiro (2012) emphasised that OER enables readers to immerse themselves in a broader digital environment, facilitating direct communication and interaction within specific online platforms. In this context, engaging in OER extends beyond enjoyment, requiring learners to stay abreast of technological advancements and to navigate digital resources effectively. Gilbert (2014) further argued that in today's digital age, educators must equip students with the essential digital literacy skills to ensure they can effectively engage with online reading materials. Several prominent platforms have emerged to enhance students' engagement with reading for both enjoyment and knowledge, fostering emotional involvement in OER, such as M-Reader and Xreading.

M-Reader

M-Reader is an innovative, free web-based platform that supports educational institutions in effectively implementing ER programmes (Rajabpour, 2020). According to Tagane et al. (2018), OER platforms like M-Reader help reduce teachers' workload by streamlining the process. M-Reader enables students to read graded paperbacks and complete corresponding quizzes online after finishing each book (Mreader, n.d.). The system also allows teachers to monitor students' comprehension through quizzes with 10 randomised questions, requiring at least six correct answers to pass. Successful completion displays the book cover on the student's homepage. Developed at Kyoto Sangyo University, M-Reader is now used in 26 countries worldwide. While students have provided positive feedback (McBride & Milliner, 2016; Robb, 2009), further research is needed to fully assess its impact. The platform's adaptability, offering tailored reading paths that let students select books within, below, or slightly above their level—managed by teachers or automated settings—enhances its utility across various educational settings.

Furthermore, M-Reader offers access to over 8000 quizzes, enabling educators to oversee students' progress in OER by tracking key details, such as book titles, difficulty levels, and total word counts. It has proven to be a motivational and accessible tool that promotes ER effectively while requiring minimal technical expertise from users (Al Damen, 2018; Allan, 2014; McBride & Milliner, 2016). Rajabpour (2020) highlights its support for learner autonomy, allowing students to choose their reading materials and quiz schedules, enhancing vocabulary, comprehension, and reading speed. Furthermore, Truscott (2017) underlines its role in fostering accountability by ensuring meaningful engagement with texts. Studies indicate that M-Reader significantly fosters students' emotional engagement (EE) in frequent and independent reading (Al Damen, 2018; Rajabpour, 2020; Suk, 2016), making it a valuable resource for facilitating OER.

Xreading

According to Savitri and Munir (2022), Xreading is an online library offering an extensive selection of graded readers with integrated audio versions, enabling students to engage in reading while listening. This approach has been demonstrated to enhance both reading and listening skills more effectively than reading only (Chang, 2009; Chang & Chang, 2011; Milliner, 2019). With the growing prevalence of mobile technology, graded readers in both print and digital formats have gained popularity (Savitri & Munir, 2022). The audio feature in Xreading, available for most books, not only aids in language acquisition but also alleviates anxiety (Rozak et al., 2019) and fosters self-regulated learning (Wang, 2004), establishing the platform as a valuable resource for improving student engagement and language proficiency (Savitri & Munir, 2022).

According to Wilkins (2019), Xreading offers a collection of over 1000 graded readers specifically designed for English as an additional language students. The platform features a learner management system that enables teachers to track students' progress. Its library includes books from renowned publishers, such as Cambridge University Press and Macmillan Learners, organised into 15 levels of difficulty on the basis of headword count. These books come with audio files for listening and pronunciation practice (Wilkins, 2019). Xreading also offers a placement test to help users choose appropriate books, with subscriptions starting at \$5.00 per month (MReader, n.d.). According to Tagane et al. (2018), Xreading allows teachers to efficiently track students' progress, which is especially useful in large classes and for independent out-of-class assignments. Teachers can customise learning experiences by adjusting reading levels and quiz passing grades to meet individual students' needs. For students, Xreading offers flexibility by enabling them to read and complete quizzes on their devices, with the platform tracking reading speed and time spent reading to ensure accountability (Tagane et al., 2018). This adaptability makes Xreading an efficient tool, offering resources that foster language development, support self-regulated learning, and facilitate effective progress tracking (Savitri & Munir, 2022; Tagane et al., 2018; Wilkins, 2019).

Key Theories Supporting OER

Constructivist Learning Theory

Constructivism, as an epistemological approach, asserts that knowledge emerges through active engagement with experiences and environmental interactions (Elliott, 2000). This perspective is grounded in Piaget's cognitive development theory (1952) and Vygotsky's sociocultural theory (1978), which emphasises stages of intellectual growth, highlighting the importance of engagement and social collaboration in learning. In the digital age context, e-learning platforms embody constructivist principles by providing diverse resources, encouraging learners' autonomy, and fostering accountability (Jafre et al., 2011). Unlike traditional classrooms, constructivist environments promote active participation and collaborative learning over passive information reception.

Hypertext Theory

Hypertext theory has emerged as a foundational framework for understanding digital reading (Nowak, 2008). Originating with Theodor Nelson in the 1960s, hypertext is defined as "text composed of blocks of words (or images) linked electronically by multiple paths" (Landow, 1997). DeStefano and LeFevre (2007) further characterise it as a network of interlinked documents, enabling seamless navigation between text segments. By fostering users' autonomy, hypertext offers opportunities to engage with texts in innovative ways (Pardede, 2019). While it facilitates new forms of reading and potential language instruction, the absence of a structured hierarchy in digital texts can pose comprehension challenges (Pardede, 2019). As Carusi (2006) highlights, hypertext redefines reading practices, sparking debates about its effects on critical thinking while encouraging further research into its educational applications.

Engagement Theory

Engagement theory posits that meaningful interaction among students is essential during the learning process (Farrell, 2004; Kearsley & Shneiderman, 1998; Pianta et al., 2012; Riviere, 2016). The theory emphasises the role of technology in creating a learning environment that fosters communication and creativity, ultimately motivating students to engage more deeply with their studies (Kearsley & Shneiderman, 1998). Within the reading context, engagement

theory suggests that certain conditions foster engaged or disengaged readers (Tracey & Morrow, 2006). Research indicates that students who explore a diverse range of reading materials are intrinsically motivated and employ metacognitive strategies to enhance comprehension (Long & Szabo, 2016). Thus, engagement theory serves as a conceptual framework for technology-enhanced learning and teaching (Tracey & Morrow, 2006).

Krashen's Comprehensible Input Theory

Krashen (1985) identified the comprehension hypothesis as the foundation of ER, emphasising the importance of comprehensible input in language learning (Ng et al., 2019). He posits that language acquisition occurs through understanding messages and receiving “comprehensible input” (Abukhattala, 2013). Krashen also highlighted a silent period in which students may not produce language but need to process input effectively (Abukhattala, 2013). His theory suggests that language and literacy develop when individuals receive comprehensible input, which must be engaging enough to capture learners' attention (Krashen, 2003; Krashen et al., 2018). Additionally, the concept of “flow,” where readers become deeply engrossed in their materials, supports the idea that engaging input leads to natural language acquisition (Csikszentmihalyi, 1990; Nell, 1988). Implicit learning, essential for developing reading strategies and fluency, requires substantial input over time (Grabe, 2008), which reinforces the need for ER (Ng et al., 2019).

Interest in OER: A Crucial Aspect of EE

EE refers to the positive psychological responses and commitment that learners demonstrate toward specific activities or academic events (Marcus et al., 2021). According to Skinner and Belmont (1993), EE encompasses learners' emotional reactions to their learning environments. Similarly, Fredricks et al. (2004) defined EE as involving a range of affective responses to academic tasks, such as feelings of happiness, anxiety, interest, and belonging within educational contexts. Interest in OER, defined as students' intrinsic enthusiasm for engaging with reading materials beyond formal school settings, whether in libraries, reading corners, or at home (United States Department of Education, 2005), serves as a pivotal element of EE. This interest fosters connections with texts and enhances the overall reading experience related to both motivation and comprehension.

When learners engage with online reading materials, including stories, their emotional responses can lead to deeper comprehension, enjoyment, and an increase in productive vocabulary breadth, which fosters a continued desire to read extensively. As a result, emotionally engaged students are more motivated to participate actively in class and pursue various academic objectives (Ounissi et al., 2023). Interest significantly influences the willingness to read and the degree of engagement with reading materials (Fox & Alexander, 2003). A study conducted at a university in the United Arab Emirates found that selecting captivating topics increases learners' interest and encourages sustained ER even when they face challenges related to vocabulary and semantics (Al Murshidi, 2014). To support students in overcoming such vocabulary-related difficulties, Asaad et al. (2022) emphasised that understanding the structure of words (morphological awareness) plays a key role in improving students' ability to use vocabulary effectively. This aligns with Nation's (2013) view that ER fosters vocabulary growth through contextual exposure. Therefore, helping students decode word forms and affixes through morphological instruction can deepen their understanding and sustain interest in OER, which is closely linked to improved academic performance (Oakhill & Petrides, 2007).

Fostering EE Through Attitudes Towards OER

Attitudes toward OER platforms, including Xreading, affect students' engagement and language success, as students favour them for their variety, enjoyment, ease of use, and self-monitoring features (Puripunyavanich, 2021). Positive attitudes foster deeper involvement with texts, enhancing comprehension and facilitating greater language acquisition (Guthrie & Wigfield, 2000; Yamashita, 2013). In the context of OER, platforms such as Xreading and M-Reader have proven effective in fostering positive attitudes by offering personalised reading experiences. According to Savitri and Munir (2022) and Wilkins (2019), these platforms provide diverse materials aligned with students' language levels and interests, enabling learners to feel more connected and motivated in their reading journeys. Tailoring the reading materials to students' needs strengthens their emotional connections to their reading tasks, creating an environment that supports long-term engagement and success (Savitri & Munir, 2022; Wilkins, 2019).

A critical feature of OER platforms is the flexibility they provide, allowing learners autonomy in selecting their reading materials. Research demonstrates that students are more likely to engage with reading when they have control over their choices (Oakhill & Petrides, 2007). By enabling learners to choose books that match their proficiency levels, OER platforms minimise frustration and foster confidence, which are essential to cultivating positive attitudes. Furthermore, the ability to progress at their own pace and monitor their improvement reinforces motivation, as students observe tangible gains in their language skills (McBride & Milliner, 2016; Tagane et al., 2018). This autonomy is central to the development of favourable attitudes, as it provides learners with a sense of ownership over their academic growth.

The integration of multimedia features, such as audio-assisted reading, further enhances the accessibility and appeal of OER platforms. Audio-supported reading reduces the cognitive burden associated with decoding texts, alleviating anxiety and making reading more approachable, especially for reluctant or anxious readers (Rozak et al., 2019). This accessibility ensures that learners experience reading as a less intimidating and more engaging activity, fostering positive attitudes that contribute to EE. As Fredricks et al. (2004) highlight, EE driven by positive attitudes significantly enhances academic performance, emphasising the critical role of OER platforms in shaping learners' educational outcomes.

Studies have confirmed that EE with reading materials encourages persistence, leading to improved vocabulary, fluency, and comprehension (Fox & Alexander, 2003; Yamashita, 2013). For instance, Al Murshidi (2014) observed that students in a United Arab Emirates university sustained their reading habits when presented with engaging topics, even in the face of challenges such as unfamiliar vocabulary. Additionally, research by Day and Zhou (2021) demonstrated that reading online graded readers for 10–12 weeks significantly improved the reading attitudes of L2 learners, highlighting the potential of OER programmes to support long-term academic achievement. Their findings also underscored the complexity of attitudes, which are influenced by factors such as the learners' first language (L1) reading attitudes, prior experiences with other languages, cultural perceptions, and classroom environments (Day & Bamford, 1998).

Renandya's (2019) comprehensive review of ER is notable; however, it does not address the integration of OER or the role of web-based platforms. This paper seeks to bridge these gaps by focusing specifically on the dynamics of OER through web-based platforms. Drawing upon experimental and review studies, this narrative review aims to expand the current literature and deepen the understanding of OER. While Renandya (2019) underscored ER's benefits for language acquisition, few comprehensive reviews have connected these insights with various online learning tools, particularly web-based platforms. This review synthesises high-quality research from Scopus and Web of Science databases over the past decade (2014–2024) to

explore the effectiveness of OER and web-based platforms in enhancing ER within digital learning contexts. By delving into this narrative review, four pivotal research questions are comprehensively explored.

1. How do online reading platforms affect EFL/ESL learners' EE, including interest and attitude, in OER contexts?
2. What key challenges do teachers face when integrating OER programmes into their teaching practices?
3. Which theoretical frameworks are commonly used to support studies on OER and ER platforms?
4. What future research directions and policy recommendations can improve OER's integration and effectiveness in education?

Methodology

Literature Matrix Overview

The literature matrix (see Appendix A) provides an in-depth analysis of 43 peer-reviewed articles sourced from the Scopus and Web of Science databases, spanning publications from 2014 to 2024. This matrix systematically compiles critical data, including authorship, publication year, research objectives, methodologies employed, principal findings, and limitations. By focusing on salient themes such as OER, EE, and the application of digital reading platforms—particularly M-Reader and Xreading—the matrix underscores the role of digital tools in enriching learners' reading experiences and fostering emotional involvement. This structured approach not only facilitates the identification of trends and research gaps in the domain of OER but also bolsters the narrative review by offering a foundation for discussions on the effective integration of online reading platforms within educational settings.

Search Strategy, Selection Criteria, and Databases Searched

To systematically review the impacts of OER on interest, EE, vocabulary acquisition, writing proficiency, and grammatical development, a comprehensive search strategy was implemented. This targeted approach involved the use of Scopus and Web of Science, which were selected for their extensive indexing of peer-reviewed research in education and linguistics. The review focused on studies published in English within the past 15 years, prioritising empirical research that employed quantitative, qualitative, or mixed-methods research designs. Emphasis was placed on research that directly examined OER's effects on the specified language learning outcomes to ensure the inclusion of high-quality studies and relevant evidence that contributes meaningfully to understanding OER's pedagogical efficacy.

Search Strings and Boolean Operators

The search strings were designed to examine the impact of online reading platforms on EFL/ESL learners' EE, interest, and attitudes towards OER. Additionally, they aimed to uncover challenges teachers encounter in implementing OER, explore the theoretical frameworks that underlie ER, and suggest future research avenues and policy recommendations to optimise OER's integration in educational contexts. The search terms utilised include ("online extensive reading" OR "web-based extensive reading" OR "extensive reading on the internet" OR "online storybook extensive reading" OR "online pleasure reading" OR "online leisure reading" OR "online reading for enjoyment" OR "web-based reading for fun" OR "extensive reading platforms" OR "online graded readers" OR "M-Reader" OR "Xreading") AND ("impact" OR "effect" OR "interest" OR "attitude") AND "emotional engagement." The aforementioned search terms

facilitated a thorough and inclusive exploration of studies that are pertinent to OER and its effects on learner engagement. They also highlight potential barriers to effective implementation of OER. By leveraging this extensive range of keywords, the search was strategically positioned to yield critical insights into the benefits and challenges of OER, thereby enhancing pedagogical practices and educational outcomes.

Inclusion and Exclusion Criteria

On the one hand, the inclusion criteria prioritised peer-reviewed journal articles published between 2014 and 2024 in English, ensuring that the selected research is both contemporary and credible. The studies needed to specifically investigate the effects of online reading platforms on students' EE, particularly focusing on their interest and attitudes towards OER. Conversely, the exclusion criteria eliminated non-peer-reviewed sources, such as conference papers and book chapters, as well as studies that did not directly address OER or its impacts on the specified outcomes. Moreover, duplicate records were meticulously removed to avoid redundancy.

In accordance with these criteria, the article selection process unfolded in several stages. Initially, a comprehensive search was conducted using the specified databases and search terms, including Scopus and Web of Science. Subsequently, the titles and abstracts of the retrieved articles were screened to identify those meeting the inclusion standards. The full texts of the shortlisted studies were then obtained and meticulously reviewed to ensure their relevance and eligibility. Finally, a detailed compilation of articles satisfying all the inclusion criteria was established for further analysis and review. This systematic methodology guaranteed that only high-quality, pertinent studies were incorporated into the final review.

Findings and Discussion

1. How do Online Reading Platforms Affect EFL/ESL Learners' EE, Including Interest and Attitude in OER Contexts?

The integration of online reading platforms, particularly in EFL/ESL contexts, has yielded mixed results concerning learners' EE. Zhou and Day (2021) highlighted that OER significantly improved learners' attitudes toward reading, with increased reading rates and language skills. This positive impact is grounded in Krashen's input hypothesis (1985), which emphasises that language acquisition occurs through exposure to comprehensible input. Bui and Macalister (2021) further confirmed that OER programmes increase reading fluency and vocabulary acquisition, aligning with the theory that accessible reading material fosters language development. Hani (2022) demonstrated that morphological awareness enhances L2 learners' productive vocabulary. This supports Nation's (2013) view that extensive reading fosters vocabulary growth through contextual exposure. Encountering word forms and affixes in reading deepens understanding. Therefore, combining both methods can significantly improve vocabulary development. However, these studies predominantly captured short-term engagement, and longitudinal follow-ups are needed to verify if such positive attitudes persist over time (Teng, 2023).

Despite the noted benefits, challenges remain. Tagane et al. (2018) compared paper-based reading with online platforms like Xreading, revealing that technical issues and limited book selection hindered learners' enthusiasm for OER. Learners in the paper-based group expressed more positive perceptions of ER compared with the digital platform users, who were often frustrated by technical glitches. Similarly, Wilkins (2019) noted that screen reading can lead to lower comprehension and reduced engagement, as many learners prefer the tactile experience of paper books.

Additionally, Howarth and Bollen (2019) found that while students appreciated the flexibility of Xreading, low reading volumes and the reliance on self-reported data call the long-term impact on learners' attitudes into question. Vogrinčič Čepič et al. (2024) stressed the importance of personalisation in digital reading platforms, particularly for reluctant readers, emphasising that more research is needed to explore the social dimensions of digital reading, as the platforms must cater to diverse learner profiles.

Moreover, the study by Rodrigo et al. (2014) highlighted how ER programmes (whether online or offline) significantly influence learners' attitudes toward reading, leading to increased reading frequency. However, Rajabpour (2020) found that although students viewed the M-Reader system positively, they expressed dissatisfaction with the limited book variety and the difficulty of quizzes, which detracted from their motivation to read extensively. Milliner (2021) reported similar results, which suggest that learners showed improvement in reading fluency, but the short study duration left questions about the sustainability of motivation over time.

Iwata (2022) applied self-determination theory (SDT) (Deci & Ryan, 1985, 2000) and found that OER programmes can enhance intrinsic motivation, but noted that while autonomy and competence improved, relatedness (the social connection between learners) was lacking, especially in online environments. Tabata-Sandom (2023) also reported significant improvements in vocabulary size and reading habits through Xreading, yet the reliance on self-reported data presents potential limitations.

While online platforms like Xreading can foster short-term engagement through accessibility and progress tracking, they also present challenges related to technical limitations, screen fatigue, and content diversity. Studies emphasise the need for longitudinal research to assess how online platforms impact learners' EE over the time, particularly in addressing reluctant readers and providing personalised content to meet varied learner needs (Vogrinčič Čepič et al., 2024; Tagane et al., 2018; Teng, 2023; Wilkins, 2019; Zhou and Day, 2021).

2. What Key Challenges do Teachers Face When Integrating OER Programmes into Their Teaching Practices?

Teachers face numerous challenges when integrating OER into their classrooms, as highlighted by various studies. Al Aghar et al. (2023) identified that limited institutional support and resource constraints severely hinder teachers' ability to implement OER effectively. Teachers in this study expressed difficulties in sustaining students' interest, particularly when the students lacked the independent reading skills necessary for success in ER programmes. Wulyani et al. (2022) echoed these findings in their investigation of ER programmes in Indonesian secondary schools where insufficient government support, lack of reading materials, and overwhelming teacher workloads posed substantial barriers to effective integration of OER.

Technological challenges further exacerbate these difficulties. Tagane et al. (2018) found that technical glitches in platforms like Xreading disrupted the classroom flow, and teachers struggled to monitor student progress consistently. Wilkins (2019) also emphasised that while Xreading offered progress-tracking tools, frequent system crashes and a lack of book diversity impeded teachers' ability to fully utilise the platform, which resulted in teacher burnout. Teachers were expected to compensate for technological failures by manually monitoring students' engagement, which was an addition to their workload.

Furthermore, Day (2015) explored how teacher training affects the successful implementation of ER programmes. Teachers often lacked the pedagogical skills necessary to integrate digital tools into their teaching practices effectively, a finding confirmed by Timotheou et al. (2023) who argued that digital transformation required a holistic approach which encompass school

management, infrastructure development, and teacher training. Al Aghar et al. (2023) also highlighted the need for more professional development opportunities, as many teachers were left to navigate the complexities of integrating OER without sufficient training or guidance.

Shih et al. (2018) focused on the difficulties of combining ER with reading strategy instruction, noting that while students in their study demonstrated improved proficiency, the lack of diverse texts and instruction time limited the potential impact of the programme. Similarly, Rajabpour (2020) found that while M-Reader provided useful tools for tracking students' progress, teachers expressed frustration with the time-consuming nature of the system's technical requirements, which detracted from more meaningful teaching activities.

Teng (2023) and Milliner (2021) also emphasised that teachers faced challenges in keeping learners engaged, particularly in environments where students preferred traditional paper-based reading to digital alternatives. Lin et al. (2014) found that teacher involvement played a critical role in encouraging learners to adopt digital tools, but noted that the lack of clear pedagogical strategies for integrating OER into lesson plans left teachers feeling unprepared. Puripunyanich (2021) similarly emphasised that teachers must adapt their approaches to suit different learner profiles, especially in large classrooms where digital tools may not cater to the needs of all students.

Howarth and Bollen (2019) and Malakowsky (2023) argued that although OER tools like Xreading and M-Reader provide substantial benefits in terms of accessibility and convenience, they often require additional technological infrastructure and institutional support to be fully effective. Without such resources, teachers were left struggling to implement these programmes effectively, particularly in under-resourced schools where internet access and digital literacy may be limited (Al Aghar et al., 2023; Wulyani et al., 2022). Teachers face significant challenges in implementing OER, including technical limitations, resource shortages, and lack of professional development. Addressing these challenges requires institutional support, government investment, and comprehensive teacher training to ensure that educators are equipped for the successful integration of OER into their teaching practices (Al Aghar et al., 2023; Day, 2015; Shih et al., 2018; Wilkins, 2019; Wulyani et al., 2022).

3. Which Theoretical Frameworks are Commonly used to Support Studies on OER and ER Platforms?

The application of theoretical frameworks in understanding OER and ER platforms is fundamental to exploring their impact on learners. Krashen's input hypothesis (1985) remains the most widely cited framework, as it emphasises that learners acquire language by engaging with comprehensible input, i.e. material that is slightly above their proficiency level. This theory has been central to studies such as that of Zhou and Day (2021), who demonstrated that OER programmes based on graded readers could significantly improve reading rates and language skills. Day and Bamford's ER principles (1998, 2002) further support this theory by highlighting the importance of learners' autonomy, variety of reading materials, and reading for pleasure.

Day (2015) found that while many ER programmes adopt learner choice and material variety, fewer programmes implement teacher modelling or emphasise reading as an intrinsic reward, limiting the full application of ER principles. The study identified significant variability in ER's implementation, which may account for the inconsistent success of OER programmes across different contexts. Bui and Macalister (2021) and Howarth and Bollen (2019) also applied these principles and found that learners benefited from the flexibility of choosing reading materials at their level; however, insufficient support for autonomy led to less engagement in ER over time.

SDT (Deci & Ryan, 1985, 2000), as applied by Iwata (2022), provides another useful framework for understanding the motivational aspects of OER. SDT emphasises the role of autonomy,

competence, and relatedness in fostering intrinsic motivation, and Iwata (2022) found that OER programmes often succeeded in promoting autonomy and competence but failed to develop a sense of relatedness among learners, especially in purely digital environments. Shih et al. (2018), meanwhile, highlighted that while ER programmes based on graded readers improved learners' reading proficiency, the lack of social interaction and collaboration diminished their overall motivation.

Additionally, Vygotsky's sociocultural theory has been applied to explore the role of social interaction in language learning. Rajabpour (2020) found that while M-Reader provided opportunities for independent learning, it lacked the peer interaction necessary to foster deeper engagement. This aligns with Milliner (2021), who noted that online reading platforms often failed to develop a sense of community, as learners were encouraged to read independently without the benefit of group discussion or teacher feedback.

Tabata-Sandom (2023) and Rodrigo et al. (2014) also noted that ER programmes based on Krashen's input hypothesis (1985) often succeeded in improving vocabulary and reading habits, but their focus on autonomy may detract from the importance of scaffolding and guided learning, as emphasised by sociocultural theory. Similarly, Lin et al. (2014) found that while learner choice was a core principle of ER, many learners required the teacher's intervention and guidance to maintain motivation, especially when reading became challenging.

Despite the relevance of these frameworks, many studies, such as Howarth and Bollen (2019) and Shih et al. (2018) point to the lack of empirical validation of these theories in diverse educational settings. The reliance on self-reported data limits the robustness of the conclusions, and more experimental designs with control groups are needed to empirically test the effectiveness of these frameworks across different cultural and pedagogical contexts.

While Krashen's input hypothesis (1985), Day and Bamford's ER principles (1998), and SDT (Deci & Ryan, 1985, 2000) provide valuable insights into the effectiveness of OER, more rigorous testing is needed to validate their applicability across diverse educational settings. Future research should focus on exploring the social dimensions of reading and how peer interaction and teacher scaffolding can be integrated into OER platforms to enhance engagement (Zhou & Day, 2021; Iwata, 2022; Shih et al., 2018).

4. What Future Research Directions and Policy Recommendations can Improve OER's Integration and Effectiveness in Education?

Future research on the integration of OER in educational institutions must focus on several key areas to ensure the sustained success of these programmes. Firstly, longitudinal studies are essential to explore the long-term effects of OER platforms on learners' motivation and reading proficiency. As Zhou and Day (2021) and Teng (2023) noted, most current research only addresses short-term outcomes, leaving questions about the sustainability of engagement. Longitudinal research would provide a clearer picture of how learners' attitudes toward reading evolve over time, particularly in balancing intrinsic enjoyment with the extrinsic demands of academic achievement.

Additionally, cross-cultural studies should be prioritised to examine how different cultural and institutional contexts affect the success of OER programmes. Wulyani et al. (2022) and Al Aghar et al. (2023) highlighted the unique challenges faced by teachers in non-Western educational settings, where limited access to technology and insufficient government support pose significant barriers. Rodrigo et al. (2014) argued that OER programmes must be tailored to the local context, as different regions may have varying expectations of student autonomy and use of technology.

From a policy perspective, decision-makers should focus on improving teacher training programmes to ensure that educators are equipped with the necessary pedagogical strategies

and technical skills to integrate OER effectively. As noted by Timotheou et al. (2023) and Day (2015), teachers often struggle with the technical demands of OER platforms, particularly when platforms like Xreading or M-Reader fail to provide sufficient support for monitoring students' progress. Professional development should also emphasise differentiation, equipping teachers with strategies to adapt OER content to meet the needs of diverse learner profiles, as recommended by Milliner (2021) and Puripunyanich (2021).

Furthermore, governments and institutions must focus on providing the necessary infrastructure to support the integration of OER. Lin et al. (2014) emphasised that without adequate internet access and digital literacy programmes, the full potential of OER cannot be realised. Shih et al. (2018) similarly noted that while digital platforms offer significant advantages in terms of accessibility, they often require reliable infrastructure and technical support to function effectively in the classroom. Rajabpour (2020) recommended that future OER programmes should include more diverse reading materials to cater to a wider range of learners. Vogrinčič Čepič et al. (2024) also called for personalised content and adaptive learning technologies that allow learners to progress at their own pace while still being challenged by the material. This aligns with the study of Howarth and Bollen (2019), and their study argued that advanced learners often became disengaged when the material did not challenge them sufficiently.

The development of standardised assessment tools to measure the effectiveness of OER programmes is crucial. Teng (2023) and Zhou and Day (2021) both emphasised the need for clear metrics to track the impact of OER on learners' academic performance and reading proficiency. These tools would allow for more consistent evaluations of programmes' outcomes and help institutions make data-driven decisions about the future of OER's integration. Future research should focus on long-term outcomes, cultural diversity, and personalisation to enhance the effectiveness of OER in educational institutions. Policymakers must prioritise infrastructure development, teacher training, and the creation of standardised assessment tools to support the successful integration of OER across diverse educational settings (Rodrigo et al., 2014; Timotheou et al., 2023; Wulyani et al., 2022; Zhou & Day, 2021).

Conclusion

The narrative review of OER platforms in EFL/ESL contexts provides a balanced perspective on their potential and challenges. These platforms have demonstrated considerable benefits, including increased learner motivation, enhanced reading fluency, vocabulary acquisition, and positive attitudes toward language learning. As stated by Zhou and Day (2021) and Bui and Macalister (2021), the accessibility and personalisation offered by online reading platforms, such as Xreading or M-Reader, enable learners to emotionally engage with extensive and comprehensible input at their own pace, aligning with foundational key theories like Krashen's input hypothesis (1985) and Day and Bamford's (2002) ER principles. This highlights the role of OER in fostering autonomy and competence, which are crucial for language acquisition and intrinsic motivation.

Despite these advantages, major barriers still hinder the full integration of OER platforms in educational settings. Technical challenges, such as platform constraints, limited content diversity, and screen fatigue, detract from learners' EE, as noted by Tagane et al. (2018) and Wilkins (2019). Moreover, the lack of supportive resources and professional development for teachers, particularly in low-resource settings limits the effective application of ER principles. Some teachers often struggle with inadequate training and institutional assistance, as highlighted by Wulyani et al. (2022) and Al Aghar et al. (2023), resulting in inconsistent implementation and reduced programme efficacy.

Furthermore, while theoretical frameworks like SDT have underscored the importance of relatedness alongside autonomy and competence, the social dimension of OER remains

underexplored. Studies suggest that fostering a sense of community and collaboration among learners might enhance the long-term impact of these online platforms. However, the lack of empirical validation in diverse educational settings raises questions about the broader applicability of these frameworks, as noted by Shih et al. (2018).

Limitations and Future Research Prospects

Despite the promising findings, several limitations in the current research warrant attention to strengthen future studies. A predominant issue is the reliance on self-reported data, which introduces potential bias and reduces the reliability of results (Wilkins, 2019; Zhou & Day, 2021). Additionally, the short duration of many studies limits their ability to capture the long-term effects of OER platforms on language acquisition and motivation, leaving questions about the sustainability of observed benefits unanswered (Shih et al., 2018).

The lack of experimental control groups in many studies further restricts the generalisability of findings, as it becomes challenging to isolate the specific impact of OER programmes (Shih et al., 2018). Moreover, the limited diversity of reading materials available on platforms like Xreading presents a significant barrier, particularly for advanced learners, who require engaging and challenging content tailored to their proficiency levels (Tagane et al., 2018). Cultural and contextual constraints also pose challenges to the generalisability of findings. Much of the existing research has been conducted in specific regions, such as Japan, Vietnam, and the United Arab Emirates, limiting the applicability of results to broader EFL/ESL contexts. Wulyani et al. (2022) emphasised the need for studies in diverse cultural and socioeconomic settings, particularly in developing countries where limited technological infrastructure poses additional barriers.

Furthermore, the review is limited by its reliance on articles sourced exclusively from Scopus and Web of Science, potentially overlooking high-quality research from other databases. The exclusion of dissertations, book chapters, and other scholarly contributions further narrows the scope of the analysis, which should be considered when interpreting the findings. To address these gaps, future research should prioritise longitudinal studies to assess sustained learner progress and explore the effectiveness of diverse, culturally relevant reading materials. Incorporating robust experimental designs with control groups will provide more reliable data while expanding research to include underrepresented regions will enhance the global applicability of the findings. Addressing these limitations will be crucial for advancing the integration of OER platforms and maximising their potential to transform language learning outcomes worldwide.

Recommendations

To maximise the effectiveness of OER platforms in EFL/ESL contexts, several recommendations arise from this review. Longitudinal studies are crucial to evaluating the sustained impact of these platforms on learners' reading habits, motivation, and academic outcomes. Current research, such as Zhou and Day (2021), has primarily examined short-term effects, leaving the long-term benefits underexplored. Additionally, diversifying the content on platforms like Xreading and M-Reader is vital to engaging advanced learners and avoiding disengagement caused by repetitive material. Personalising content, as highlighted by Vogrinčič Čepič et al. (2024), can promote reading for pleasure, especially for reluctant readers.

Government and institutional support is equally critical. Wulyani et al. (2022) and Al Aghar et al. (2023) emphasise the need for increased funding and infrastructure development, particularly in regions where limited technological access hinders OER's adoption. Policymakers must also invest in comprehensive teacher training programmes that address

the technical use of OER platforms and effective strategies for fostering reading habits. Building on this, educators should highlight the need to integrate online reading platforms in elementary classrooms to develop OER skills and EE in young learners. Providing targeted information and communication technology training for teachers ensures effective resource implementation, benefiting both school students and early childhood education (Ounissi et al., 2024). Finally, standardised assessment tools should be developed to measure the effectiveness of these platforms in improving learners' engagement and reading proficiency. Addressing these priorities can ensure OER platforms fulfil their potential in language education.

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Appendix 1

Overview of the 43 Research Studies on OER and Web-Based Platforms

Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Aka (2019)	To investigate the effects of a one-year extensive reading (ER) programme on Japanese high school English as a foreign language (EFL) learners.	ER theory.	Longitudinal study, 405 students, comparing grammar instruction and ER, pre- and post-tests.	ER improved grammar, vocabulary, and reading for low to mid-level students, but less for high proficiency students.	Limited by the BACE test and small number of items. Future research should explore ER's longer-term effects and use more sensitive measures.
Al Aghar et al. (2023)	To explore Arabic teachers' perceptions of ER in the United Arab Emirates (UAE) higher education and the challenges of implementing it.	ER for language proficiency, focusing on teacher perceptions and challenges.	Mixed-methods case study, 34 Arabic teachers, questionnaire on ER challenges and perceptions.	Teachers saw benefits but faced challenges like students' disinterest and lack of independent reading skills, and a lack of institutional support.	Limited to one institution in the UAE. Future research should explore ER in different contexts and integration strategies in curricula.
Al Damen & Cambridge (2023)	To investigate the effectiveness of measures to mitigate cheating on M-reader and students' perceptions of academic integrity.	Academic integrity in online learning, with a focus on M-reader.	Quantitative online questionnaire with 229 participants from Sultan Qaboos University's Foundation Program.	Measures to prevent cheating on M-reader were ineffective; dissatisfaction with some anti-cheating methods.	Limited sample size, absence of teacher perspectives, and no qualitative student data. Need more research on learner autonomy and academic integrity.
Ali et al. (2024)	To explore Pakistani EFL learners' perceptions of IR and ER approaches, and the role of technology in reading instruction.	IR vs. ER, with a focus on technology's role in reading.	Qualitative study, 10 semi-structured interviews, 10 reflective diaries, thematic analysis.	Learners found both approaches helpful, and technology integration was beneficial. Both approaches seen as complementary for reading proficiency.	Limited to one semester; need for longitudinal studies and more quantitative data. Lack of empirical studies on the integrated use of IR and ER in the Pakistani context.
Baron et al. (2019)	To investigate the effectiveness of educational technology in differentiating instruction for various reader profiles among third-grade students using a progress monitoring tool.	Differentiated instruction and use of technology to support diverse learning needs.	594 students classified into 4 reader profiles, nonparametric analysis of a technology-based reading programme (Lexia® Core5®).	Core5 differentiated instruction effectively; typical readers showed improvement, but poor comprehenders did not.	Reliance on a single progress-monitoring tool and unequal group sizes. The study did not account for external factors affecting reading performance. Future research should explore the long-term effects of technological interventions.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Bui & Macalister (2021)	To explore the impact of an online extensive reading (OER) programme on fluency and learners' perceptions in an EFL context.	ER theory (Day & Bamford, 2002) emphasising fluency and proficiency through large amounts of reading.	10-week study with 17 Vietnamese EFL students using a digital library; data via reading speed tests, questionnaires, and interviews.	Fluency improved by 23% (36 words per minute (wpm)), positive perceptions regarding vocabulary, comprehension, and motivation.	Small sample size, context-specific findings, no control group. Some participants showed no gains due to distractions or genre engagement.
Vogrinčič Čepič et al. (2024)	To review trends in reading for pleasure and explore pedagogy and digital environments in fostering this.	Motivation theory (Csikszentmihalyi's flow theory) and social dimensions of literacy for reading for pleasure.	Narrative literature review of 22 peer-reviewed articles from 2014 to 2022.	The study found the importance of personalisation in reading pedagogy, and the role of social and material contexts in reading for pleasure.	Need for more research on reluctant readers and standardised methods for assessing the impact of reading for pleasure pedagogy.
Day (2015)	To evaluate the application of Day and Bamford's 10 principles of ER in various programmes and propose future directions for ER.	Day and Bamford's (1998, 2002) principles of ER).	Literature review methodology, analysing 44 articles on the implementation of ER.	ER is mostly based on learners' choice, variety of materials, and reading volume, while teacher modelling and reading for fun are less common.	Lack of empirical data, potential biases from the survey of the literature, and limited exploration of contextual influences. Need for studies on how technology can enhance ER and the long-term impact of ER.
García-Roca, A. (2020)	To describe the characteristics, participation, experience, and literary canon proposed by the top Spanish reading influencers on Goodreads.	Digital influence theories and social reading practices.	Exploratory quantitative approach using data from the top 100 Goodreads influencers in Spain, analysed via descriptive statistics.	Spanish reading influencers are predominantly women (average = 33 years old), prefer international bestsellers, and are more critical as they read more.	Focused on one platform (Goodreads) and a specific group (top influencers in Spain), limiting generalisability. Quantitative data limits understanding of motivations and biases in influencer recommendations.
Howarth & Bollen (2019)	To evaluate students' perceptions of the Xreading platform and its effectiveness in improving various aspects of English language proficiency.	ER theory, focusing on the benefits of reading large amounts of simplified texts for language learning.	Survey of 730 second-year university students using Xreading, focusing on self-reported data on reading habits and improvements.	Students found ER helpful for reading speed and overall ability but preferred paper books over digital formats. Low reading volumes questioned the effectiveness of ER.	Reliance on self-reported data, low reading volumes, and potential biases in students' responses. Need for research measuring actual learning outcomes instead of perceptions.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Isozaki (2022)	To explore whether autonomous reading–listening and in-class book clubs can enhance reading fluency in EFL learners in a Japanese university setting.	Theories of autonomous learning, bimodal input (reading while listening), and social learning through book clubs.	Mixed-methods design with data collected over four trimesters. Participants (<i>N</i> = 130) engaged in online extensive reading and listening, combined with in-class book club discussions.	Participants showed significant improvement in reading rates (64.69 wpm after one trimester and 118.56 wpm after two trimesters). Positive reception of book clubs.	Lack of control group limits the attribution of improvements. Small sample size and cultural context limit generalisability. Further research needed in diverse educational contexts with larger, more varied samples.
Iwata (2022)	To investigate the influence of an ER programme on different types of motivation in EFL learners using self-determination theory (SDT).	SDT (Deci & Ryan, 1985, 2020), focusing on intrinsic motivation and basic psychological needs.	Two-semester ER programme with 90 first-year non-English major Japanese students. Data were collected using pre- and post-questionnaires on motivation and psychological needs.	The ER programme increased intrinsic motivation, identification, autonomy, competence, and relatedness. However, introjection showed no change, and relatedness had the weakest correlation with intrinsic motivation.	Limited sample size and specific cultural context. Insufficient impact on general motivation to study English. Challenges: limited book availability and lack of guidance on book selection. Further research should explore longer interventions and diverse contexts.
Ladbrook (2014)	To evaluate the impact of using an interactive digital platform on preservice secondary English teachers' knowledge of adolescent fiction and their motivation for reading.	Technological Pedagogical Content Knowledge framework, focusing on the integration of information and communication technology in education.	Mixed-method approach with site statistics from the Peerwise platform and a questionnaire with 41 preservice teachers.	The platform increased knowledge of adolescent fiction, motivated reading through peer interaction, but anonymity led to lower-quality contributions. Multiple-choice question authoring was problematic.	Limitations: Anonymity reduced the quality of contributions, lack of marks for participation decreased the perceived value. Future research should explore the impact of named entries and assessment components.
Lin (2014)	To examine the effects of mobile-assisted ER on adolescent English learners' online reading activities, reading ability, and perceptions.	ER principles, input hypothesis (Krashen, 1982), technology acceptance model (TAM).	Quasi-experimental study with two 10th-grade classes in Taiwan (<i>N</i> = 84), using tablets (mobile group) and desktop PCs (PC group). Data included reading activities, comprehension tests, and TAM questionnaires.	Mobile group outperformed the PC group in time spent on the programme, books read, and reading comprehension. Higher satisfaction, perceived usefulness, and ease of use in the mobile group.	Context-specific limitations: limited to one educational setting. Findings may not be generalisable across different populations. No investigation into other language skills or mobile device types. Future research should explore mobile-specific reading strategies and assess effects in diverse contexts, including higher education.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Liu et al. (2015)	To investigate gender differences in intrinsic, extrinsic, and interpersonal motivations, and learning outcomes in a community-based online English extensive reading contest.	Motivation theory (Deci & Ryan, 1985) and Gender differences in learning (Kissau, 2006).	Mixed-methods: 501 high school students (285 females, 216 males). Data collected via questionnaires, interviews, and log files.	Females showed stronger intrinsic motivation and performed better on comprehension tests. Males had higher interpersonal motivation and performed better in interactivity tests.	Limited to Taiwanese high school students; generalisability concerns to other contexts. The specific contest format limits applicability in other educational settings. Need for further research on causal relationships in varied contexts.
Liu & Zhang (2018)	To analyse the digital reading platforms of libraries, focusing on service functions, resource construction, and users' needs in the digital era.	Grounded in the context of the Digital Age, emphasising user needs characterised by diversification, integration, personalisation, and interactivity.	The study accessed and analysed digital reading platforms from 14 public libraries and 58 higher education institutions across three regions, assessing digital resource construction, platform functions, and user engagement.	Unbalanced distribution of digital resources across libraries, unattractive user interfaces, and inadequate service functions. Lack of training for users and insufficient promotion.	Focus on a specific region; may not represent broader trends. Limited exploration of the impact of technological advancements on user needs. More comprehensive studies needed across diverse regions and to explore users' engagement strategies in digital reading.
Malakowsky (2023)	To evaluate the impact of modified ER and repeated reading interventions on adult English as a second language (ESL) students' reading fluency and comprehension.	Theories of automaticity (LaBerge & Samuels, 1974) and comprehension hypothesis (Krashen, 2009).	Quasi-experimental with a pretest–post-test design; sample of 20 adult ESL students in intervention and comparison groups.	No significant difference in reading fluency and comprehension between groups. Within-group improvements in reading rate and accuracy.	Small sample size, convenience sampling, and short study duration (12 weeks). Lack of a pure control group, homogeneity issues between groups, and implementation challenges due to COVID-19. Reading levels not individualised.
McBride & Milliner (2016)	To outline the principles of extensive reading and introduce M-reader as a tool to manage extensive reading programmes, focusing on student perceptions in a pilot programme.	ER framed through Bamford and Day's principles (2004), emphasising autonomous, extensive reading with minimal teacher intervention.	Pilot programme using M-reader in an EFL course at a private university in Tokyo. Questionnaire assessing student perceptions.	M-reader facilitated extensive reading, with 77% of students meeting reading targets. Students had positive impressions of the ease of use and quiz functionality.	Limited to a single institution with a small sample size (78 students). Technology-related issues (e.g., access difficulties, quiz delays) and challenges with quiz difficulty and book selection. Further research needed on broader contexts and guiding students in reading choices.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Milliner (2021)	To investigate the effectiveness of a combined reading fluency training programme that includes timed reading, repeated oral reading, and ER for improving reading fluency among elementary-level EFL learners.	Reading fluency is viewed as an essential skill in second language (L2) acquisition, with a focus on automaticity in lower-level reading processes for effective comprehension.	Quasi-experimental study over 12 weeks with 56 elementary-level EFL learners in a Japanese university. Combined timed reading, repeated oral reading, and ER, measuring impacts on silent reading rates and TOEIC scores.	The programme significantly improved silent reading rates by 46 standard words per minute (wpm) on average. Learners who engaged in more extensive reading saw greater gains in TOEIC reading and listening scores.	Small sample size, focus on elementary-level learners (limiting generalisability), the short duration of the intervention. Lack of a delayed post-test to measure retention, and external factors not controlled, limiting the isolation of intervention effects.
Misdi et al. (2023)	To assess student empowerment in the context of mobile-assisted ER within a university setting in Indonesia.	Grounded in a learning empowerment scale, exploring empowerment, motivation, and self-regulation in mobile-assisted extensive reading.	Single case study with 27 students from the Department of English Education. Data collected using closed-ended questionnaires, reflective journals, and semi-structured interviews.	Mobile-assisted extensive reading enhanced students' sense of empowerment, engagement, and supported collaborative learning. However, students had a lower impact on decision-making in the classroom.	Small sample size, limited generalisability. Further research needed to explore the role of extensive online reading in promoting empowerment in diverse settings.
Nguyen (2022)	To investigate Vietnamese EFL learners' perspectives on online ER during emergency remote L2 teaching amidst the COVID-19 pandemic.	ER theory, emergency remote teaching framework, and literature on online learning and language acquisition.	Qualitative study with 87 Vietnamese EFL learners at a local university. Data collected over 12 weeks via semi-structured interviews.	Learners had positive attitudes toward online ER, appreciating its variety, suitability, and convenience. Suggested improvements to the website interface, adding topics and genres, and technical adjustments.	Limited by the small sample size and the specific context. Results may not generalise to other settings. Focused only on learners' perspectives without quantitative measurement of effectiveness; potential technical issues were mentioned but not deeply explored.
(Ounissi et al., 2023)	To investigate if incidental exposure to online learning platforms during the COVID-19 pandemic increased Malaysian EFL undergraduates' interest in OER.	Engagement theory: emphasises student interaction and participation, particularly through technology.	Quantitative approach with a descriptive survey design. Data collected from 255 undergraduate EFL students using an online questionnaire. Analysis via Pearson's correlation and regression.	Strong, positive correlation between incidental exposure to e-learning and increased interest in OER. Exposure to e-learning encouraged interest in OER.	Relies on self-reported data from a single quantitative survey. Limited to undergraduates from one university. No qualitative insights; lacks an exploration of factors like autonomy, motivation, or attitudes towards OER. Future research could involve a mixed-methods approach.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Pongsatornpiapat, (2022)	To study the impact of OER on improving reading comprehension among social work students.	Krashen’s comprehension hypothesis and principles of ER (Day & Bamford, 2002).	Qualitative study involving 27 third-year social work students; data collected through online weekly journals and interviews.	OER improved reading speed, comprehension, and vocabulary without relying on translation tools.	Small sample size and short duration, which may not generalise to broader populations. Lacks longitudinal data to assess the long-term impact on language proficiency. Variability in article selection by students introduces inconsistencies in measuring reading improvement.
Puripunyanich, (2021)	To explore university students’ attitudes toward OER in Thailand, specifically using the Xreading platform.	ER theory, emphasising reading large amounts of easy material for enjoyment and language improvement.	Mixed-methods approach with quantitative data from 356 students via questionnaires and qualitative data from 13 focus group participants.	Students had positive attitudes toward OER. They enjoyed choosing reading materials, which improved their reading speed, comprehension, and vocabulary.	Limited generalisability due to specific university context. Unequal distribution of the proficiency levels among participants. No analysis based on proficiency levels. Technical issues and limited diversity in the reading materials were reported.
Puripunyanich, (2022)	To explore the implementation of a large-scale OER programme at a university in Thailand and provide recommendations for future OER implementations.	ER principles of Day and Bamford (2002), integration of online learning platforms (e.g., Xreading).	Qualitative study using in-depth semi-structured interviews with 14 stakeholders (3 administrators, 1 OER coordinator, and 10 teachers) involved in the programme.	Successful implementation involved curriculum integration, availability of reading materials, institutional support, teacher roles, and use of an online platform. Recommendations include explicit communication of benefits to students and monitoring progress.	Limited generalisability due to specific institutional context. Challenges faced by students, such as technical issues, were not deeply explored. The role of parents and other motivational factors outside the classroom were not examined.
Rajabpour (2020)	To investigate students’ perceptions of M-reader and identify its advantages, drawbacks, and suggestions for improvement in the Foundation Programme at Sultan Qaboos University, Oman.	ER and its integration into English language teaching, with a focus on student motivation and language proficiency.	Mixed-method design: A 10-item questionnaire (quantitative) and three open-ended questions (qualitative) were used to gather data from 744 students. Data analysed using descriptive and inferential statistics, as well as thematic analysis.	Positive perception of M-reader, improved English skills, reading speed, vocabulary, and motivation. Challenges with quiz difficulty, limited book variety, and system features.	Limitations include quiz difficulty, limited book selection, and system restrictions. Further research could address these issues across different educational contexts and evaluate the impact of the suggested improvements.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Rodrigo et al. (2014)	To assess the effect of two reading interventions (extensive reading vs. direct instruction) on the reading habits of low-literacy adults.	Grounded in adult education theory, focusing on literacy practices and the impact of reading attitudes on habit formation.	Experimental design with 181 low-literacy adult participants, divided into ER and no-ER groups. A reading pattern survey was used at three intervals.	The ER group showed significant improvements in reading habits, including increased book completion and frequent library visits, sustained over 6 months after the intervention.	Self-reported data, lack of a detailed exploration of time spent on ER, and no qualitative component. Future research should use more robust instruments and explore the long-term effects of ER on literacy.
Rusiana et al. (2024)	To investigate the students' perception of an online book club designed to promote pleasure reading among first-year students in a higher education setting.	ER principles as outlined by Day and Bamford (2002).	Descriptive qualitative method, with 86 first-semester students at a private university in Central Java, Indonesia. Data collected via a questionnaire and interviews.	Positive perception of the ER book club, improvement in fluency and comprehension, increased interest in reading.	Limited to a small, specific sample of first-semester students. The online format may not replicate traditional book clubs. Did not explore other reading materials or long-term impact.
Salminen et al. (2024)	To examine student groups' self-evaluations of their group work and learning of critical online reading during an inquiry task.	Not explicitly stated.	The study involved 72 student groups who engaged in self-evaluations regarding their group work practices and learning of critical online reading. The analysis focused on aspects of critical online reading and group work.	Students mentioned sources, perspectives, and authors most frequently, while corroboration and evidence were mentioned the least. Half of the groups showed low diversity in learning critical online reading.	Study limitations include reliance on self-evaluations, a lack of individual performance data, and a potential lack of objectivity. Variations in motivation and commitment also impacted the results. More objective methods could have strengthened the study.
Sari et al. (2023)	To explore the motivations, preferences, and cybernetic literary practices of Indonesian university students reading online fiction in English.	Theories of reading motivation, focusing on intrinsic and extrinsic motivation.	Qualitative design: survey with open-ended questions and in-depth interviews with 112 students (14 participants for interviews). Thematic analysis.	Students are motivated to read online fiction for pleasure and to improve English skills. Popular genres: romance and fantasy. Preference for mobile phones and platforms like Wattpad and Webtoon. Shift in motivation from language improvement to enjoyment with increased proficiency.	Limited to Indonesian university students, mostly female, affecting genre preferences and motivations. Focus on online platforms, with no exploration of traditional reading formats or other online content. Limited understanding of cybernetic literary practices and engagement in digital literary communities.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Shih et al. (2018)	To examine the effects of combining extensive reading with reading strategy instruction on EFL students' reading proficiency and strategy use.	Not explicitly stated.	Quasi-experimental design with two intact classes.	The intervention class showed improved reading proficiency and increased use of reading strategies compared with the control group.	Self-reporting bias and limited generalisability to other contexts. Short study duration (16 weeks) and a lack of diverse text types. Calls for randomised, longitudinal studies with diverse contexts.
Shimono (2023)	To investigate the effects of ER, timed reading, and repeated oral reading on Japanese university L2 English learners' reading rates and comprehension over one academic year.	Reading fluency theories, automatic information processing in reading (LaBerge & Samuels, 1974).	Quasi-experimental study with 101 lower-intermediate students divided into four groups.	Significant gains in reading rates across all treatment groups, with the most comprehensive treatment (Group 1) showing the highest improvements while maintaining comprehension.	Limited generalisability, as the sample was from a single institution, potential bias in participant selection, absence of randomisation, short study duration, and challenges in measuring comprehension under timed conditions.
Shimray et al. (2015)	To review the developments in mobile reading habits, focusing on shifts from print to digital, and the impact on users' reading behaviour.	Theories of digital reading behaviour and the impact of mobile technology on cognitive processes.	Literature review of existing studies and surveys on mobile reading habits, including users' demographics and the influence of mobile reading on different populations.	Mobile devices are increasingly preferred for reading due to portability and convenience, with significant shifts in reading habits observed globally, particularly among younger users.	The study is primarily a literature review, limiting empirical contributions. Lacks primary data collection. Findings are based on secondary sources, which may not capture the diversity of mobile reading experiences. Further research needed on long-term cognitive impacts and health effects.
Sun (2023)	To investigate how differentiated instruction (DI) is reflected in ER programmes during COVID-19 and its implications for L2 pedagogy.	DI framework (Tomlinson & Moon, 2013); ER principles of Day and Bamford (1998).	Exploratory case study; Data from interviews, surveys, teacher reflective journals, and documents over a semester.	Evidence of DI in content, process, and product categories, but not fully in affect and learning environment. The gap between higher and lower achieving learners widened.	DI was limited in online environments, particularly in collaborative activities and peer interaction. Widening achievement gaps indicate a need for further research on supporting less proficient students, particularly in online learning contexts.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Sun et al. (2014)	To explore the effectiveness of the Objective-Focused Fast Extensive Reading (OFFER) strategy in improving online writing performance in a 1:1 digital classroom.	Structure-mapping theory of analogy (Gentner, 1997); ER theories (Krashen's input hypothesis).	Experimental study with 39 fifth graders in China, divided into three groups: OFFER, one-size-fits-all ER, and zero ER. Data were collected via composition scores, teachers' comments, typing speed, and peer reviews.	The OFFER strategy led to significantly better online writing performance in terms of both quality and quantity compared with other groups.	The study was limited to a small sample size from one school familiar with the 1:1 digital classroom, raising concerns about generalisability. It lacked long-term follow-up to assess the durability of the OFFER strategy's benefits. Further research should explore how OFFER could be adapted to non-digital classroom settings.
Tabata-Sandom (2023)	To examine the impact of online extensive reading on L2 reading motivation, habits, and linguistic abilities in advanced L2 English learners.	ER theory, motivation theories (e.g., Day & Bamford, 1998)	Mixed-methods case study with 11 female Japanese advanced L2 English learners, using pre/post interviews, surveys, and Xreading data.	Significant improvements in vocabulary size and reading rate, enhanced motivation, and positive changes in reading habits.	Small sample size, self-selection bias, limited generalisability, reliance on self-reported data, and the digital platform's limitations, including potential technical issues and the artificial nature of graded readers for advanced learners.
Tabata-Sandom & Ikeda (2024)	Investigate how experiences of ER affect L2 Japanese teachers' perceptions of ER.	ER theories, L2 reading pedagogy (Day & Bamford, Nation & Waring).	Mixed methods: a 10-month OER project with 12 L2 Japanese teachers; data collected through interviews, questionnaires, and measurements of vocabulary size and reading rates.	ER lowered psychological barriers, shifted reading to content-focused, but vocabulary gains did not match perceived benefits.	Small sample size (12 teachers), limited to advanced learners, and short duration (10 months). Relied on self-reported data.
Tagane et al. (2018)	Compare student perceptions of paper-based vs. online (Xreading) extensive reading in English for academic purposes (EAP).	ER theories, comparison of paper-based methods with digital platforms like Xreading.	Mixed-method: Surveys and interviews with 44 EAP students divided into Xreading and paper-based groups.	The paper-based group had more positive perceptions; Xreading offered convenience but had technical issues and limited book selection.	Small sample, technical issues with Xreading, unequal group sizes, and limited generalisability.

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Author(s)/ date	Research objectives	Theoretical framework	Methodology	Key findings	Gaps/limitations
Teng (2023)	Investigate the impact of OER on EAP learners' attitudes and language proficiency.	SDT (Deci & Ryan, 1985); motivation in literacy (Gambrell, 2015).	Thought experiment, analysis of existing research on ER, especially in EAP contexts.	OER improves reading rates, vocabulary, and grammar; challenges in fostering consistent reading habits.	Relied on existing research; small sample size. Long-term sustainability of reading habits and balancing academic demands needs further study.
Timotheou et al. (2023)	Investigate the impacts of digital technologies on education and identify factors influencing schools' digital capacity and transformation.	Thematic organisation of literature from educational, policy, and digital transformation frameworks.	Non-systematic literature review, focusing on research from the last 17 years.	Digital technologies affect students' performance, teachers' practices, school management, and leadership.	More research needed on non-core subjects and social integration. Calls for a more holistic assessment of digital technology's impacts.
Wilkins (2019)	Review the features, benefits, and challenges of the Xreading platform for ER programmes.	ER principles.	Review based on personal experience and existing literature on ER, focusing on Xreading's functionalities and user experiences.	Xreading offers advantages like progress tracking and flexibility but has drawbacks in comprehension and user appeal.	Limited generalisability due to anecdotal evidence and a lack of quantitative assessment. May not suit all students, especially those preferring physical books.
Wulyani et al. (2022)	To explore the challenges faced by English teachers in implementing ER programmes in Indonesian secondary schools as part of the School Literacy Initiative.	Based on existing ER research and case studies focusing on teacher attitudes and ER's success in various educational contexts.	Qualitative case study involving 22 secondary school English teachers in East Java, Indonesia; data collected through online surveys and Focus Group Discussions (FGDs).	Teachers understand ER's benefits but face challenges such as lack of support, insufficient resources, and overwhelming workloads.	Limited generalisability due to small sample size and focus on a specific geographic area. More government and school support, better resources, and clearer guidelines on ER implementation are needed. Training and consistency in implementation need improvement.
Zhou & Day (2021)	To investigate the impact of online ER on learners' attitudes toward reading in English in an EAP context and explore learners' and instructors' perceptions of the OER programme.	Based on ER principles (Day & Bamford, 1998) and Krashen's input hypothesis (1989), emphasising comprehensible input and reading for pleasure.	Mixed-methods study with 57 EAP students across two semesters. Data collected through pre- and post-reading attitude questionnaires, and student and instructor interviews.	OER improved reading attitudes, reading rates, and language skills. Students valued accessibility and quizzes.	No follow-up to assess the long-term impact. Lacked direct measurement of academic performance. Relied on self-reported data. Needs pre/post-tests; online library lacked diverse academic content.