Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

Starfall as a Catalyst for Kuwaiti EFL Young Learners' Reading Comprehension: A Teacher's Reflections

Ruba Fahmi Bataineh[1] & May Bader Alghareeb
Yarmouk University, Jordan

Abstract: This study examines the effect of a Starfall-based instructional program on second-grade pupils' reading comprehension in a Kuwaiti public school in the first semester of the academic year 2023/2024. The participants were divided into a control group taught conventionally per the guidelines of the Ministry of Education and an experimental group taught using Starfall-based instruction. Using an observation card and a teacher's journal, the research highlights improvements in the experimental group's engagement, motivation and comprehension. Emerging themes include increased student participation, improved classroom dynamics, and technology integration as a catalyst for literacy. The findings emphasize the potential of interactive applications, of which Starfall is one, to support EFL instruction. The researchers put forth practical recommendations for incorporating technology in the early-grade EFL classroom, as the findings provide valuable insights for educators aiming to innovate EFL teaching practices.
Keywords**:** EFL, Kuwait, reading comprehension, second-grade, Starfall

English, the language of science, technology, and communication today, gives people access to the information they need to advance in life, and to master it in a world that is changing by leaps and bounds, one needs the four skills of listening, speaking, reading, and writing. As the easier of the written skills (Bernhardt, 1983), reading is the focus of learners of English as a foreign language (EFL). A crucial skill in the EFL classroom (Sainsbury et al., 2006), children need it for school and beyond (Meniado, 2016), as it entails understanding a text through processing its information and relating it to their existing knowledge, no matter how little (Millrood, 2011).

Starfall, a website for preschoolers to second graders, reportedly helps children, even those with special needs, develop language skills (Chase, 2007). It uses repetition, graphics, interactive games, activities, songs, and stories not only to develop children's reading but also to increase their linguistic competence. The proficiency of those using the application is reported to surpass that of other pupils (Metis Associates, 2014), as their reading in English and understanding of the written text improved after using the application (Robayo Rivera, 2021).

Purpose, Question, and Significance of the Study

Both experienced EFL practitioners, the researchers are often disheartened by learners' weakness and lack of interest in learning English. More specifically, the second researcher, an English second-grade teacher in Kuwait, has noticed her pupils' weakness in reading comprehension, which is probably a result of conventional teaching methods, lack of motivation, and the absence of technology in the EFL classroom (AlAdwani et al., 2022; Alrabah & Wu, 2019; Chaudri & Al-Adwani, 2019). Seeking a potential solution, Starfall was

[1] Corresponding Author: College of Educational Sciences, Yarmouk University, Jordan. E-mail; rubab@yu.edu.jo

incorporated into the EFL teaching/ learning process as a teaching technique recommended for improving pupils' reading comprehension, motivation, and interest (e.g., Al Musawi et al., 2016; Capodieci et al., 2020).

Conducted at Othman Abdullatif Othman School, a public school in the city of Kuwait in the first semester of the academic year 2023/2024, this qualitative study investigated the effect of using Starfall on Kuwaiti second-grade pupils' reading comprehension in English through class observation and the teacher's daily journal. The researchers attempted to answer the question: *What is the effect of Starfall activities on the reading comprehension and engagement of Kuwaiti second-grade EFL learners, as gleaned from classroom observation and researchers' reflections?*

To the best of the researchers' knowledge, this study may be one of the first empirical studies into the use of Starfall as a tool to improve reading comprehension and engagement among young Kuwaiti EFL learners. By exploring the practical application of Starfall in a real-world classroom setting, this research addresses a critical gap in the literature on integrating technology into early-grade EFL instruction in the Middle East. The findings provide actionable insights for Kuwaiti EFL teachers, offering evidence-based recommendations on leveraging interactive platforms like Starfall to innovate teaching practices, foster learner motivation, and improve literacy outcomes. The findings further highlight the potential utility of technology in complementing traditional classroom practices, leading to a more engaging pedagogy that meets the evolving needs of 21st-century learners.

Review of Related Literature

Reading is more than decoding words; it involves interpreting meaning through syntactic structures and is shaped by the reader's background knowledge, ideas, memories, and experiences (Torres & Constain, 2009). A foundational skill in the language classroom (Bernhardt, 1983), reading enables effective communication and comprehension across disciplines (Cziko et al., 2000).

Early literacy profoundly affects children's future academic and career success. Poor reading skills essentially culminate in difficulty in other academic subjects, which may cause increased stress, adjustment challenges, and a higher risk of school dropout, often limiting future career opportunities (Kasapog˘lu-Akyol, 2010; Nutbrown et al., 2005; Schmid et al., 2008).

The early mastery of reading skills is critical for academic development, requiring concentration and perseverance from young learners (Adams, 2005). It can be overwhelming for young readers, for it involves decoding words, extracting meaning from context, and incorporating their previous knowledge, inferencing, and metacognitive strategies (Brown & Brewer, 1996). The more trouble young learners face with reading, the more unable to improve their reading performance in the future, which affects their achievement, graduation, and future life choices, and causes future unemployment or very low income (Lesnick et al., 2010).

In Middle Eastern primary schools, including the Gulf and North Africa, EFL instruction prioritizes grammar, vocabulary, and basic communicative skills over instilling a love of reading, particularly reading for pleasure, often leading to disinterest among students (Rajab & Al-Sadi, 2015). Reading classroom practices do not resemble real-world reading experiences, which potentially causes boredom and disinterest (Day & Bamford, 1998).

Reading comprehension involves the strategies leading to understanding the content of a text (Grellet, 1981), which cannot be directly observed and requires multifaceted and complex indicators (Johnston, 1984; Pearson & Johnson, 1978; Sainsbury et al., 2006). Teachers use well-planned interventions with struggling readers, such as one-on-one and small-group tutoring, as well as technology, which, despite their lack of expertise (Kumar et al., 2022), is

Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

the trend nowadays with various applications helping pupils with foreign languages (Cheung & Slavin, 2013).

Computer-based reading programs are instrumental in addressing various reading challenges, offering systematic instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Reading Panel, 2000; Pindiprolu & Forbush, 2009). Game-based learning, which addresses both skills and learning outcomes (Caponetto et al., 2014), has recently become one of the most popular teaching strategies to promote motivation, involvement, and interest (Mavridis & Tsiatsos, 2017).

The interactive literacy website Starfall applies Gardner's (1983) theory of multiple intelligences and relates it to children's different learning styles. It integrates sound, pictures and music to appeal to pupils' interest. Teachers need to be trained to meet learners' diverse classroom needs in ways that keep their students engaged (Gardner, 1983).

Extensive research highlights the potentially positive effects of technology-based reading programs on student reading skills, showing improvements in comprehension, motivation, and attitudes towards reading (e.g., Browning, 1987; Fletcher-Flinn & Gravatt, 1995; Ibrahim et al., 2010). Browning (1987), for example, reported that struggling fourth-grade readers in the United States performed better in reading and understanding material with computerized resources than with traditional worksheets. In their meta-analysis on the effects of computer-based reading programs on comprehension and attitudes toward reading, Fletcher-Flinn and Gravatt (1995) reported that these programs significantly enhanced reading comprehension skills and fostered more positive attitudes toward reading. Similarly, Ibrahim et al. (2010) found that Malaysian pupils who use games to learn were not only more optimistic and motivated but also better in thinking skills and subject knowledge than their conventionally taught counterparts.

Improvement in kindergarten children's word recognition, rhyme awareness, and graphemic awareness were noted after the use of the Oxford Reading Tree for Clicker (Karemaker et al., 2010). Along the same lines, positive effects of the animated and interactive *Headsprout* early reading program were reported on American preschool children's oral language and early reading skills (Huffstetter et al., 2011).

The use of technology and e-books in the reading classroom also improved Ecuadorian fourth-grade students' interactive reading skills (Sani Gunza, 2022), Emirati KG2 pupils' vocabulary and letter recognition skills (Alshamsi & Ogdol, 2022), Indonesian eighth-grade students' reading achievement and learning motivation (Sofiana & Mubarok, 2020), as well as their reading comprehension (Syafi, 2018), American third-graders' content grasp and achievement scores (Helmers, 2017), and Thai KG2 pupils' achievement in reading (Parreno & Eamoraphan, 2017). Caldwell (2013) reported a positive effect of an interactive literacy website on the reading comprehension of struggling second-grade pupils. Metsala and Kalindi (2022) also found that, when used to supplement classroom instruction, Ooka Island reading program improved kindergarten pupils' phonological blending, word reading, reading comprehension, and book-reading levels, but not their phonological segmentation.

Research has also covered the effect of animated online e-books (Yoon, 2013), e-readers and Internet resources (electronic storybooks, paper-based books), and reading resources available like dictionaries (Wright et al., 2013), the computerized Waterford Early Reading Program (James, 2014), interactive multimedia literacy software and a digital process portfolio (Lysenko & Abrami, 2014). They all improved pupils' reading and vocabulary and increased their motivation and interest in reading.

The effect of technology on literacy development, particularly through interactive programs like Starfall, has been extensively researched, generally highlighting its potential for fostering literacy skills across different age groups. For example, Halsey (2009) found that Starfall significantly improved not only students' phonics understanding and motivation but also their engagement and interest in reading. In a similar vein, Metis Associates (2014)

highlighted the effectiveness of Starfall in fostering phonics proficiency among kindergarten children in Colorado, as children who used Starfall outperformed their peers in reading proficiency.

Other research has extended these findings to related programs. Jeffs et al. (2006) reported that the Wordmaker improved American first-grade pupils' spelling and decoding abilities. Similarly, Zamora and Pittman (2018) reported that a combination of ABCmouse and Starfall supported second-grade pupils' development of essential reading components (e.g., phonemic awareness, fluency, vocabulary, and comprehension).

More related to the purpose of the current research, Cando Sánchez (2021) explored the effect of Starfall on Ecuadorian preschool children's and second-grade pupils' pronunciation. With the use of Starfall, the children transitioned from struggling with articulation and intelligibility to marked progress in intonation, accent, and word articulation. Similarly, Pickett (2005), who examined the effect of Starfall on American second-grade pupils' decoding abilities and word recognition, reported that tailored learning experiences provided by Starfall effectively catered to individual pupils' learning needs.

The research reviewed above collectively underscores the effectiveness of technology and the utility of interactive literacy programs, like *Starfall*, in supporting young learners' reading development, from phonics and pronunciation to vocabulary and comprehension, across various contexts. However, more research is needed to examine its effects in specific EFL settings, such as Kuwait, where traditional instruction and limited technological integration prevail.

In Kuwait, traditional EFL instruction often prioritizes grammar, vocabulary, and basic communicative skills, leaving limited room for reading development and technology integration (Rajab & Al-Sadi, 2015). The current research aims to address this gap by examining the potential effect of technology-based programs on reading development in the Kuwaiti early language classroom. By exploring how tools like Starfall promote engagement, foster literacy skills, and cater to individual learning needs, the current research seeks to provide insights into using interactive EFL instruction in Kuwait to improve learner outcomes in a rapidly evolving educational landscape.

Method and Instrumentation

The sample comprised two intact second-grade classes from Othman Abdullatif Othman School, a public school in the city of Kuwait where the second researcher is a teacher. The sections were randomly assigned as control and experimental groups; the former (n=23) taught reading comprehension using the conventional method outlined in the teacher's book, and the latter (n=21) used the instructional program incorporating Starfall. The data were collected during the treatment through the teacher's daily journal in which she reflected upon the effects of the treatment and an observation card filled by the second researcher during reading classes.

The Starfall-Based Instructional Program

The content analysis of Units 1, 2, 3, and 4 in the *Fun with English 2A* textbook revealed the number and frequency of reading activities (e.g., *Listen and read the lesson*; *look and read*; *read and write the missing letters*; *read and match*). These activities were then used to design an instructional program targeting literal comprehension skills appropriate for EFL second-grade learners.

To ensure the validity of the instructional program, it was reviewed by a jury of ten experts in curriculum and instruction and linguistics whose feedback on content, language and format was used to refine the final version of the program. The treatment spanned ten weeks in

Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

the first semester of the academic year 2023/2024 in the form of two weekly 45-minute sessions.

Instruments of the Study

The data were collected using an observation card and a teacher's journal. The 17-item observation card, based on a 3-point Likert Scale (i.e., *often* (3), *sometimes* (2), and *never* (1)), was used by the second researcher to gauge the pupils' engagement and understanding during the reading sessions, with specific focus on active participation, use of strategies, and interaction with the material. To interpret the results, the score of 1 to less than 1.67 was considered low, 1.67 to less than 2.34 moderate, and 2.34 to 3 high. The card was used once a week for both the control and the experimental groups during the treatment (n=16) to observe their improvement. Another teacher observed one session per group and filled the observation card to ensure inter-rater reliability.

Over the course of the treatment, the teacher reflected on the use of Starfall in the experimental group's reading class in a personal journal after each session. She not only related what happened in the classroom, but also described pupils' reactions, whether or not Starfall helped them learn faster and better, as well as possible future amendments to the program. The researchers analyzed the journal to identify recurring patterns and notable examples of student progress.

Findings of the Study

The results indicated that the experimental group showed higher levels of engagement and comprehension, with most items achieving a high level of agreement (mean scores of 2.30-3.00). Conversely, the control group demonstrated lower levels of agreement, particularly in areas such as interaction with the material and improvement in reading (mean scores of 1.00-1.56), as shown in Tables 1 and 2 below.

Table 1

Means and Standard Deviations of the Items on the Observation Card on the Utility of Starfall in Teaching Reading Comprehension to the Experimental Group

Item	Domain	Mean	SD	Rank	Level of Agreement
1	Pupils understand the main idea of the text.	3.00	.00	1	High
3	Pupils relate the text to their prior knowledge/ experience.	3.00	.00	1	High
7	Pupils actively attempt to understand the idea(s) in the text.	3.00	.00	1	High
9	Pupils identify the elements of the story (characters, setting, plot).	3.00	.00	1	High
12	Pupils take turns reading aloud.	3.00	.00	1	High
13	Pupils read together with their classmates (choral reading).	3.00	.00	1	High
14	Pupils use Starfall for extra reading practice.	3.00	.00	1	High
15	Pupils actively interact with the materials on Starfall.	3.00	.00	1	High
16	Pupils actively use exercises on Starfall.	3.00	.00	1	High
4	Pupils use *predicting* to understand the text.	2.90	.32	10	High
6	Pupils actively attempt to understand words in the text.	2.90	.32	10	High
8	Pupils actively use strategies to understand the text.	2.90	.32	10	High
2	Pupils understand the important details of the text.	2.80	.42	13	High
10	Pupils read on their own.	2.80	.42	13	High
17	There is a marked improvement in pupils' reading.	2.50	.71	15	High
11	Pupils discuss the text with their peers (pairs, groups).	2.40	.52	16	High
5	Pupils use *questioning* to understand the text.	2.30	.48	17	Medium
	Overall	2.85	.13	-	High

Table 2

Means and Standard Deviations of the Items on the Observation Card on the Utility of Starfall in Teaching Reading Comprehension to the Control Group

Item	Domain	Mean	SD	Rank	Level of Agreement
1	Pupils understand the main idea of the text.	2.40	.52	1	High
2	Pupils understand the important details of the text.	2.00	.47	2	Medium
3	Pupils relate the text to their prior knowledge/experience.	1.90	.57	3	Medium
9	Pupils identify the elements of the story (characters, setting, plot).	1.90	.57	3	Medium
13	Pupils read together with their classmates (choral reading).	1.90	.57	3	Medium
4	Pupils use *predicting* to understand the text.	1.80	.42	6	Medium
7	Pupils actively attempt to understand the idea(s) in the text.	1.80	.42	6	Medium
12	Pupils take turns reading aloud.	1.80	.42	6	Medium
10	Pupils read on their own.	1.70	.48	9	Medium
8	Pupils actively use strategies to understand the text.	1.60	.52	10	Medium
6	Pupils actively attempt to understand words in the text.	1.50	.53	11	Low
5	Pupils use *questioning* to understand the text.	1.20	.42	12	Low
11	Pupils discuss the text with their peers (pairs, groups).	1.10	.32	13	Low
14	Pupils use Starfall for extra reading practice.	1.00	.00	14	Low
15	Pupils actively interact with the materials on Starfall.	1.00	.00	14	Low
16	Pupils actively use exercises on Starfall.	1.00	.00	14	Low
17	There is a marked improvement in pupils reading.	1.00	.00	14	Low
	Overall	1.56	.13	-	Low

Discussion and Conclusions

Consistent with the literature (e.g., Cando Sánchez, 2021; Halsey, 2009; James, 2014; Lysenko & Abrami, 2014; Metis Associates, 2014; Metsala & Kalindi, 2022; Pickett, 2005; Yoon, 2013; Zamora & Pittman, 2018), the incorporation of Starfall in reading comprehension activities enhanced the participants' ability to not only decode but also comprehend reading texts. The interactive elements of Starfall, such as colorful visuals, songs, and games, transformed reading into an engaging and enjoyable experience, making learning feel like play.

The positive effect of Starfall on the experimental group's reading comprehension can be attributed to several key factors. First, the instructional program was meticulously designed to align with the learning objectives and the pupils' developmental stage. The integration of Starfall into the curriculum was carefully done, as the researchers deliberately selected activities to reinforce comprehension. Furthermore, the teacher provided clear instructions and support throughout the treatment to ensure pupils' effective engagement with the materials.

The novelty of the program, which, unlike traditional instruction, offered more dynamic and enjoyable learning experiences, potentially catalyzed pupils' engagement and interest in learning. Besides, the rewards feature of Starfall (e.g., achievement levels, sticker rewards) helped create enjoyable learning experiences that fostered the pupils' self-confidence and involvement. The variety of reading activities also encouraged pupils to readily participate in these activities, which fostered comprehension skills.

Thematic Analysis of the Teacher's Journal

The teacher's journal provided a qualitative narrative of the treatment, which explained how Starfall affected the development of reading comprehension among Kuwaiti EFL second-grade pupils. Her observations and reflections are crucial not only for the evaluation of the effectiveness of the Program but also for identifying areas for further improvement.

Before the treatment, the teacher was optimistic as to the potential effectiveness of Starfall in developing reading comprehension. She became more so as she observed how Starfall contributed to the marked improvement in the experimental group's reading comprehension and higher levels of interaction and participation relative to that of the control

Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

group. The qualitative analysis of the journal resulted in the emergence of three major themes: the first related to student engagement and motivation, the second to improvement in reading comprehension, and the third to classroom dynamics.

Student Engagement and Motivation

The teacher noted that her pupils' interest, enthusiasm, and participation increased when Starfall activities were integrated into the curriculum. Those in the experimental group volunteered to read aloud more frequently than usual during the treatment, much more so than their counterparts in the control group.

The experimental group pupils' immediate interest in Starfall activities manifested in sustained engagement and evident preference for Starfall over conventional reading instruction. Positive reinforcement through rewards (e.g., earning stars or badges) and feedback fostered their motivation and prolonged their engagement. Their increased interest in the Starfall reading activities went hand in hand with their active participation and time-on-task during reading sessions as they showed perseverance and determination to complete the reading tasks, no matter how challenging. They perceived their reading abilities with mounting confidence and were more willing to take risks, such as reading more challenging texts and answering questions with no fear of making mistakes.

Although online instruction is reported to be potentially distracting (Blasiman et al., 2018) as well as detrimental to pupils' active engagement (Chhetri, 2020), Starfall brought about the opposite. Starfall activities engaged pupils longer and kept them focused on reading while minimizing distractions and keeping them on-task, as evident in their body language and verbal expressions of curiosity and excitement.

Pupils encouraged each other to engage in Starfall activities as peer collaboration and competition affected the pupils' interest in and motivation for reading. Both intrinsic and extrinsic motivation was triggered as Starfall fostered the former through engaging the pupils' senses, love for color, and play, which culminated in more interest in reading. The latter was heightened by Starfall features, such as rewards, recognition, and praise coveted by the pupils throughout the treatment.

The teacher noted an increase in active participation on the part of the pupils in the experimental group. An unprecedented frequency of voluntary participation in Starfall reading activities was evident in reading lessons and pupils' free time. This may readily be attributed to the interactive features of Starfall (games, animated stories, and interactive exercises), which appealed to the pupils' interest and built on their increasing confidence in their reading abilities.

The teacher also observed an increase in pupils' initiatives and pupil-led activities. They frequently explored new activities within Starfall on their own in and outside the classroom. This may translate into long-term motivation for and interest in reading, as Starfall encouraged pupils to engage in reading activities beyond the classroom context.

Yet, the treatment was not without challenges. Even though Starfall generally caters to different learning styles (visual, auditory, kinesthetic), some pupils were more engaged than others, especially at the initial stages of the treatment. What alleviated part of the pressure on the few pupils who lagged in both interest and engagement was the fact that the Starfall activities were aligned with the content of the textbook.

Reading Comprehension Skills

As students became more engaged with the interactive features of Starfall, their increased motivation translated into significant improvements in their reading comprehension, particularly in vocabulary development and phonological awareness. The teacher's reflection on her pupils' progress in reading comprehension offered significant insights into the

effectiveness of Starfall in fostering the various sub-skills of reading comprehension (viz., making visual connections, phonological awareness (word rhyme), and vocabulary development). She noted a marked improvement in vocabulary development as pupils learned new words in context instead of in isolation (e.g., pupils were able to recognize and correctly use words, such as *apples* and *trees* in sentences), which potentially fostered both recall and retention of the new vocabulary learned through Starfall.

Due to the proficiency level of the pupils under study, comprehension was limited to the literal level, as neither inferential nor critical comprehension was gauged. The teacher noted that the pupils were able to accurately identify key facts and details from the texts they read on Starfall without much difficulty and with very little help from her or their peers.

The teacher also observed progress in the pupils' phonological awareness, especially in sound recognition, decoding skills, and spelling. Heightened short- and long-term retention of information was noted among the experimental group pupils, who not only remembered information immediately after reading but were also able to recall and apply information from texts read on Starfall after a longer period of time.

The teacher also noted her pupils' use of effective comprehension strategies (e.g., summarizing, questioning) while using Starfall activities. Their skills improved as they decoded and pronounced the new words. They seemed better able to vocalize their thoughts, which, in turn, improved their fluency and, hence, their confidence, as improvement in their speed, accuracy, and proper expression was noted during the treatment.

This progress in the pupils' reading comprehension may have been catalyzed by the assessment and feedback features of Starfall. Formative assessments were used to evaluate it, which helped them improve their comprehension skills as they learned to self-assess and reflect on their own reading comprehension.

Classroom Dynamics

The teacher's shift from a traditional *sage on the stage* to the more learner-centered *guide on the side* was evident in how pupils took greater ownership of their learning. She observed that students increasingly initiated discussions about the texts they read, using Starfall's features to deepen their comprehension and engagement.

The teacher also noted a marked improvement in classroom dynamics. Peer interaction, individual work, and group work were all fostered as pupils interacted with each other during the Starfall reading activities. The relationship between teachers and pupils has also changed. Differentiated instruction, inherent in Starfall, responded well to pupils with varying levels of reading comprehension who took ownership of their own learning as they engaged more in independent, self-directed learning through Starfall activities without much prompting or assistance from the teacher. The teacher was no longer the authoritative sage on the stage; she was instead the facilitating guide on the side whose role was to offer support on a needs basis.

The teacher also noted increased parental involvement and feedback on their children's use of Starfall at home. Parents reported their children's enthusiasm to share Starfall activities with parents and siblings. Home reading practices involving Starfall may have also been instrumental in the participants' improved reading comprehension since pupils assumed the role of both teachers and learners as they enthusiastically shared the details of the reading lesson with their families, which culminated in a golden opportunity for teachers and parents to work together to support the pupils' reading development.

The early signs of increased motivation and self-directed learning are promising, as continued Starfall use may foster pupils' long-term love for and interest in reading. This, in turn, may culminate in greater future academic success.

Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

Limitations and Recommendations

While the findings are promising, their generalizability is limited by the small sample size and the use of a single technological tool (viz., Starfall). Future research could explore the effectiveness of other interactive platforms or examine the long-term effects of such interventions. Nonetheless, this research suggests that integrating interactive technology, like Starfall, into EFL language instruction has the potential for improving reading comprehension skills, particularly as supplementation or remediation in traditional instructional contexts.

More attention needs to be given to reading comprehension by EFL teachers, especially in the early years of learning EFL through activities that involve fun and enjoyment. Language classrooms should be redesigned to promote pupil-pupil as well as pupil-teacher interaction promoted through Starfall and other similar applications to develop students' performance in reading comprehension and help them overcome challenges and obstacles.

Not only should the Ministry of Education offer EFL teachers training workshops to integrate technology into their teaching, but it also should mandate that EFL textbook designers integrate Starfall and similar applications when designing the curriculum, especially for lower grades, to make language classes more engaging and fun. Researchers are also encouraged to examine the effects of using Starfall and other applications on other grades and language skills, such as listening and speaking.

References

Adams, M. J. (2005). The promise of automatic speech recognition for fostering literacy growth in children and adults. In M. McKenna, L. Labbo, R. Kieffer, & D. Reinking (Eds.), *Handbook of literacy and technology* (Vol. 2, pp. 109–128). Lawrence Erlbaum Associates.

Al Musawi, A., Kazem, A. M., Al Hashmi, A., & Al Busaidi, F. (2016). The effectiveness of instructional software in reading comprehension skills and reading aloud of Omani fourth basic schools' pupils. *Technology, Innovation and Education, 2*(1), 1–21. https://doi.org/10.1186/s40660-016-0018-0

AlAdwani, A., AlFadley, A., AlGasab, M., & Alnwaiem, A. F. (2022). The effect of using KWL (know-want-learn) strategy on reading comprehension of 5th grade EFL pupils in Kuwait. *English Language Teaching, 15*(1), 79–91. https://doi.org/10.5539/elt.v15n1p79

Alrabah, S., & Wu, S. H. (2019). A descriptive analysis of the metacognitive reading strategies employed by EFL college pupils in Kuwait. *International Journal of English Linguistics, 9*(1), 25–35. https://doi.org/10.5539/ijel.v9n1p25

Alshamsi, K. A., & Ogdol, R. E. (2022). Developing UAE preschoolers' emergent reading skills through balanced literacy approach. *Educational Sciences: Theory & Practice, 22*(2), 162–178. https://doi.org/10.12738/jestp.2022.2.0012

Bernhardt, E. B. (1983). Three approaches to reading comprehension in intermediate German. *The Modern Language Journal, 67*(2), 111–115. https://doi.org/10.2307/328281

Blasiman, R. N., Larabee, D., & Fabry, D. (2018). Distracted students: A comparison of multiple types of distractions on learning in online lectures. *Scholarship of Teaching and Learning in Psychology, 4*(4), 222–230. https://doi.org/10.1037/stl0000122

Brown, P. M., & Brewer, L. C. (1996). Cognitive processes of deaf and hearing skilled and less skilled readers. *The Journal of Deaf Studies and Deaf Education, 1*(4), 263–270. https://doi.org/10.1093/oxfordjournals.deafed.a014301

Browning, G. B. (1987). *A microcomputer intervention to aid in word-meaning reinforcement: A single-case experiment with thirteen replications* [Unpublished doctoral dissertation]. University of Maryland College Park.

Caldwell, B. J. (2013). *Effect of an interactive literacy website on struggling readers' comprehension* [Unpublished doctoral dissertation]. Walden University.

Cando Sánchez, J. L. (2021). *The Starfall app and the English pronunciation* [Unpublished bachelor's thesis]. Universidad Técnica de Ambato, Ecuador.

Capodieci, A., Cornoldi, C., Doerr, E., Bertolo, L., & Carretti, B. (2020). The use of new technologies for improving reading comprehension. *Frontiers in Psychology, 11*, 751–769. https://doi.org/10.3389/fpsyg.2020.00751

Caponetto, I., Earp, J., & Ott, M. (2014). Gamification and education: A literature review. In *Proceedings of the 8th European Conference on Games-Based Learning* (pp. 5–57). Academic Conferences Ltd.

Chase, B. (2007). *Starfall education*. http://www.starfall.com/

Chaudri, C. A., & Al-Adwani, A. (2019). Reading practices of EFL pupils: A survey of Kuwaiti college pupils. *English Language Teaching, 12*(5), 130–144. https://doi.org/10.5539/elt.v12n5p30

Cheung, A. C. K., & Slavin, R. E. (2013). Effects of educational technology applications on reading outcomes for struggling readers. *Reading Research Quarterly, 4*(3), 277–299. https://doi.org/10.1002/rrq.50

Chhetri, C. (2020). "I lost track of things": Student experiences of remote learning in the Covid-19 pandemic. In *Proceedings of the 21st Annual Conference on Information Technology Education* (pp. 314-319). https://doi.org/10.1145/3368308.3415413

Cziko, C. A., Greenleaf, C., Hurwitz, L., & Schoenbach, R. (2000). What is reading? An excerpt from reading for understanding. *The Quarterly, 22*(3), 38–39.

Day, R. R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. Cambridge University Press.

Fletcher-Flinn, C. M., & Gravatt, B. (1995). The efficacy of computer-assisted instruction (CAI): A meta-analysis. *Journal of Educational Computing Research, 12*(3), 219–241. https://doi.org/10.2190/51D4-F6L3-JQHU-9M31

Gardner, H. (1983). *Frames of mind: A theory of multiple intelligences*. Basic Books.

Grellet, F. (1981). *Developing reading skills: A practical guide to reading comprehension exercises*. Cambridge University Press.

Halsey, K. L. (2009). *First grade pupils' experience using web-based computer games on Starfall.com to improve literacy skills* [Unpublished master's thesis]. Dominican University of California.

Helmers, J. R. (2017). *Using technology and collaboration to support reading comprehension* [Unpublished master's thesis]. Northwestern College.

Huffstetter, M., King, J. R., Onwuegbuzie, A. J., Schneider, J. J., & Powell-Smith, K. A. (2010). Effects of a computer-based early reading program on the early reading and oral language skills of at-risk preschool children. *Journal of Education for Students Placed at Risk, 15*(4), 279–298. https://doi.org/10.1080/10824669.2010.532415

Ibrahim, R., Yusoff, R., Omar, H. M., & Jaafar, A. (2010). Students' perceptions of using educational games to learn introductory programming. *Computer and Information Science, 4*(1), 205–216. https://doi.org/10.5539/cis.v4n1p205

James, L. (2014). The integration of a computer-based early reading program to increase English language learners' literacy skills. *Teaching English with Technology, 14*(1), 9–22. https://files.eric.ed.gov/fulltext/EJ1143396.pdf

Jeffs, T., Evmenova, A., Warren, S.H., & Rider, R.L. (2006). An action research study of computer-assisted instruction within the first-grade classroom. *Assistive Technology Outcomes and Benefits, 3*(1), 80-95. https://files.eric.ed.gov/fulltext/EJ902509.pdf

ISSN: 2149-1291

Johnston, P. H. (1984). Assessment in reading. In P. D. Pearson, R. Barr, M. L. Kamil, & P. Mosenthal (Eds.), *Handbook of reading research* (pp. 147–182). Longman.

Karemaker, A., Pitchford, N.J., & O'Malley, C. (2010). Does whole-word multimedia software support literacy acquisition?. *Reading and Writing, 23*(1), 31-51. https://doi.org/10.1007/s11145-008-9148-4

Kasapogˇlu-Akyol, P. (2010). Using educational technology tools to improve language and communication skills of ESL students. *Novitas-Royal (Research on Youth and Language), 4*(2), 225-241.

Kumar, T., Premkumar, S.S., & Parwez, A. (2022). Technology-integration experiences in ELT classrooms as an effective tool: A theoretical study. *Journal for Educators, Teachers and Trainers, 13*(1), 51-60.

Lesnick, J., Goerge, R., Smithgall, C., & Gwynne, J. (2010). *Reading on grade level in third grade: How is it related to high school performance and college enrollment?* Chapin Hall at the University of Chicago.

Lysenko, L. V., & Abrami, P. C. (2014). Promoting reading comprehension with the use of technology. *Computers & Education, 75,* 162–172. https://doi.org/10.1016/j.compedu.2014.01.010

Mavridis, A., & Tsiatsos, T. (2017). Game-based assessment: Investigating the impact on test anxiety and exam performance. *Journal of Computer Assisted Learning, 33*(2), 137–150. https://doi.org/10.1111/jcal.12170

Meniado, J. (2016). Metacognitive reading strategies, motivation, and reading comprehension performance of Saudi EFL pupils. *English Language Teaching, 9*(3), 117–129. https://doi.org/10.5539/elt.v9n3p117

Metis Associates. (2014). *Evaluation of the Starfall kindergarten curriculum in Roaring Fork School District: Findings from the 2012–2013 evaluation.* http://more.starfall.com/downloads/K-StarfallEvaluationReport.php

Metsala, J. L., & Kalindi, S. C. (2022). The effects of a computer-based early reading program on the literacy skills of kindergarten students. *Computers in the Schools, 39*(4), 373–393. https://doi.org/10.1080/07380569.2022.2127344

Millrood, R. (2011). *Modular course in ELT methodology*. Drofa.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction.* National Institute of Child Health and Human Development.

Nutbrown, C., Hannon, P., & Morgan, A. (2005). *Early literacy works with families: Policy, practice and research.* SAGE Publications.

Parreno, M. D. A., & Eamoraphan, S. (2017). A study of kindergarten 2 pupils' English phonics achievement and their perceptions towards the use of English phonics online games at St. Mark's International School, Thailand. *Scholar: Human Sciences, 9*(1). http://www.assumptionjournal.au.edu/index.php/Scholar/article/view/2300

Pearson, P. D., & Johnson, D. D. (1978). Teaching reading comprehension. *The English Journal, 68*(3), 88–89. https://doi.org/10.2307/814947

Pickett, A. Y. (2005). *Computer-based programs and the struggling reader: An action-based research project.* Culminating Experience Empirical and Theoretical Research Projects. University of Tennessee at Chattanooga.

Pindiprolu, S. S., & Forbush, D. (2009). Evaluating the promise of computer-based reading interventions with pupils with reading difficulties. *Journal on School Educational Technology, 4*(3), 41–49. https://files.eric.ed.gov/fulltext/EJ1102828.pdf

Rajab, H., & Al-Sadi, A. (2015). An empirical study of reading habits and interests of Saudi University EFL learners. *International Journal of Linguistics, 7*(2), 1–17. https://doi.org/10.5296/ijl.v7i2.7034

Robayo Rivera, J. A. (2021). *The Starfall app and the reading skill* [Bachelor's thesis, Universidad Técnica de Ambato-Facultad de Ciencias Humanas y de la Educación-Carrera de Idiomas]. https://repositorio.uta.edu.ec/handle/123456789/33071

Sainsbury, M., Harrison, C., & Watts, A. (2006). *Assessing reading from theories to classrooms*. National Foundation for Educational Research, U.K. https://www.nfer.ac.uk/assessing-reading-from-theories-to-classrooms/

Sani Gunza, M. P. (2022). *Online tools and interactive reading skill* [Unpublished Bachelor's thesis] Technical University of Ambato.

Schmid, R., Miodrag, N., & Di Francesco, N. (2008). A human-computer partnership: The tutor/child/computer triangle promoting the acquisition of early literacy skills. *Journal of Research on Technology in Education, 41*(1), 63–84. https://doi.org/10.1080/15391523.2008.10782523

Sofiana, N., & Mubarok, H. (2020). The impact of English game-based mobile application on students' reading achievement and learning motivation. *International Journal of Instruction, 13*(3), 247–258. https://doi.org/10.29333/iji.2020.13317a

Syafi, M. L. (2018). Using online short stories to improve the reading comprehension ability. *Register Journal, 11*(2), 168–191. https://doi.org/10.18326/rgt.v11i2.168-191

Torres, N. G., & Constain, J. J. Á. (2009). Improving reading comprehension skills through reading strategies used by a group of foreign language learners. *How, 16*(1), 55–70. https://www.howjournalcolombia.org/index.php/how/article/view/76

Wright, S., Fugett, A., & Caputa, F. (2013). Using e-readers and Internet resources to support comprehension. *Journal of Educational Technology & Society, 16*(1), 367–379. http://www.jstor.org/stable/jeductechsoci.16.1.367

Yoon, T. (2013). Exploring a literacy development in young Korean ELLs with online e-books. *Journal of Language Teaching & Research, 4*(2), 253–259. https://doi.org/10.4304/jltr.4.2.253-259

Zamora, V., & Pittman, R. T. (2018). The effects of two computer-based reading software programs on student reading performance. *Texas Association for Literacy Education Yearbook, 5,* 56–62. https://files.eric.ed.gov/fulltext/EJ1291084.pdf

Notes on Contributors

Ruba Fahmi Bataineh is a professor of TESOL at the Department of Curriculum and Methods of Instruction at Yarmouk University, Jordan. Prof. Bataineh has published extensively on pragmatics, literacy, CALL, and teacher education in renowned international and regional journals. She is also an affiliate of professional organizations and a member of the advisory, editorial and/or review boards of several regional and international journals.

May Bader Alghareeb is currently an EFL teacher at Othman Al-Othman Primary School. She is also a doctoral candidate in the TEFL program at Yarmouk University (Irbid, Jordan). Under the supervision of Prof. Ruba Fahmi Bataineh, Ms. Alghareeb is expected to defend her dissertation by December 2024. Her research interests include CALL, TEFL, and teacher education.

ORCID

Ruba Fahmi Bataineh, https://orcid.org/0000-0002-5454-2206
May Bader Al-Ghareeb, https://orcid.org/0009-0000-2844-420X

Journal of Ethnic and Cultural Studies
2025, Vol.12, No. 1, 141-153
http://dx.doi.org/10.29333/ejecs/2338

ISSN: 2149-1291

Appendix: A Sample Journal Entry

On the fourth day, as I passed by one of the students in the experimental group, he asked me, "Teacher, when will our next English class be today?" I happily replied, "It will be the fourth session. Why do you ask?" He told me that he couldn't wait and that it was the only enjoyable class in school. I laughed and felt happy and proud that I was able to evoke this positive feeling in the student, and I vowed to strive to make all the students in the experimental group feel the same way.

When the time for the fourth session came, we started with an engaging review of the "ay" sound using a new activity from Starfall. The student took on the roles of both the teacher and the learner. They would read the sound, then click on it, and a picture with a word would appear. They would read the word to themselves once and then repeat it twice to their peers, who would echo the word and applaud them. We repeated this activity with each student.

After that, we played the sight word game, even though I had concerns that they might get bored with the repetition. But when I saw their enthusiasm remained just as high as when we first started, all my worries disappeared, and I felt at ease. The teacher continued the lesson by introducing new words using another engaging activity from Starfall, the living room activity. It listed items found in a living room, and the students had to read the words and place them in the correct spot. Some of these words were part of the curriculum, and I noticed the students were acquiring a new vocabulary in an enjoyable and entertaining way.

The teacher completed the lesson as planned in the daily preparation. Finally, we distributed a worksheet about the items found in a living room, and the students read the words and colored the objects accordingly.