INTEGRATING MULTIMODAL SCAFFOLDING IN BUSINESS ENGLISH READING USING THE SUPERSTAR PLATFORM: A SYSTEMATIC LITERATURE REVIEW

[1,2]PENG XIAO HUA
*[2]WIRAWATI NGUI
[3]ASMAA ALSAQQAF

[1]Guangzhou College of Technology and Business, Guangzhou, China
[2]Faculty of Education and Sports Studies, Universiti Malaysia Sabah (UMS)
[3]Centre for the Promotion of Knowledge and Language Learning (PPIB), Universiti Malaysia Sabah (UMS)

[2]wirawati.ngui@ums.edu.my

Abstract *Business English (BE) classes in college require reading proficiency. Multimodal scaffolding (MS), which uses many media to adapt instruction, is growing in popularity. This review evaluates MS on the Superstar Platform for college-level BE reading. The paper begins with a theoretical framework that explains scaffolding in language acquisition and the importance of MS in instructional design. Scaffolding in language acquisition, MS's impact on reading comprehension, and digital learning environments in language training are examined in the article. The research procedure and study selection criteria are described. The paper studies Superstar as a framework and finds MS methods that match the platform's properties. It also examines successful case studies using these tactics. The results show that MS via Superstar increases college BE students' language and problem-solving skills. The essay emphasizes MS's self-regulation, engagement, and autonomous learning benefits over conventional techniques. The study offers instructors pedagogical tips for using MS efficiently to meet the requirements and ability levels of a variety of students. The report suggests future research based on the newest BER course learning and technology integration breakthroughs, notwithstanding its implementation challenges.*

Keywords: *Multimodal scaffolding, Business English reading*

INTRODUCTION

Proficiency in reading comprehension is an essential aptitude for achieving academic and professional accomplishments, particularly in college-level business English classes. The ability to comprehend intricate texts, retrieve pertinent information, and make well-informed choices in a globalised commercial setting is facilitated by this (Lawrence et al., 2022). Nevertheless, several college students encounter challenges when it comes to acquiring proficiency in comprehending business English reading materials, primarily due to the presence of specialised terminology, jargon, and complex structures that are commonly found in writings connected to business.

In order to surmount these challenges, educators and academics have been exploring novel pedagogical methods to enhance the reading skills of college students. One notable method that has garnered interest is multimodal scaffolding, a pedagogical framework that offers focused assistance and direction to learners throughout the reading process (Namaziandost et al., 2022). Multimodal learning encompasses a range of teaching methods that incorporate several forms of communication, including written text, visuals, sound, and video, to enhance students' understanding and ability to build knowledge (Koyuncu et al., 2023).

Over the past several years, digital learning environments have emerged as effective instruments for teaching languages. These platforms provide interactive and dynamic features that actively involve students in language learning activities (Namaziandost et.al, 2022). Superstar has garnered attention for its capacity to provide MS in a captivating and efficient manner, making it a notable platform among the others. Superstar integrates various multimedia resources, interactive activities, and personalised feedback to provide a comprehensive and engaging learning experience tailored to the distinct needs and learning preferences of college business English students (Lawrence et al., 2022).

This review study seeks to thoroughly analyse the incorporation of MS (Microservices) on Superstar, a platform used for instructing college-level business English. Through the synthesis of current literature and case studies, our objective is to examine the efficacy of this educational method, provide insights into effective implementation tactics, and offer pedagogical recommendations to guide language educators in their practises. This research paper offers a comprehensive examination of the use of MS (Multimedia Systems) in language learning environments, with a specific emphasis on enhancing reading comprehension skills. The text examines case studies that incorporate the use of MS on Superstar as a teaching tool for undergraduate business classes. It focuses on the results, advantages, and difficulties associated with this approach. This text provides recommendations and effective strategies to improve language acquisition by actively involving learners and encouraging them to independently construct meaning.

This review study seeks to contribute to the expanding research on innovative language teaching methodologies by examining the incorporation of mobile technology in the Superstar language learning platform. Our aim is to furnish language educators with essential knowledge to develop interesting and effective learning environments for college business English students by offering insights into the effectiveness of this teaching technique. In addition, we pinpoint potential areas for further investigation, examining the efficacy of MS in instructing the college course of BER on Superstar and stimulating additional progress in language instruction.

Thus, this study applies systematic literature review method to answer the following research questions:
i) How is multimodal scaffolding implemented in Business English Reading (BER)?
ii) What is the effectiveness of multimodal scaffolding in Business English Reading (BER)?
iii) What are the contributors towards the effectiveness of multimodal scaffolding in Business English Reading (BER) on the Superstar platform?

MULTIMODAL SCAFFOLDING IN LANGUAGE INSTRUCTIONS

Multimodal scaffolding refers to a range of teaching techniques that combine many forms of communication, including written text, images, sound, and video, in order to help learners understand and connect information (April, 2022). This method is very efficient in teaching languages since it accommodates various learning styles and preferences, resulting in a more captivating and interactive learning encounter (Hermkes et al., 2022).

In language classrooms, multimodal scaffolding refers to the use of real multimedia materials, provision of examples, and involvement of learners in interactive tasks to facilitate a more profound comprehension (Yang & Liu, 2021). An example of this is the Superstar Platform, a digital learning environment that allows for the integration of multimodal scaffolding in college business English reading instruction.

Multiple studies have investigated the use of multimodal scaffolding in language teaching settings. Berenji (2021) investigated the efficacy of problem-based learning (PBL) in improving the metacognitive reading strategies and reading comprehension skills of English as a Foreign Language (EFL) learners. The study showcased that Problem-Based Learning (PBL), utilised as a method of employing multiple modes of support, enhanced learners' comprehension of metacognitive strategies and resulted in a substantial improvement in their reading comprehension abilities. In the same vein, Wan (2022) underscored the significance of multimodal scaffolding in augmenting the language proficiency of elementary students. This study emphasised the cruciality of constructing scaffolds, immersing oneself in various situations, independently exploring, participating in collaborative learning, and assessing outcomes to facilitate the acquisition of vocabulary.

In addition, Sohn & Spiliotopoulos (2021) examined the difficulties and advantages of incorporating communicative interactive activities into mainstream courses that cater to students with varying levels of English ability. The study highlighted the importance of teachers acknowledging the variety of students in the classroom, encouraging students to see themselves as capable learners of several languages, and modifying the curriculum to encourage meaningful interactions and self-reflection, which in turn promotes critical thinking and intercultural skills.
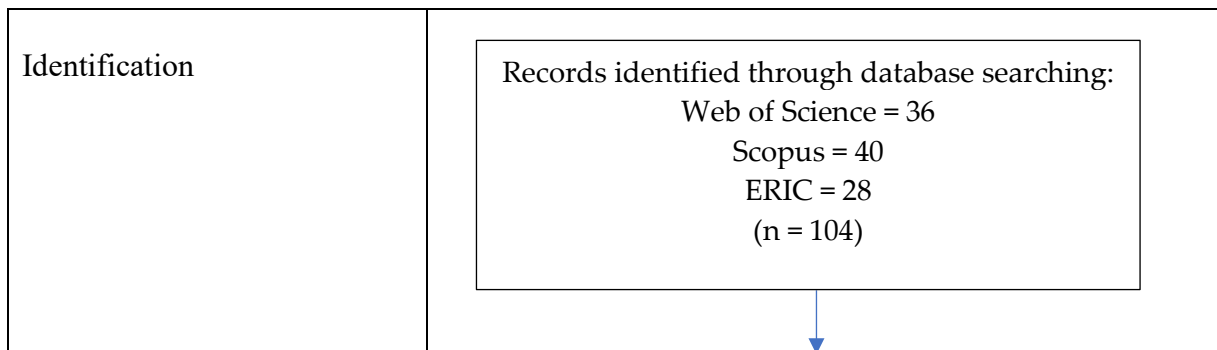
THE COMBINATION AND PRACTICAL APLICATION OF MULTIMODAL THEORY AND SCAFFOLDING THEORY

Currently, there is a limited body of research on the integration of these two theories. The current studies mostly emphasise theoretical research while conducting limited empirical investigation. There is a greater emphasis on static text studies and a lesser focus on dynamic research (Sohn and Spiliotopoulos, 2021). There is a need to create and examine the interaction between different modalities and how to effectively combine them using scaffolding theory. This thesis aims to go deeper into and elucidate the correlation between different modalities and the integration of research and exploration within the scaffolding theory (Berenji, 2021). By integrating multimodal

theory and scaffolding theory, it is feasible to shift from the conventional teacher-centered approach to a student-centered approach. This transformation can ignite students' curiosity, boost their motivation and proactivity, reinforce their memory retention, and facilitate their comprehension and internalisation of knowledge. Consequently, it fosters the holistic development of students' independent skills, autonomous learning, collaborative learning, and knowledge construction. The multimodal auxiliary scaffolding approach is implemented in college English teaching as an exemplification of English teaching reform (Berenji, 2021). The scaffolding teaching method offers the potential to transform the traditional "cramming education" approach by encouraging students to take initiative, enhancing their participation in classroom activities, modifying the reliance on indirect English teaching methods, and fostering the development of students' independent inquiry and collaborative learning skills. It has the potential to broaden and streamline the approaches used to assess college-level English translation instruction. However, employing multimodality to engage students through multiple senses can effectively stimulate their interest in learning, enhance their memory, and consciously direct their attention towards pertinent information in the subject matter (Wan, 2022). This approach aims to broaden students' knowledge and enhance their overall quality. Introducing multimodal scaffolding teaching into college English teaching is really significant.

METHODOLODY

As shown in Figure 1, this systematic review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method, which consists of four processes: identification, screening, eligibility, and inclusion. PRISMA has been widely used by researchers due to its comprehensiveness and adaptability to other studies. As a result, the following is the goal of this study and the process of the systematic review:
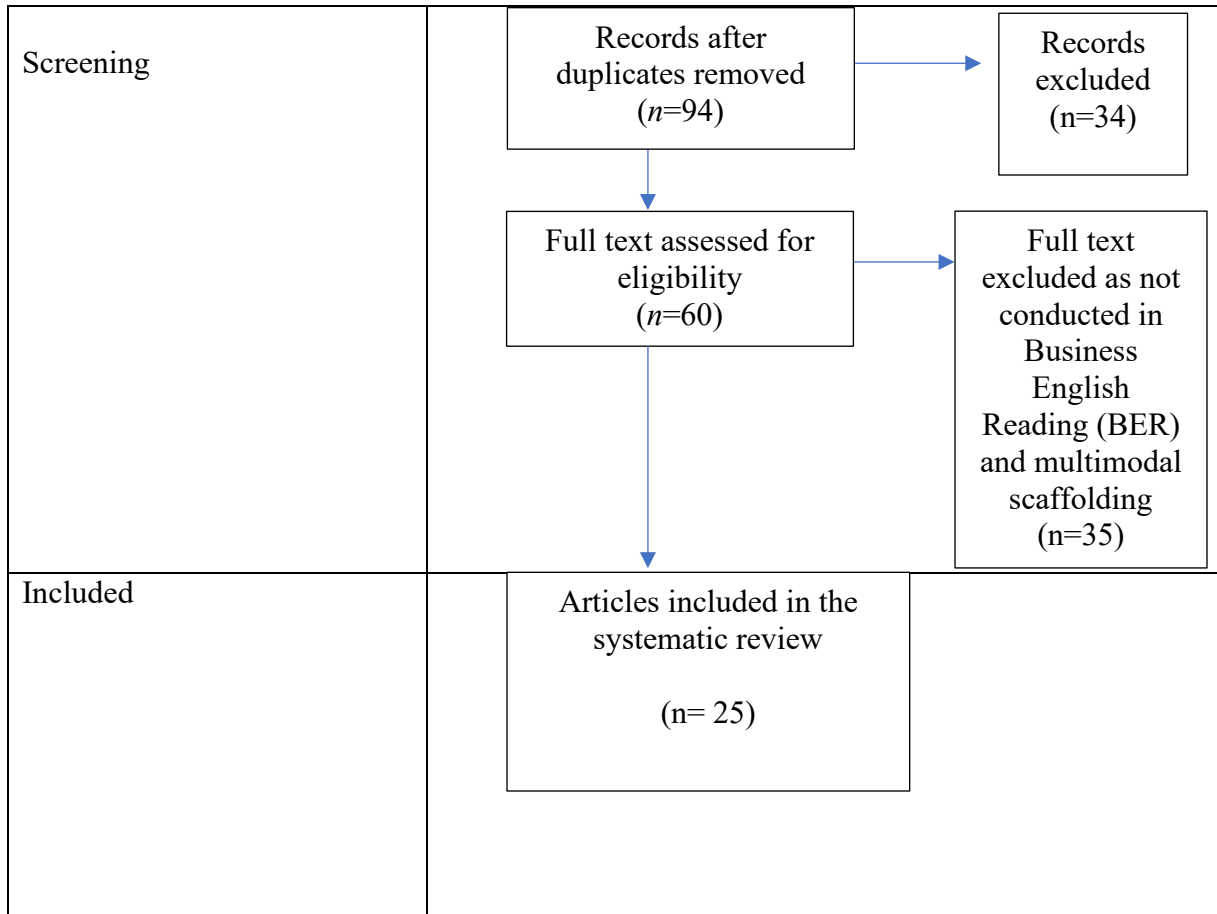
Identification	Records identified through database searching: Web of Science = 36 Scopus = 40 ERIC = 28 (n = 104)

Figure 1

IDENTIFICATION

The first step in the systematic review covers the identification process as reported in the PRISMA guidelines. Three databases were chosen, which are considered very suitable to undertake this study aim. Databases such as Web of Science (WoS), Scopus and the Educational Resources Information Centre (ERIC). Words related to multimodal scaffolding, and also Business English Writing (BER) has been included on the identification of journals. The string used in each database were highlighted as per in Table 1. The records that were identified is based on web of science which is around 36 articles, Scopus will be 40, followed by ERIC publication which sums about 28. The total articles identified will be 104.

Table 1
Search string applied to the databases

Database	Search String
Web of Science (Wos)	TS = (("multimodal *" OR "multimodal scaffolding" OR "Business English Reading" OR "BER" OR "multimodal scaffolding in Business English Reading *")

	AND ("Superstar *" OR "learning platform *"))
Scopus	TITLE-ABS-KEY (("multimodal *" OR "multimodal scaffolding" OR "Business English Reading"" OR "BER" OR "Superstar" OR "learning platform*"))
Eric	Multimodal scaffolding in Business English Reading among university students

SCREENING

Following the identification of articles, the screening process begins, with the first step being the exclusion of duplicate articles appearing in more than one database. Based on the results of the first screening step, 10 duplicate articles were removed, leaving 94 articles eligible for further screening. These 94 articles were screened based on title, abstract, and keywords, with the expectation that they would be related to multimodal scaffolding and Business English Reading. This screening process resulted in the exclusion of 34 articles due to their lack of relevance to the purpose of this study. Following exclusion, the remaining 60 articles were screened using the inclusion and exclusion criteria listed in Table 2.

Table 2
Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Studies conducted between the year of 2018 to 2021	Studies conducted before the year of 2010
Articles derived from journals only	Conference proceedings, review article, book chapters,
Text is only written in English Language	Text is not written in English but were in other languages
Related to multimodal scaffolding or scaffolding in Business English Reading (BER)	Not related to multimodal scaffolding or scaffolding in Business English Reading (BER)

DATA ANALYSIS PROCEDURE

Thematic analysis has been used to classify the themes to answer the following research question:
  i)   How is multimodal scaffolding implemented in Business English Reading (BER)?
  ii) What is the effectiveness of multimodal scaffolding in Business English Reading

(BER)?

iii) What are the contributors towards the effectiveness of multimodal scaffolding in Business English Reading (BER) on the Superstar platform?

The themes and findings were classified according to each research question. The findings were discussed in the following section

RESULTS

Research Question 1: *How is multimodal scaffolding implemented in Business English Reading (BER)?*

There has been a notable increase in the use of multimodal teaching methods in recent years, as educators aim to find creative ways to improve reading comprehension in language learners. These approaches include several methods, including visual aids, colour schemes, concept maps, music, video clips, group debates, and presentations, to actively involve students in the process of learning (Pan & Zhang, 2019). Pan and Zhang (2019) did a study at a rural school in China to investigate the efficacy of a multimodal teaching method in high school English reading classes for students who are studying English as a foreign language. The empirical study findings revealed that the incorporation of multimodal methods had a good effect on students' reading skills, as well as enhancing their enthusiasm and engagement in English reading lessons. The students expressed a positive response to this strategy, showing its capacity to improve language learning experiences.

Moreover, teachers have a pivotal role in efficiently implementing multimodal resources. Ferstephanie and Pratiwi (2022) underscored the need to ensure that the utilisation of multimodal resources is in accordance with the objectives of the subject course and the requirements of the students. Each kind of multimodal resource fulfils distinct functions and objectives, enabling the dissemination of instructional materials and enhancing students' acquisition of knowledge and abilities.

In their study, Ferstephanie and Pratiwi (2023) examined the influence of multimodal resources on English language instruction. They employed a mixed-method approach to explore instructors' perspectives on the effectiveness of these resources. The study revealed that the utilisation of multimodal resources has a substantial impact on the acquisition of meaningful language skills, promoting the development of communication abilities, creativity, and critical thinking in pupils. Teachers' favourable opinions towards multimodal tools underscore their conviction in the advantages of these resources for improving language learning results.

Huang (2011) demonstrated that extensive reading, regardless of whether it involves multimodal or linear literature, enhances the English competence of undergraduate EFL learners. The research is in accordance with Krashen's language development theory, which emphasises the significance of understandable information in the process of acquiring language. The study suggests offering students the autonomy to select either linear or multimodal content for prolonged reading programmes and familiarising them with informational text available on the English Internet.

Scaffolding, especially when using multimodal input, is essential for improving second language (L2) English reading comprehension (Stephens & Kaiser, 2018). The combination of different modalities results in a synergistic impact, generating a unified input that surpasses the individual contributions of each modality. This considerably enhances the process of acquiring language skills. The utilisation of visual and auditory scaffolds has proven to be efficacious in enhancing the English reading skills of Japanese learners. This underscores the need to employ diverse learning methodologies and foster active student participation.

Within the realm of online language instruction, expertise refers to the ability to utilise a diverse range of languages and modes of communication (Ho & Tai, 2020). Proficient educators employ a variety of resources to accommodate the requirements of learners, resulting in captivating and significant learning encounters. Comprehending the importance of teachers' ability to use several languages and modes of communication contributes to the ever-changing environment of online language learning and teaching.

Implementing a multimodal teaching approach in college English classrooms has demonstrated favourable outcomes in terms of students' English proficiency and attitudes (Li, 2020). The study presents a multimodal similarity learning approach, emphasising the significance of collaboration between different symbols and resources to enhance learners' comprehension and proficiency in educational material.

The utilisation of multimodal learning analytics has been employed to investigate the impact of teacher scaffoldings on collaborative programming in K-12 STEM education (Ouyang et al., 2022). The findings suggest that teacher scaffoldings have both immediate and delayed impacts on enhancing collaborative programming traits. This highlights the significance of carefully considering scaffoldings, group characteristics, and scheduling to enhance collaborative learning experiences.

To summarise, the research review showcases the capacity of multimodal scaffolding approaches to enhance reading comprehension and language acquisition results. Teachers can utilise several methods to involve pupils, facilitate the learning of language, and encourage the development of effective communication and critical thinking abilities. Although the studies have demonstrated favourable outcomes, there remains a need for additional inquiry into the difficulties, optimal incorporation of many teaching methods alongside multimodal approaches, and examination of the long-term effects on language acquisition achievements. These findings provide essential knowledge for language educators who are looking for novel methods to improve students' language learning experiences.

The discipline of business English reading (BER) teaching has shown growing interest in incorporating multimodal scaffolding strategies to enhance language learning experiences. Research has investigated the possibility of using many forms of communication, including visual representations, audio aspects, interactive materials, and technology-based tools, to support learners in acquiring language skills.

Case studies have provided insight into the multimodal literacies of students in BER classes, examining their utilisation of PowerPoint (PPT) slides and identifying trends in the representation of genre and language-image pairings. Nevertheless, these studies have also recognised the necessity of improving students' proficiency in technology and media literacy, guaranteeing their ability to critically evaluate online information resources in order to enhance their multimodal abilities.

A paradigm that combines multimodality and translanguaging has been suggested for examining the process of creating meaning in online English teaching videos. This framework highlights the importance of taking into account social justice and raciolinguistic ideology in language instruction (Ho & Feng, 2022, p. 3). These findings support the use of expert guidance in language classes, which promotes student-centered practises and encourages collaborative design processes that use multiple modes of communication. This approach empowers learners to effectively navigate and create texts that use multiple modes of communication (Mills, 2010).

The advantages of integrating multimodal scaffolding into BER (Beginning English Reading) instruction have been proven in many settings. Instructional scaffolding and multimodal texts were discovered to improve reading comprehension in Thai English as a Foreign Language (EFL) students, particularly those with poor competency (Rattana, 2022). Japanese EFL oral communication classes utilised multimodal scaffolding via drama workshops to enhance students' oral communication abilities and include them in significant learning encounters (Nfor, 2020). In addition, the study investigated the use of both multimodal and scaffolding teaching theories in the context of second language acquisition. The aim was to transition from a conventional teacher-centered method to a student-centered approach, thereby enhancing students' English competence (Ji & Luo, 2019).

The Superstar platform is an effective technology scaffold for enhancing business English reading teaching due to the versatility of multimodal scaffolding. Teachers may effectively facilitate language activities by utilising the diverse communication modes and interactive features provided on Superstar. This platform enables them to break down difficult texts into smaller, more manageable steps for learners. This integration facilitates understanding, enhances the acquisition of skills, and encourages active participation of students, hence boosting both independent and collaborative learning experiences (Superstar Research Team, 2018).

In order to guarantee the efficiency and durability of these multimodal scaffolding strategies, more research should incorporate larger and more varied samples, including numerous educational environments and student groups. In addition, performing multidimensional analyses and integrating both qualitative and quantitative research methodologies could yield more robust outcomes. It would be advantageous to investigate the lasting effects and applicability of these multimodal scaffolding strategies to additional language abilities and competencies. This research would contribute to the advancement of evidence-based language teaching practises in the digital era. Through the ongoing improvement and broadening of our knowledge on effective multimodal scaffolding, educators may establish dynamic and captivating language learning settings that enable learners to excel in the field of business English reading.

The incorporation of multimodal scaffolding techniques on the Superstar platform offers a novel method for improving language learning experiences. Liu's study (2022) demonstrated that incorporating modern information technology and education in business English teaching at higher vocational colleges can lead to interactive and engaging learning experiences for students. By utilising multimodal and media resources, these experiences are enhanced. Liu's study, carried out in a vocational college in Guangzhou, revealed that employing a multimodal teaching method had a substantial positive impact on students' proficiency in writing business English. Additionally, it facilitated greater interaction between teachers and students, improved their ability to read and comprehend multimodal texts, enhanced critical thinking skills, and increased awareness of cross-cultural business communication (Liu, 2022, p. 58). The favourable results underscore the capacity of student-centered learning and underscore the significance of comprehending students' requirements to coincide with efficacious educational concepts.

In addition, the research conducted by Wang et al. (2019) provides evidence for the efficacy of utilising the Learning Tong programme (Superstar) in various educational settings. Their study on the utilisation of Superstar in a pharmacology course exhibited enhanced examination scores and perceived educational efficacy, suggesting that the platform enables autonomous and personalised learning, fostering a thorough comprehension of subject matter (Wang et al., 2019). Although the study offers useful insights, future research should focus on addressing potential confounding variables in study design or implementation and critically evaluating the theoretical foundation and existing literature that justify the adoption of the Learning Tong teaching modality.

Integrating problem-based teaching methodologies on the Superstar platform can yield advantages, as emphasised by Chen Yi's study (2021) on the efficacy of problem-based teaching in business English for undergraduate students majoring in English. The study uncovered that the participants showed a preference for problem-based tasks that were connected to business English communication. Additionally, they reported experiencing favourable improvements in their soft skills. The study provided pragmatic approaches for incorporating problem-based instruction in both Chinese and international settings, highlighting the significance of varied issue types, activities, extensive application, collaborative discussions, and instructor feedback (Chen Yi, 2021). Nevertheless, the study's comprehensiveness and practical consequences would be improved by providing further information on the methodology, data analysis, and particular proof of effectiveness in implementing Fanya-Chaoxing at Shanghai Ocean University.

The use of multimodal scaffolding on the Superstar platform requires careful curriculum design that utilises the platform's features to promote interactive learning experiences. Teachers can incorporate several forms of communication, including video, audio, graphics, and interactive materials, to enhance understanding and promote critical thinking among students. Organising collaborative activities and group conversations can effectively foster awareness of cross-cultural corporate communication and facilitate the development of soft skills. In addition, by implementing problem-based teaching methodologies using Superstar, learners can be empowered to actively participate in corporate English communication scenarios, so promoting a more profound comprehension of language and its practical use in real-life situations.

For the successful and efficient use of multimodal scaffolding on the Superstar platform, teachers should consistently evaluate and improve their teaching methods by considering learner

feedback and learning outcomes. Moreover, doing additional study to investigate the influence of these methods in various educational environments and evaluating the efficacy of different multimodal support techniques will enhance the continuous advancement of language teaching practises based on empirical evidence. The Superstar platform offers a flexible tool for instructors to enhance language acquisition and provide an interactive and stimulating learning experience by incorporating technology and multimodal approaches.

Research Questions 2: *What is the effectiveness of multimodal scaffolding in Business English Reading (BER)?*

Researchers have recently investigated the use of multimodal scaffolding in Business English reading education as a means to improve students' reading comprehension skills. Multimodal scaffolding involves employing several forms of representation, including text, graphics, images, videos, and audio, to assist students in their learning and comprehension (Mamun et al., 2020; Rattana, 2022). This method recognises the various ways in which students comprehend information and interact with texts, accommodating unique learning styles and preferences (Ji & Luo, 2019). Through the provision of many modalities, students are exposed to diverse semiotic resources, which enhances their comprehension and retention of knowledge (Kasch, 2018).

Research conducted in this field has shown encouraging outcomes. For example, Rattana (2022) employed instructional scaffolding and multimodal texts in an English as a Foreign Language (EFL) setting, resulting in favourable outcomes for students' reading comprehension, particularly for learners with lower levels of proficiency. In a similar manner, Nfor (2020) utilised multimodal scaffolding by means of theatre workshops. These workshops effectively involved students, facilitated the learning process, and encouraged the development of crucial multimodal aspects for efficient oral communication.

Furthermore, studies have also examined the incorporation of multimodal literacy practises in the English Language Arts (ELA) classroom. Boche and Henning (2015) demonstrated the enhancement of students' conversations and comprehension of intricate texts by the utilisation of diverse multimodal resources, including film clips, visuals, and technology. The study demonstrated that the inclusion of multimodal materials resulted in enhanced comprehension and elevated cognitive abilities.

Although the utilisation of multimodal scaffolding in the teaching of Business English reading demonstrates encouraging prospects, several studies admit specific constraints. For instance, certain research studies have utilised limited sample sizes, hence constraining the potential to apply the findings to a broader population (Rattana, 2022; Boche & Henning, 2015). Subsequent investigations should strive to incorporate more extensive and heterogeneous samples in order to acquire complete and dependable findings. Furthermore, it is imperative for studies to investigate the enduring consequences of multimodal scaffolding and its efficacy in various educational settings (Mamun et al., 2020). It is imperative to thoroughly analyse the potential obstacles in applying multimodal scaffolding and to assess its applicability to different student demographics and situations (Boche & Henning, 2015).

To summarise, the incorporation of multimodal scaffolding in Business English reading education shows potential for improving students' understanding abilities and involvement with texts. Multimodal scaffolding supports individual requirements and enhances meaningful learning experiences by incorporating multiple learning methods and providing a range of semiotic resources. However, additional research using larger sample numbers and various situations is required to authenticate and broaden the existing findings in this field. The implementation of multimodal scaffolding approaches on the Superstar platform has demonstrated potential in college-level business English reading instruction, as indicated by successful case studies conducted in several educational settings.

A study conducted by Kula and Budak (2020) investigated the impact of reciprocal teaching (RT) on the development of reading comprehension abilities in a 4th-grade Turkish classroom. The study utilised an experimental methodology and gathered data through the administration of achievement assessments, a self-efficacy measure, and student interviews. The findings demonstrated that the group that got RT training, known as the experimental group, achieved higher levels of reading comprehension and retention compared to the control group. The study proposed the integration of Reciprocal Teaching (RT) into the Turkish curriculum as a means to improve reading comprehension abilities and information retention. The study further recommended that experts in programme development should investigate and adopt RT, while teachers should undergo training to proficiently implement this technique (Kula & Budak, 2020).

Berenji (2021) conducted a study that investigated the influence of problem-based learning (PBL) on the awareness of metacognitive reading methods and comprehension capacity of English as a Foreign Language (EFL) learners. The study comprised of two cohorts of elementary level English as a Foreign Language (EFL) students. One cohort was assigned to the experimental group, which received Project-Based Learning (PBL) instruction. The other cohort was assigned to the control group, which got standard lecture-based teaching. The results indicated that the experimental group showed a notable increase in their knowledge of metacognitive reading methods and showed enhanced comprehension skills in comparison to the control group. The beneficial influence of PBL on learners' metacognitive awareness and comprehension ability is consistent with prior studies on the efficacy of instruction in improving learners' metacognitive techniques and knowledge. The study emphasised the significance of cooperation, scaffolding, self-directed learning, and reflection in promoting successful learning outcomes in the English as a Foreign Language (EFL) setting (Berenji, 2021, p. 79).

In addition, Guo et al. (2023) conducted a study to examine the effects of scaffolding strategies based on blended learning (BL) on students' self-efficacy and willingness to communicate (WTC) in English as a Foreign Language (EFL) environments. The study included proficient and advanced English as a Foreign Language (EFL) learners, who were divided into an experimental group and a control group. The results indicated that the use of scaffolding had a favourable impact on learners' self-efficacy and willingness to communicate (WTC), resulting in enhanced confidence and motivation in English language communication. The study highlighted the significance of customising scaffolding to match the specific requirements and skill levels of learners in order to guarantee its efficacy. Moreover, it emphasised the significance of instructors in enhancing learning experiences and establishing a favourable and relaxed learning atmosphere to augment learners' motivation to interact in the desired language (Guo et al., 2023).

The successful application of multimodal scaffolding on the Superstar platform is demonstrated through these case studies in college business English reading education, highlighting its potential. By incorporating strategies such as reciprocal teaching, problem-based learning, and blended learning with customised scaffolding, it is possible to significantly improve students' abilities in reading comprehension, metacognitive awareness, self-efficacy, and willingness to speak in English. Through the adoption of technology and the use of several modes of teaching, educators may design interactive and captivating learning experiences that empower learners in their journey to acquire language skills. This method promotes a more profound comprehension of language and its practical use in real-life business settings. The Superstar platform provides a flexible tool for educators to enhance their teaching methods and improve language learning outcomes.

Research Question 3: *What are the contributors towards the effectiveness of multimodal scaffolding in Business English Reading (BER) on the Superstar platform?*

Recently, there has been a growing emphasis on incorporating multimodal teaching models in language education. These models integrate digital information technology to overcome the limitations of traditional teaching methods (Wu, 2022). The Superstar Platform, an online learning platform, has been acknowledged for its capacity to provide multimodal scaffolding in the field of Business English Reading (BER) instruction (Wang et al., 2019; Chen Yi, 2021). Multimodal teaching encompasses the integration of several modalities, including visual, auditory, and kinesthetic components, to establish a comprehensive and engaging learning setting (Niu, 2022). The objective of this section is to determine the primary elements that impact the efficiency of multimodal scaffolding on the Superstar Platform, by analysing findings from multiple trials.

The utilisation of digital data technology and artificial intelligence (AI) is a crucial component that affects the efficiency of multimodal scaffolding on the Superstar Platform (Wu, 2022). The incorporation of artificial intelligence (AI) has facilitated the creation of AI-driven programmes and tools that assist educators and learners in the process of language acquisition (Dong et al., 2022). The platform employs AI technology to provide personalised and interactive learning experiences through English multimode online reading. This enhances students' language abilities and autonomy (Dong et al., 2022). Nevertheless, it is imperative to thoroughly evaluate prospective obstacles pertaining to privacy, data security, and excessive dependence on technology (Niu, 2022). Additional investigation and testing are required to definitively show the long-term viability and effectiveness of AI-powered multimodal discourse instruction on the Superstar Platform.

The success of multimodal scaffolding on the Superstar Platform is significantly influenced by the flexible integration of different modalities to meet the requirements and interests of varied learners (Chen Yi, 2021). Through the integration of many modalities, such as visuals, audio, and text, educators have the ability to develop captivating and dynamic learning experiences that improve students' understanding and analytical skills (Niu, 2022; Liu, 2022). Furthermore, the utilisation of multimodal teaching methods enhances the process of internalising knowledge and increases the longevity of memory, resulting in enhanced learning achievements and heightened student excitement and confidence (Rong, 2019; Liu, 2022).

The effectiveness of multimodal scaffolding is influenced by the availability of a wide range of resources and activities on the Superstar Platform. The platform provides a diverse range of multimedia resources, such as films, photos, and interactive exercises, that assist teachers in establishing a genuine and standardised English language environment for learners (Tuo & Long, 2022; Chen Yi, 2021). These materials empower educators to create captivating and interactive classes that accommodate the diverse learning preferences and styles of students, eventually improving learning outcomes and fostering learner engagement (Tuo & Long, 2022).

Moreover, the significance of human-computer collaboration in multimodal scaffolding on the Superstar Platform is crucial. The combination of human-computer interaction enables the efficient utilisation of digital technology and educational resources to facilitate language acquisition (Tuo & Long, 2022). The partnership between educators and the platform facilitates the development of a dynamic and engaging educational setting, fostering efficient understanding and language proficiency (Tuo & Long, 2022). Nevertheless, instructors must confront the challenge of effectively addressing students' attention shifting and classroom management issues within the framework of human-computer collaboration (Tuo & Long, 2022).

Ultimately, the impact of multimodal scaffolding on the Superstar Platform in Business English Reading (BER) education is determined by various crucial elements. The amalgamation of digital data technology and artificial intelligence (AI) enables tailored and interactive learning encounters, however prudent contemplation of potential obstacles is needed. The platform's ability to seamlessly include several modalities and offer a wide range of resources and activities enables the creation of captivating and interactive classes. Furthermore, the significance of human-computer collaboration in establishing a dynamic learning environment is paramount. Instructors may maximise the benefits of multimodal scaffolding on the Superstar Platform by carefully considering and optimising these elements. This will lead to improved language learning outcomes and increased student engagement specifically in the area of Business English Reading. Nevertheless, additional investigation and empirical testing are required to comprehensively comprehend and optimise the effectiveness and durability of this pedagogical method.

CONCLUSION

This review comprehensively assesses the effectiveness of multimodal scaffolding in instructing business English reading on the Superstar Platform and its implications for higher education business English training. Studies have demonstrated that the use of multimodal scaffolding, which integrates various digital resources and technologies, has a substantial capacity to enhance language learning experiences and outcomes. Wu (2022) effectively used a multimodal English teaching paradigm in their research, which led to a significant improvement in English proficiency and general language competence among college students.

Niu (2022) highlighted the importance of adapting language instruction to the changing technological landscape by using AI into multimodal discourse teaching. Furthermore, Zhang et al. (2022) emphasised the potential benefits of employing AI-assisted multimodal teaching methods in language courses, namely in improving students' spoken English skills and attitudes.

The Superstar Platform and other AI-driven technologies, like chatbots (Chen Yi, 2021), showcased innovative approaches to personalised language learning, providing valuable insights into the future of digital language instruction. The Superstar Platform is a valuable tool for language educators, offering a versatile and responsive environment for multimodal support. The integration of AI-powered features and extensive multimedia resources enables the creation of engaging and dynamic language learning experiences (Wang et al., 2019). By utilising the features of the Superstar Platform, instructors may effectively meet the diverse needs and proficiency levels of learners, hence promoting independence and increasing language skill development (Niu, 2022).

However, fully using the extensive possibilities of the Superstar Platform and multimodal scaffolding in teaching business English reading requires collaborative efforts among educators, researchers, and platform developers. In order to optimise the platform's utility, it will be crucial to address concerns related to technology accessibility, content curation, and student engagement (Dong et al., 2022). In addition, continuous research and examination in the field of language acquisition and the incorporation of technology will drive advancement and development in digital language education (Zhang et al., 2022).

In summary, the Superstar Platform presents a promising prospect for language educators seeking efficient and engaging language training techniques. Utilising both multimodal scaffolding and AI-driven elements can enhance language learning experiences and cultivate students' language competency and cultural sensitivity. To fully maximise the potential of this platform, future research should focus on addressing the shortcomings in business English reading teaching and investigating the unique opportunities and challenges within this specific context. In order to fully utilise the Superstar Platform, language educators may enable learners to improve their proficiency and intercultural communication abilities in business English.

REFERENCES

Al Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, *144*, 103695.

Berenji, S. (2021). Enhancing metacognitive scaffolding and comprehension ability through problem-based learning in an EFL context. *Education Research International*, *2021*, 1-9.

Boche, B., & Henning, M. (2015). Multimodal scaffolding in the secondary English classroom curriculum. *Journal of adolescent & adult literacy*, *58*(7), 579-590.

Chen, Y. C. (2022). Effects of technology-enhanced language learning on reducing EFL learners' public speaking anxiety. *Computer Assisted Language Learning*, 1-25.

Dong, J., Fu, J., Zhou, P., Li, H., & Wang, X. (2022). Improving Spoken Language Understanding with Cross-Modal Contrastive Learning. In *INTERSPEECH* (pp. 2693-2697).

Ferstephanie, J., & Pratiwi, T. L. (2023). Teachers' Beliefs of Using Multimodal Resources in Teaching English Skills. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 10*(2), 1981-1998.

Guo, K., Zhong, Y., Li, D., & Chu, S. K. W. (2023). Effects of chatbot-assisted in-class debates on students' argumentation skills and task motivation. *Computers & Education*, 104862.

Hermkes, R., Minnameier, G., & Heuer-Kinscher, M. (2022). A processual perspective on whole-class-scaffolding in business education. *International journal for research in vocational education and training*, *9*(2), 216-238.

Ho, W. Y. J., & Feng, D. (2022). Orchestrating multimodal resources in English language teaching: a critical study of an online English teaching video. *Pedagogies: An International Journal*, *17*(4), 368-388.

Ji, J., & Luo, C. (2020, January). Scaffolding theory study based on multimodality. In *5th International Conference on Economics, Management, Law and Education (EMLE 2019)* (p. 1107-1110). Atlantis Press.

Kasch, H. (2018). New Multimodal Designs for Foreign Language Learning. *Learning Tech*, (5), 28-59.

Koyuncu, S., Kumpulainen, K., & Kuusisto, A. (2023). Scaffolding children's participation during teacher–child interaction in second language classrooms. *Scandinavian Journal of Educational Research*, 1-15.

Kula, S. S., & Budak, Y. (2020). Self-efficacy perceptions scale for reading comprehension of 4th grade students in primary school: Validity and reliability study. *Bartın University Journal of Faculty of Education*, *9*(1), 106-120.

Lawrence, Joshua F., et al. "Reading comprehension and academic vocabulary: Exploring relations of item features and reading proficiency." *Reading Research Quarterly* 57.2 (2022): 669-690.

Liu, Z. (2022). Introducing a multimodal perspective to emotional variables in second language acquisition education: Systemic functional multimodal discourse analysis. *Frontiers in Psychology*, *13*, 1016441.

Mills, K. A. (2010). A review of the "digital turn" in the new literacy studies. *Review of educational research*, *80*(2), 246-271.

Namaziandost, E., Razmi, M. H., Ahmad Tilwani, S., & Pourhosein Gilakjani, A. (2022). The impact of authentic materials on reading comprehension, motivation, and anxiety among Iranian male EFL learners. *Reading & Writing Quarterly*, *38*(1), 1-18.

Nfor, S. (2020). Multimodal scaffolding teaching: Role-taking or role-creating in an English as a Foreign Language (EFL) oral communication class in Japan. *Scenario: A Journal for Performative Teaching, Learning, Research*, *14*(1), 24-43.

Niu, L., Wang, X., Wallace, M. P., Pang, H., & Xu, Y. (2022). Digital learning of English as a foreign language among university students: How are approaches to learning linked to digital competence and technostress? *Journal of Computer Assisted Learning*, *38*(5), 1332-1346.

Ouyang, F., Dai, X., & Chen, S. (2022). Applying multimodal learning analytics to examine the immediate and delayed effects of instructor scaffolding on small groups' collaborative programming. *International Journal of STEM Education*, *9*(1), 45.

Ratana-Ubol, A., (2022). Cultural learning processes through local wisdom: A case study on adult and lifelong learning in Thailand. *International Journal of Adult Vocational Education and Technology (IJAVET)*, *6*(2), 41-60.

Sohn, B. G., & Spiliotopoulos, V. (2021). Scaffolding peer interaction within a language-and-content integrated business curriculum: A case study in a western Canadian university. In *Meaningful teaching interaction at the internationalised university* (pp. 80-96). Routledge.

Stephens, M., & Kaiser, M. R. (2018). A comparison of visual and audio scaffolds in L2 English reading. *Indonesian Journal of Applied Linguistics*, *8*(2), 380-387.

Tuo, M., & Long, B. (2022). Construction and application of a human-computer collaborative multimodal practice teaching model for preschool education. *Computational Intelligence and Neuroscience*, *2022*.

Wang, Y., Shen, Y., Liu, Z., Liang, P. P., Zadeh, A., & Morency, L. P. (2019, July). Words can shift: Dynamically adjusting word representations using nonverbal behaviors. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 33, No. 01, pp. 7216-7223).

Wu, J. Y. (2022). Deploying multimodal learning analytics models to explore the impact of digital distraction and peer learning on student performance. *Computers & Education*, *190*, 104599.

Zhang, L., Hu, A., & Jin, Q. (2022). Generalizing multimodal pre-training into multilingual via language acquisition. *arXiv preprint arXiv:2206.11091*.