Research Synthesis

The Use of Digital Role-Play for Speaking Practice: A Systematic Literature Review

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Abstract
This study investigates the use of digital role-play approach for developing speaking skills. The study focuses on the following dimensions: (a) the classification of types of technology, (b) type of the role-play, (c) language and communicative aspects; (d) methodological framework for implementing digital role-play, (e) applications of digital role-play in educational and professional contexts, (f) the role of collaboration and interaction in digital role-play, (g) challenges in digital role-play implementation and proposed solutions. Ethical considerations in the design and implementation in the reviewed articles were also explored. A systematic review was conducted following the PRISMA methodology for peer-reviewed articles published between 2015 and 2024 (December). The review categorized technologies into platforms for creating, engaging and accessing role-play content, including AI chatbots, MMORPGs, and vlogging platforms. Applications extend beyond language learning to professional skills development, such as negotiation and presentation. Findings highlight significant improvements in fluency, pronunciation, vocabulary, and reduced anxiety and increased confidence. The importance of ethical considerations, including data privacy and inclusivity, underlines the need for careful implementation. This research highlights the importance of digital role-play as a powerful tool for engaging learners and enhancing speaking practice across diverse learning environments.

Keywords
Digital, role-play, speaking, technology, language learning

Introduction

In our modern society, the integration of digital technology into education has changed the way speaking skills are developed and practiced, particularly through innovative approaches like digital role-play (Bakan et al., 2022; Berry et al., 2022; Chen & Wu, 2021). This educational approach enables students to engage with immersive scenarios created by interactive tools, fostering the development of practical skills, professional behaviors, and critical decision-

making competencies essential for success in their respective roles (Huang, 2020; Katemba & Grace, 2023; Keezhatta, 2020).

From a technological perspective, tools employed in digital role-play can be categorized into various categories based on their functions and usage, e.g. immersive tools, multimedia, online platforms, etc. For example, Immersive tools such as Oculus VR and Google Cardboard are particularly notable for their accessibility and ability to replicate authentic conversational settings, fostering engagement and skill retention (Chen & Syu, 2024). Similarly, YouTube videos can be used as authentic input materials to model real-life conversations, which students then reenact through role-play activities (Susanti et al., 2022). This approach can help learners improve their speaking skills by enhancing motivation, building confidence, and providing meaningful practice in a realistic and engaging context. By integrating a role-playing game into a VR-based learning environment, students engage in immersive, scenario-driven interactions that significantly boost their sense of presence, self-efficacy, and extrinsic motivation compared to conventional VR settings (Chen & Syu, 2024). By employing online learning platforms, digital role-play allows for both flexibility and scalability in language learning contexts (Bakan et al., 2022).

Speaking skills are the fundamental component of language acquisition, involving the dynamic processes of producing, receiving, and processing information (Hwang et al., 2024; Shadiev et al., 2024b). Without speech, a language is reduced to a mere script (Shadiev et al., 2023). Students should be able to communicate in English so that they can work together (Zhussupova & Shadiev, 2023). To develop the ability to talk, there are many speaking activities to develop learners' speaking skills, among which we find role-playing activities (Ishak & Aziz, 2022; Kaygısız & Akar, 2025; Mukhbita et al., 2025; Negara, 2021). One of the most notable advantages of digital role-play is its ability to enhance fluency and confidence in speaking (Berry et al., 2022; Chen & Wu, 2021; Chen & Syu, 2024). Research highlights that practicing within controlled digital environments enables learners to experiment with new vocabulary, improve pronunciation, and develop conversational agility without the fear of judgment often associated with traditional classrooms (Huang, 2020; Keezhatta, 2020; Shadiev & Yang, 2020). The use of avatars or alternative identities in digital settings also helps reduce anxiety and encourages participation, particularly among shy or hesitant students (Bakan et al., 2022; Chen & Syu, 2024).

Previous studies have highlighted the close relationship between digital game-based learning and role-play, with many researchers acknowledging the pedagogical value of integrating game elements into language learning contexts (Berry et al., 2022; Chen & Wu, 2021). For example, Lu and Lien (2019) emphasized that digital game-based learning can positively influence students' perceptions of classroom activities, which in turn enhances learning outcomes. Game-based learning and digital role-play intersect by offering interactive, goal-driven scenarios that simulate real-world communication, thereby creating authentic opportunities for speaking practice (Bakan et al., 2022; Chen & Syu, 2024; Squire & Jenkins, 2003; Wu et al., 2014). Features such as avatars, narrative-driven tasks, and real-time feedback not only increase learner engagement but also help reduce anxiety and foster the development of communicative fluency and confidence (Chen & Wu, 2021; Peterson, 2010; Rankin et al., 2006; Wu et al., 2014).

Since role-play methods for improving speaking skills have received increased attention in recent years, several systematic review studies have been conducted to synthesize relevant findings (Ishak & Aziz, 2022; Kaygısız & Akar, 2025; Mukhbita et al., 2025; Negara, 2021).

Ishak and Aziz (2022) examined 20 studies published between 2011 and 2021 on role play as a technique for improving ESL learners' communication skills. The results indicate that role-playing positively influenced students' speaking abilities, enhancing their fluency, comprehension, contextual understanding, and interactive skills. Additionally, role-playing helped students develop greater confidence in communicating in English and increased their motivation to speak English during classroom activities.

Mukhbita et al. (2025) systematically reviewed 15 articles published between 2020-2024 on the effectiveness of role play in developing EFL elementary school students' speaking skills. Their study highlighted consistent evidence that role play positively impacts speaking fluency, pronunciation, vocabulary, and students' motivation and engagement at an early educational stage.

Negara (2021) completed a study, and though the review is not explicitly framed as a systematic review, it presents an analytical literature review supporting role play as an instructional method in speaking instruction. It emphasizes role play's contribution to speaking confidence, linguistic competence, and learner motivation in ESL contexts.

Kaygısız and Akar (2025) carried out a systematic review of 32 peer-reviewed articles published from 2000 to 2023. It evaluates the use of role-playing techniques in both EFL and ESL contexts. It thoroughly explores how role play contributes to enhancing learners' oral proficiency, fluency, vocabulary retention, learner motivation, and classroom participation. The authors recommend role play as a robust pedagogical practice for speaking instruction across diverse language learning settings.

Our analysis of existing review studies on role-play for speaking practice shows that previous studies primarily focused on traditional, non-digital contexts, leaving a significant gap regarding explicitly digital or technology-mediated role-play. Furthermore, existing reviews often included outdated literature (e.g., studies published between 2011-2021), concentrated on specific educational levels such as elementary schools, and some failed to specify the number of studies reviewed. Crucially, prior research did not comprehensively address key aspects such as classification of digital technologies, detailed types of role-play activities, cognitive and affective outcomes, or applications extending into professional contexts. While these studies still provide foundational insights into the pedagogical efficacy of role-play, their findings need to be extrapolated cautiously when applied to digital environments. In contrast, our systematic review explicitly focuses on digital role-play, thoroughly examines technological classifications, varied role-play activities, and their cognitive and affective impacts, and considers both educational and professional settings. Additionally, we address challenges associated with implementing digital role-play, propose potential solutions, and discuss relevant ethical considerations, thereby significantly expanding the scope of current literature.

The following research questions were addressed in the study:

1. What types of technologies have been employed to facilitate digital role-play activities for speaking practice?
2. What specific forms of digital role-play are identified in the literature?
3. Which language and communicative aspects are targeted through digital role-play in the reviewed studies?
4. What methodological frameworks and research designs have been employed in the studies on digital role-play for speaking practice?

5. How is digital role-play applied in both educational and professional contexts?
6. What cognitive and affective outcomes are associated with the use of digital role-play?
7. What challenges are reported in the implementation of digital role-play, and what solutions or strategies are proposed to address them?

Method

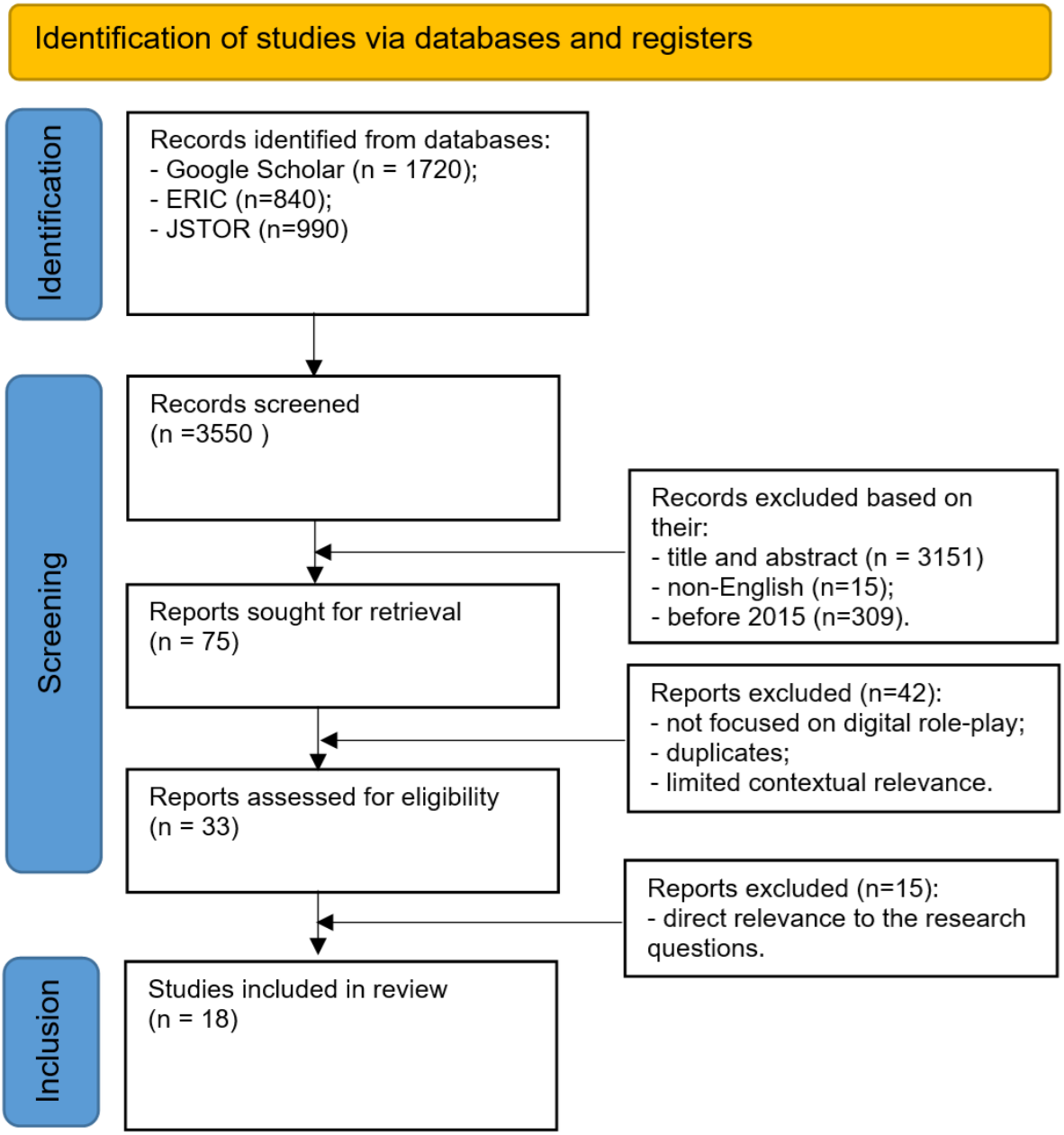
This review was conducted using the preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework (Shadiev et al., 2024a; Shadiev et al., 2025; Shadiev & Yang, 2020). PRISMA is a widely used methodology that facilitates the preparation and reporting of systematic reviews and meta-analyses, ensuring transparency in the research process. The articles for this review were sourced from academic databases: Google Scholar, Scopus, and ERIC. These platforms were chosen for their relevance, comprehensiveness, and accessibility to research on digital role-play in language learning. They provide a strong foundation for identifying studies across various academic disciplines and ensure access to high-quality literature. The search was conducted using a combination of keywords related to the topic. The Boolean search string included: *"speaking" AND ("digital" OR "technology") AND "role-play" OR ("simulation" OR "virtual") OR ("MMORPG" OR "electronic") AND "language teaching," OR "language instruction" OR "language learning" OR "language acquisition," OR "language development," OR "language education."* Articles published between 2015 and 2024 were included to ensure the recency and relevance of the findings. The following inclusion criteria were applied during article selection: (1) studies published between 2015 and 2024 as starting from 2015 ensures the inclusion of studies that reflect the recent and relevant developments in digital technologies, such as VR, AI, and online platforms, which have become more accessible and pedagogically integrated over the last decade; (2) full-text availability of articles; (3) articles published in peer-reviewed journals; (4) articles written in English;(5) studies focusing specifically on digital role-play for developing speaking skills in English/ESL/EFL contexts.

According to Figure 1, the systematic search initially yielded **3,550** articles. After screening titles and abstracts, **3,151** articles were excluded due to irrelevance. Additionally, **324** articles published in languages other than English or before 2015 were excluded. Following a full-text review, another **42** studies that did not meet the inclusion criteria were removed, resulting in a preliminary selection of **33** articles. From this set, **15** studies were further excluded due to insufficient alignment with the research questions and inclusion criteria, leaving a final sample of **18** articles for analysis.

To address the research questions, the review adopted an analytical framework informed by relevant studies on digital role-play for speaking (Bakan et al., 2022; Berry et al., 2022; Chen & Wu, 2021; Huang, 2020; Katemba & Grace, 2023; Keezhatta, 2020) and structured around the following dimensions: (1) classification of types of technology used in digital role-play - this dimension identifies and categorizes the technological tools (e.g., VR, online platforms, game-based applications) employed to facilitate digital role-play activities.; (2) type of role-play - this involves distinguishing among various role-play formats such as simulations, asynchronous scenarios, and massively multiplayer online role-playing games (MMORPGs), based on their structure and interaction modes; (3) language and communicative aspects addressed by the studies - this dimension examines the specific language skills and communicative competencies targeted by digital role-play, such as fluency, pragmatics, pronunciation, or interactive strategies; (4) applications of digital role-play in educational and professional contexts - it explores how digital role-play is applied in both academic and workplace-based settings, including its integration into curricula and job-related training

programs; (5) cognitive and affective outcomes of digital role-play activities - this focuses on learning outcomes such as knowledge acquisition, critical thinking, motivation, engagement, confidence, and anxiety reduction; (6) challenges in implementation and proposed solutions - this dimension identifies common barriers to the effective use of digital role-play (e.g., technical limitations, teacher readiness) and discusses strategies proposed to overcome them; (7) ethical considerations in the design and execution of digital role-play - it examines how studies address ethical concerns such as data privacy, informed consent, inclusivity, and the psychological impact of immersive or role-based interactions.

Figure 1
Article Selection Process Following PRISMA Protocol



An open coding approach was used to analyze the selected articles (Shadiev et al., 2025). Codes were grouped into several categories based on the analytical framework dimensions. The coding process involved all three researchers to ensure reliability and minimize bias. To

establish inter-rater reliability, each researcher initially coded a subset of the articles independently. Coding results were then compared to identify discrepancies and assess agreement. Differences were thoroughly discussed and resolved through consensus meetings. This iterative process continued until consistent agreement was reached across all coders. The final inter-rater reliability, as measured by Cohen's Kappa, was 0.91, indicating excellent agreement and reinforcing the reliability and validity of the analytical outcomes.

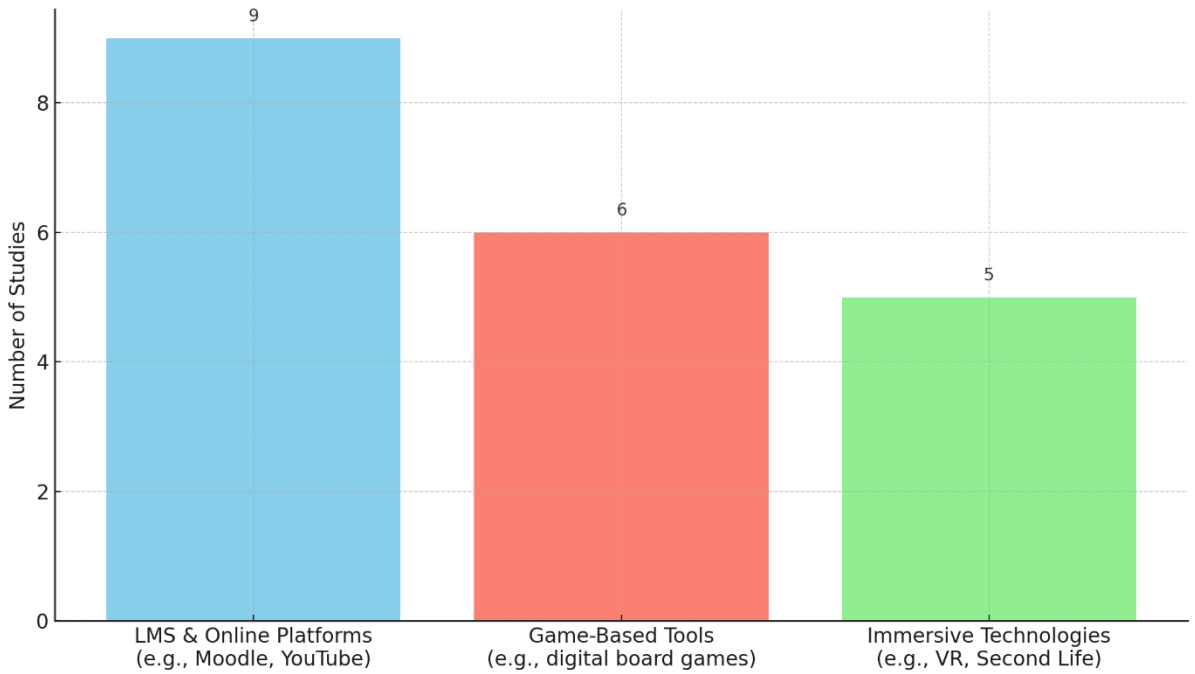
Results

Classification of types of technology

The reviewed studies employed diverse technologies for role-play implementation. Technological tools overview can be found in Appendix A. These tools can be grouped into three categories: (1) learning management systems and online platforms for asynchronous interactions, including Moodle and YouTube (n = 9); (2) immersive technologies, such as Virtual Reality (VR) headsets and 3D gaming environments like Second Life (n = 5); and (3) game-based tools, including digital board games and simulation software (n = 6). Among immersive tools, VR headsets like Oculus VR and smartphone-enabled tools like Google Cardboard were particularly emphasized for their accessibility and engagement.

Figure 2

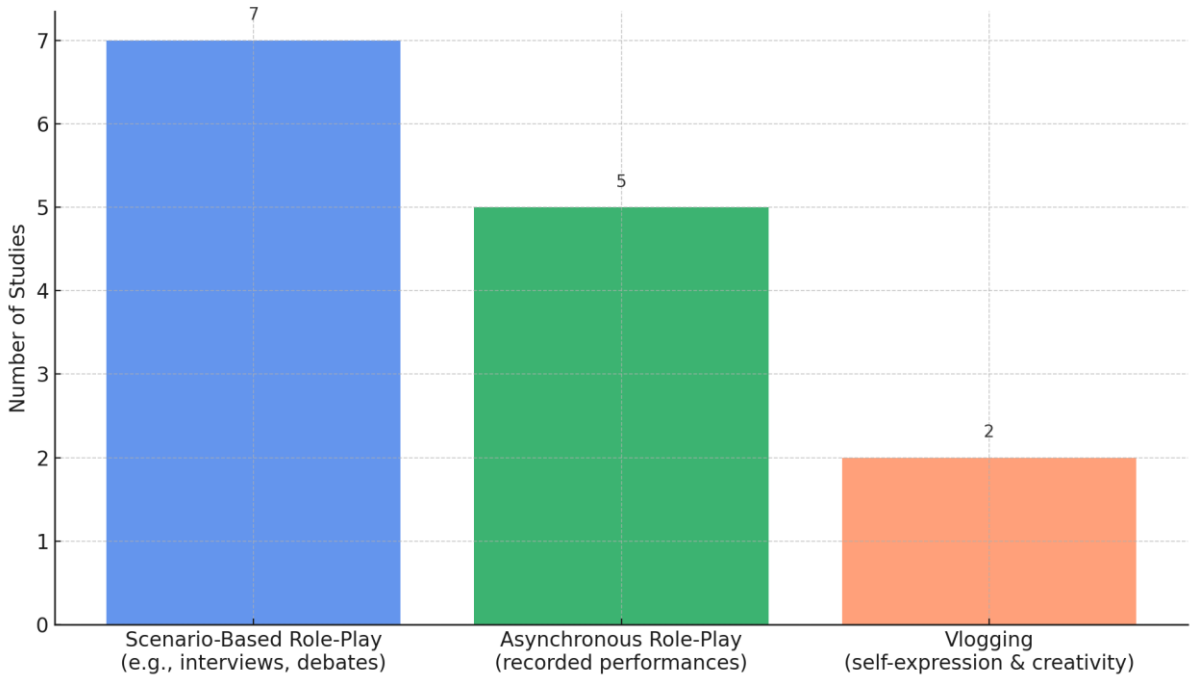
Categories of Technologies Used in Digital Role-play Studies



Type of role-play

The reviewed studies explored various types of role-play, emphasizing their adaptability to diverse learning needs. Sample of some role-play scenarios can be found in Appendix B. Scenario-based role-play was the most prevalent, simulating real-world contexts such as interviews, customer service interactions, and public debates (n=7). Asynchronous role-play was another notable approach, enabling learners to record individual performances and combine them into cohesive narratives without the constraints of real-time participation (n=5). Additionally, vlogging emerged as a creative and flexible alternative, encouraging self-expression and linguistic experimentation in a non-scripted format (n=2).

Figure 3
Types of Role-Play Used in Reviewed Studies



Language and communicative aspects

The results demonstrated significant linguistic and communicative benefits from role-play interventions. Linguistic improvements included enhanced vocabulary acquisition, pronunciation, grammatical precision, and overall fluency (n=12). Communicative competence was equally emphasized, with students developing pragmatic skills such as turn-taking, negotiation, and adapting emotional expressions for diverse conversational contexts (n=8).

Methodological framework

Role-play activities were frequently grounded in established learning theories and methodological frameworks. Experiential learning models, such as Kolb's learning cycle, guided the reflective and iterative design of role-play tasks (n=4). Many studies employed quasi-experimental designs, utilizing pre- and post-tests to measure gains in linguistic competence and communication skills (n=7). These frameworks often included structured scenarios, continuous feedback, and opportunities for reflective practice to reinforce learning outcomes.

Applications in educational and professional contexts

Role-play demonstrated versatility in both educational and professional contexts. Within academic settings, role-play enhanced classroom engagement, improved speaking confidence, and facilitated the application of English skills in simulated real-world scenarios (n=10). In professional domains, role-play was utilized to develop critical workplace skills such as problem-solving, collaboration, and public speaking, bridging theoretical learning with practical applications (n=5).

Cognitive and affective outcomes

The cognitive and affective impacts of role-play were widely documented. Cognitive outcomes included improved critical thinking, decision-making, and language retention, particularly through immersive and scenario-driven activities (n=8). Affective outcomes were equally

significant, with learners reporting reduced speaking anxiety, heightened self-confidence, and increased motivation to engage in communicative tasks (n=9). Learner feedback samples regarding the perceived benefits and experiences of participating in digital role-play activities can be found in Appendix C.

Challenges in implementation and proposed solutions

The reviewed studies also highlighted challenges in implementing role-play. Technological barriers, such as limited access to devices and poor internet connectivity, were frequently reported (n=6). Pedagogical challenges included ensuring equitable participation and aligning role-play activities with curricular objectives (n=4). To address these issues, several solutions were proposed, including technical training, clear instructional guidelines, and the integration of motivational elements to sustain learner engagement (n=5).

Ethical considerations in the design and implementation in the reviewed articles were also explored. They were primarily concerned with ensuring data privacy in accordance with regulations such as GDPR and CCPA, promoting inclusivity through accessible and culturally sensitive role-play designs, and securing informed consent for data collection and the use of recorded role-play sessions.

Discussion

Classification of types of technology

The studies reveal a diverse arrangement of technologies underpinning role-play, ranging from basic asynchronous tools to immersive virtual environments. Tools such as learning management systems and asynchronous discussion boards enable flexibility in role-play activities, allowing learners to interact without real-time constraints (Madzlan et al., 2023; Najjemba & Cronjé, 2020). Advanced technologies, including virtual reality (VR) platforms and MMORPGs, create engaging environments for practicing conversational and problem-solving skills (Rankin, Gold, & Gooch, 2006; Damio & Ibrahim, 2019). Additionally, game-based learning technologies such as digital board games were found to integrate gamification elements, promoting motivation and active participation (Wu, Chen, & Huang, 2014).

These findings highlight the adaptability of digital tools in meeting varying learner needs, from low-tech asynchronous approaches to high-tech immersive platforms. Extending this, integrating mobile-first applications could bridge the accessibility gap in resource-limited settings, ensuring broader participation in digital role-play activities. For example, Rankin, Gold and Gooch states that game-informed practices give students an opportunity to learn concepts in a situated manner.

Type of role-play

Role-play in the reviewed studies spanned a spectrum from traditional scripted formats to innovative digital alternatives. Scenario-based role-plays, simulating real-world interactions like interviews or customer service, were most frequently employed for practical language application (Rojas & Villafuerte, 2018; Keezhatta, 2020). Asynchronous role-play emerged as an effective solution for learners requiring flexibility, enabling them to record and refine their performances individually (Madzlan et al., 2023). Vlogging, identified as a creative alternative to traditional role-play, encouraged self-expression and experimentation with language use in informal settings (Choi & Sinwongsuwat, 2024).

Immersive and collaborative role-play formats, such as digital RPGs and VR-based environments, were particularly effective in fostering engagement and communication skills

(Chen & Wu, 2021; Damio & Ibrahim, 2019). These findings suggest that future research could explore hybrid models combining the structure of scripted role-play with the adaptability and creativity of unscripted formats.

Language and communicative aspects

From the studies, it is evident that role-play fosters improvements in linguistic areas such as vocabulary acquisition, fluency, and pronunciation. For instance, Madzlan et al. (2023) demonstrated that asynchronous role-play allowed learners to refine verbal and non-verbal communication skills through multiple recordings and reflective practices. Similarly, digital board games provided engaging contexts for learners to negotiate meaning and practice pragmatic communication (Wu, Chen, & Huang, 2014). These findings extend the understanding of how task-based interactions can support not only linguistic competence but also contextual language use.

Moreover, digital role-play tools such as MMORPGs were shown to foster conversational skills through real-time social interactions. Rankin, Gold, and Gooch (2006) emphasized how these platforms create authentic scenarios requiring learners to adapt their language to diverse communication challenges. Extending this, the inclusion of culturally situated dialogue, as suggested by Rojas and Villafuerte (2018), could further enhance intercultural competence—a critical skill in today's globalized world.

Methodological framework

The adoption of experiential learning theories, such as Kolb's learning cycle, underscores the importance of active experimentation and reflection in language acquisition (Madzlan et al., 2023). By integrating these frameworks, role-play not only engages learners but also deepens their understanding of complex linguistic structures. This approach aligns with findings from Chen and Wu (2021), where digital role-playing games facilitated critical thinking and assumption evaluation.

The use of mixed methods provided a nuanced understanding of role-play's impact on cognitive and affective dimensions. The studies reviewed also highlight the role of creative formats, such as vlogging, in diversifying methodological approaches. Vlogging's ability to encourage autonomy and self-expression presents a promising avenue for future research, particularly in its application to underrepresented learner demographics, such as those in non-traditional educational settings (Choi & Sinwongsuwat, 2024).

Applications in educational and professional contexts

The reviewed studies highlighted the versatility of role-play in both educational and professional settings. In academic contexts, role-play enhanced learners' engagement, reduced anxiety, and fostered the practical application of English skills in simulated scenarios (Katemba & Grace, 2023; Keezhatta, 2020). Professional applications included training in public speaking, teamwork, and problem-solving, with virtual environments offering authentic contexts for practicing workplace communication (Damio & Ibrahim, 2019).

Digital tools such as VR platforms and MMORPGs bridged the gap between academic and professional learning, enabling learners to navigate real-world challenges in immersive settings (Rankin, Gold, & Gooch, 2006). Extending this, role-play activities could incorporate sector-specific scenarios, such as healthcare or legal negotiations, to further align with professional demands.

Cognitive and affective outcomes

Role-play consistently demonstrated cognitive benefits, including improved critical thinking, decision-making, and problem-solving skills. Scenario-driven activities in digital RPGs and asynchronous platforms encouraged learners to evaluate assumptions, synthesize ideas, and develop evidence-based arguments (Chen & Wu, 2021; Berry & Kowal, 2022). Reflective practices further reinforced these outcomes, enabling learners to identify and address areas for improvement (Madzlan et al., 2023).

Affective outcomes were equally significant, with learners reporting increased confidence, reduced anxiety, and heightened motivation. Immersive environments, such as VR applications, provided low-stakes opportunities for learners to practice and build self-efficacy (Damio & Ibrahim, 2019). Extending these findings, integrating gamified elements into role-play tasks could sustain learners' interest and emotional investment over longer periods.

Challenges in implementation and proposed solutions

Despite its benefits, digital role-play faced challenges, including technological barriers, such as limited device access and poor internet connectivity (Rankin, Gold, & Gooch, 2006; Najjemba & Cronjé, 2020). Pedagogical challenges included the time-intensive nature of role-play preparation and ensuring equitable participation in group activities (Keezhatta, 2020).

To address these issues, several solutions were proposed. Training sessions for both learners and educators could bridge technical skill gaps, while pre-role-play workshops could build confidence in using digital tools (Choi & Sinwongsuwat, 2024). Flexible scheduling and asynchronous platforms were also effective in accommodating diverse learner needs (Madzlan et al., 2023). Extending these solutions, integrating mobile-compatible and user-friendly tools could further enhance the scalability and accessibility of digital role-play.

The findings reveal that while ethical considerations such as data privacy, inclusivity, and informed consent were acknowledged in several studies, they were often addressed only in a general or procedural manner. Few studies provided detailed accounts of how ethical guidelines were operationalized within digital role-play environments. This suggests a need for future research to adopt more robust ethical frameworks in the design and implementation of such activities. Specifically, digital role-play should ensure compliance with data protection regulations such as GDPR and CCPA, particularly when using platforms that collect or store learner data. Inclusivity must also be prioritized by designing role-play scenarios that accommodate diverse learning needs, including accessibility features for learners with disabilities. Additionally, obtaining informed consent, especially for data collection and the recording of role-play sessions, should be standard practice. As digital role-play increasingly incorporates immersive and AI-driven technologies, it is essential that ethical considerations move beyond procedural compliance to encompass learner autonomy, equity, and psychological well-being. Some ethical guidelines for digital role-play were provided in Appendix D.

Conclusion

Digital role-play has proven to be an innovative and effective method for developing speaking skills, offering learners immersive, engaging, and flexible opportunities to practice language in diverse contexts. By integrating a variety of technologies—ranging from asynchronous platforms like Moodle and YouTube to immersive tools such as VR headsets and MMORPGs—this approach meets the needs of learners with varying levels of access, skill,

and engagement. These technologies not only enable meaningful interactions but also simulate real-world scenarios that make language learning practical and relevant.

The findings of this study underline the adaptability of role-play formats, such as scenario-based activities, asynchronous role-plays, and creative alternatives like vlogging. Each format contributes uniquely to language development: scenario-based activities build practical communication skills for specific tasks (e.g., interviews, negotiations), asynchronous role-plays allow for reflective and iterative learning, and vlogging fosters autonomy, creativity, and linguistic experimentation. Together, these approaches address key aspects of speaking proficiency, including fluency, pronunciation, vocabulary acquisition, and pragmatic competence in diverse social and professional contexts.

Beyond linguistic benefits, digital role-play has demonstrated significant cognitive and affective impacts. The use of structured role-play activities, grounded in experiential learning models such as Kolb's cycle, facilitates critical thinking, decision-making, and problem-solving. Meanwhile, affective outcomes, such as reduced speaking anxiety, heightened confidence, and increased motivation, are particularly noteworthy in enabling learners to overcome psychological barriers to communication. Immersive tools, such as VR environments, further enhance these outcomes by offering authentic yet low-pressure opportunities for learners to practice language use in real-world-like settings.

While digital role-play holds immense potential, its implementation is not without challenges. Technological barriers, including limited access to devices and poor internet connectivity, remain a significant obstacle in resource-limited settings. Additionally, pedagogical challenges, such as ensuring equitable participation, aligning role-play with curricular goals, and managing the time-intensive nature of preparation, must be carefully addressed. This study identifies actionable solutions, including technical training for educators and learners, clear instructional guidelines, gamified elements to sustain engagement, and the integration of mobile-compatible tools to enhance accessibility.

Ethical considerations, particularly around data privacy and inclusivity, also demand attention to ensure that digital role-play is implemented responsibly and equitably. Platforms and tools must adhere to robust privacy standards while creating inclusive environments that accommodate learners of diverse abilities and backgrounds.

In conclusion, digital role-play represents a transformative approach to language learning, bridging the gap between theoretical instruction and practical application. It empowers learners to build essential communication skills, fosters critical and creative thinking, and prepares them for success in real-world interactions. To fully realize its potential, future research should focus on hybrid role-play models that combine synchronous and asynchronous methods, long-term retention of speaking skills, and the integration of culturally responsive scenarios to develop intercultural competence. By addressing implementation challenges and expanding its scope, digital role-play can continue to revolutionize the way speaking skills are taught and practiced, making language learning more engaging, inclusive, and impactful. Another important direction for future research is the integration of emerging educational technologies, particularly AI chatbots, large language models (LLMs), and extended reality (XR) tools, into digital role-play environments. These technologies are increasingly transforming the nature of interactive learning by enabling more personalized, immersive, and responsive role-play scenarios. Future studies could explore how AI-driven conversational agents simulate real-world dialogue, how LLMs support language scaffolding and feedback, and how XR

technologies foster experiential learning through embodied interaction. Incorporating these tools into research will ensure that the field remains aligned with current technological advancements and pedagogical innovation.

Appendix A
Technological Tools Overview

Tool	Category	Example applications	Features
Moodle	Learning management	Asynchronous role-play	Accessible discussion boards
Oculus	Immersive technology	Real-world conversational settings	3D immersive environments
Second Life	3D gaming environment	Team collaboration simulations	Scenario-based interactions
YouTube	Video platform	Vlogging for self-expression	Asynchronous performance review

Appendix B
Sample Role-Play Scenarios

1. Scenario 1: Job Interview Simulation
• Context: Learner assumes the role of a job candidate.
• Task: Answer common interview questions and discuss qualifications.
• Objective: Practice professional vocabulary and fluency.
2. Scenario 2: Customer Service Interaction
• Context: Learner acts as a store employee helping a customer.
• Task: Resolve complaints and offer assistance.
• Objective: Practice problem-solving and polite communication.
3. Scenario 3: Public Debate
• Context: Two teams debate a social issue (e.g., renewable energy).
• Task: Present arguments, rebut opposing views, and conclude effectively.
• Objective: Develop persuasive speaking and critical thinking skills.

Appendix C
Learner Feedback Samples

1. *"Using VR tools helped me feel like I was in a real situation. It gave me confidence to speak without fear."*
2. *"Recording and reviewing my asynchronous role-plays allowed me to notice and improve my mistakes."*
3. *"The customer service simulation was challenging but made me think on my feet and respond naturally."*

Appendix D
Ethical Guidelines for Digital Role-Play

1. Data Privacy: Ensure compliance with GDPR/CCPA for all tools and platforms.

2. Inclusivity: Design scenarios to accommodate diverse learning needs, including accessibility features for learners with disabilities.
3. Informed consent: Obtain consent from participants for data collection and role-play recordings

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