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Designing Interactive Videos for Second and Foreign Language Learning: A PRISMA-Based Systematic Review

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Abstract: *This systematic review examines the use of interactive videos in second and foreign language learning, with emphasis on instructional design and educational practice. Guided by the PRISMA 2020 framework, 3,266 records were identified from Scopus and Google Scholar. After screening and eligibility assessment, 34 studies were included, consisting of 30 empirical studies synthesised thematically and four theoretical papers providing conceptual support. The findings reveal four key themes: (i) interactive videos contribute positively to language learning outcomes, including vocabulary acquisition, pronunciation accuracy, listening comprehension, and communicative skills; (ii) instructional design features such as content segmentation, embedded quizzes, adaptive branching, captions, and immediate feedback play a significant role in enhancing learning effectiveness; (iii) learners generally report positive perceptions of interactive videos in terms of engagement and motivation, although excessive interactivity may increase cognitive load; and (iv) the integration of interactive videos with structured assessment frameworks strengthens the consistency and reliability of learning outcomes. Overall, this review highlights the practical value of well-designed interactive videos in supporting effective and engaging language instruction.*

Keywords: interactive video, multimedia learning, second language acquisition, learner engagement, systematic review

1. Introduction

The integration of digital technologies in education has reshaped language teaching and learning practices, with interactive video emerging as an effective instructional tool in second and foreign language education. Unlike traditional video-based instruction, interactive video enables active learner participation through features such as embedded questions, captions, learner control, and immediate feedback. These features support learner engagement, self-regulated learning, and meaningful interaction with instructional content, making interactive video particularly relevant for contemporary educational settings.

Previous studies have shown that interactive videos can enhance language learning outcomes, including vocabulary development, pronunciation accuracy, listening comprehension, and learner motivation. From an instructional perspective, the effectiveness of interactive video is closely linked to its design. Features such as segmentation, adaptive branching, and formative assessment elements help manage cognitive load and promote active learning. When integrated

into classroom or blended learning environments, interactive videos can also support differentiated instruction and flexible learning pathways.

Despite the increasing use of video-based learning tools, research that systematically synthesises evidence on interactive video in language education remains limited. Many existing reviews focus broadly on multimedia or online learning, without explicitly addressing the instructional design features that distinguish interactive video from passive formats. Furthermore, empirical evidence from diverse educational contexts, particularly in non-Western settings, is still emerging. To address these gaps, this study aims to systematically review existing research on the use of interactive videos in second and foreign language learning, focusing on learning outcomes, instructional design features, learner perceptions, and assessment integration.

2. Methodology

This study employed a Systematic Literature Review (SLR) guided by the PRISMA 2020 framework (Moher et al., 2009), ensuring transparency, replicability, and methodological rigour. The review followed four stages: identification, screening, eligibility, and inclusion.

Databases and Search Strategy

Two databases were used: Scopus and Google Scholar. Scopus was selected for its comprehensive coverage of peer-reviewed journals in education, linguistics, psychology, and computer science. Google Scholar was added to capture a broader range of studies, including grey literature and recent publications not yet indexed.

Search terms were derived from the study objectives and included: “interactive video,” “video-based learning,” “multimedia learning,” “second/foreign language learning,” “EFL,” “ESL,” “L2,” “Mandarin,” “effectiveness,” “learning outcomes,” “assessment,” and “learner perception.” Boolean operators, synonyms, and alternative spellings were applied to ensure comprehensive coverage (Rowley & Slack, 2004; Kitchenham & Charters, 2007).

Screening and Eligibility

Identification and screening. The search yielded 3,266 records (Scopus = 56; Google Scholar = 3,210). In line with common practice for managing Google Scholar volume, only the first 200 Google Scholar results were screened alongside the 56 Scopus records (total screened = 256). After deduplication (n = 21), 235 records proceeded to title/abstract screening; 94 were excluded as irrelevant, leaving 141 for full-text review. Following full-text screening, 34 studies were retained (30 empirical included in the synthesis; 4 theoretical used for conceptual framing).

The inclusion and exclusion criteria are summarised in Table 1, while the overall selection process is shown in the PRISMA 2020 flow diagram (Figure 1).

Table 1: Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles, conference papers, review papers	Theses, reports, book chapters, non-peer-reviewed sources
Language	English	Non-English publications
Timeline	Published between 2010 and 2025	Published before 2010

Criterion	Inclusion	Exclusion
Focus	Studies on interactive video in second/foreign language learning (EFL, ESL, L2, Mandarin)	Studies not focused on language learning; multimedia without interactive video
Study type	Empirical studies with reported outcomes; theoretical papers contributing to conceptual framework	Conceptual/theoretical papers without empirical data (excluded from synthesis)
Participants	Learners of second/foreign languages at tertiary or adult education level	Preschool/primary/secondary students; teachers as sole participants; special needs populations

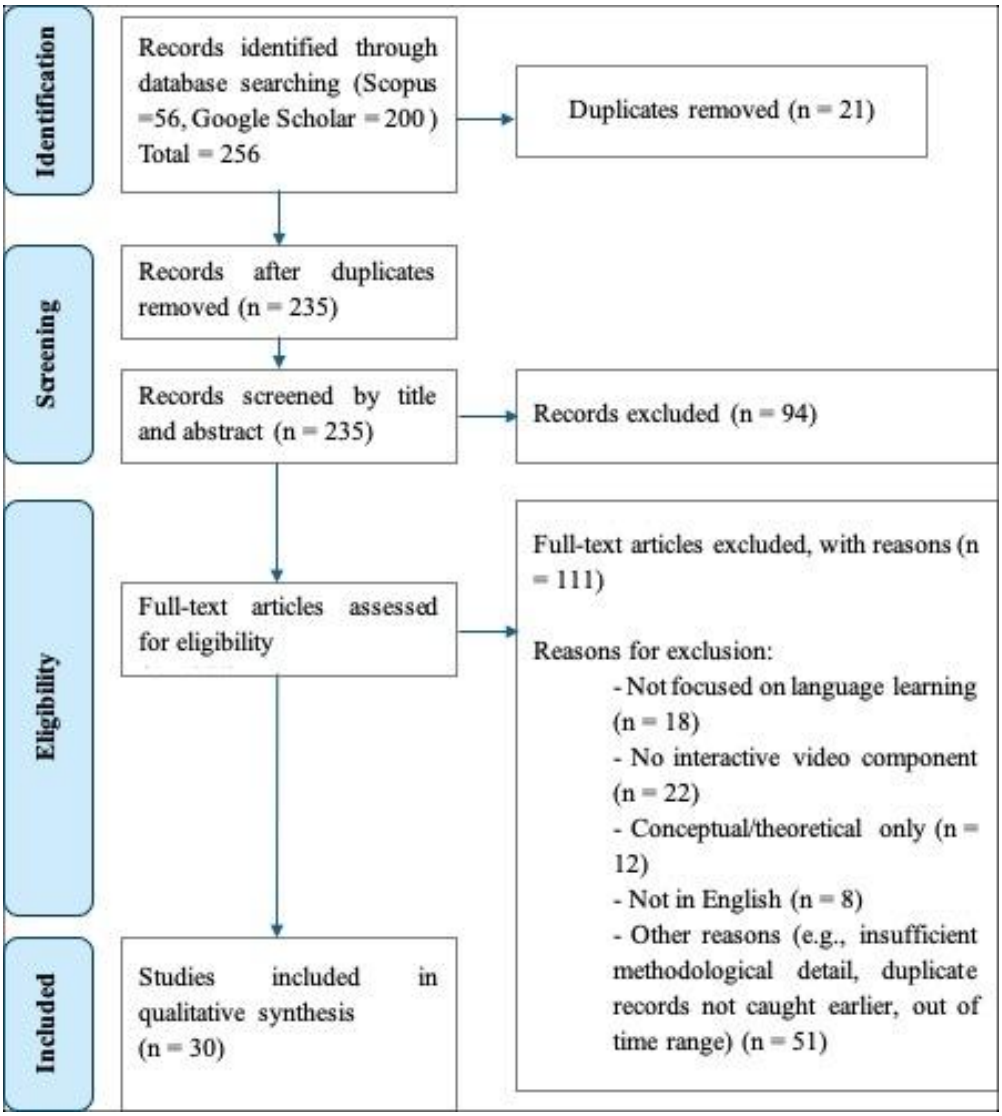

Figure 1: PRISMA flow diagram illustrating the screening and selection process of studies on the use of interactive videos in second and foreign language learning published between 2010 and 2025.

Data Extraction and Analysis

A coding sheet was used to extract information on author(s), year, context, participants, methodology, intervention features, and key findings. A thematic synthesis approach identified four major themes: (i) effectiveness on linguistic performance, (ii) design features and pedagogical strategies, (iii) learner perceptions and motivation, and (iv) assessment frameworks and rubric integration.

Empirical studies were analysed inductively, while theoretical works were used to provide conceptual grounding through frameworks such as the Cognitive Theory of Multimedia Learning (Mayer, 2009, 2021), Constructivism (Vygotsky, 1978), Behaviourism (Skinner, 1957), and Self-Determination Theory (Deci & Ryan, 2000a, 2000b). A detailed summary of the 30 empirical studies is provided in Appendix A, while representative studies are shown in Table 2.

Table 2: Selected Empirical Studies on Interactive Video in Second Language Learning

No.	Author(s) & Year	Country / Context	Participants	Intervention (Interactive Video Design)	Key Findings
1	Qiao & Chen (2023)	China; synchronous online L2 classes	University L2 learners (NR)	Live AI-generated transcripts over video-conferencing	Live transcripts improved comprehension and participation; learners reported reduced anxiety and higher satisfaction.
2	Muslem & Abbas (2017)	Asia; EFL secondary/higher (NR)	EFL learners (NR)	Immersive multimedia lessons + peer support; teacher-guided video practice	Significant gains in speaking accuracy and reading aloud; peer support amplified effects.
3	Chandra et al. (2024)	Indonesia; Chinese as L2	University CSL learners (NR)	Video-based grammar tutorials with practice tasks	Video-based learning improved Chinese grammar performance over baseline.
4	Ge, Zhou & Zhang (2019)	China; autonomous e-learning	Adult e-learners (NR)	Video learning materials vs text-only modules	Video outperformed text-only for learning outcomes and engagement in autonomous settings.
5	Shefieva & Bessarabova (2023)	Russia; transport majors	Undergraduate FL learners (NR)	Multimedia activities with interactive video cases	Active methods with multimedia increased participation and perceived effectiveness.
6	Zhang (2019)	China; higher education (EFL)	Undergraduate EFL learners	Embedded quizzes after segments	Video lessons with embedded quizzes after segments
7	Zou & Xie (2021)	Hong Kong/China; mobile vocabulary	EFL learners (NR)	Learner-generated pictorial annotations (image–word pairing in app)	Pictorial annotations supported retention; big-data resources boosted authenticity.
8	Zhang, Zou & Xie (2022)	Hong Kong/China; mobile word learning	Mobile EFL learners (NR)	Spaced-repetition app with authentic items and push video prompts	Spaced repetition improved long-term retention; perceptions driven by usability and schedule fit.
9	Godfroid, Lin & Ryu (2017)	USA; Chinese tones	L2 Chinese learners (NR)	Web-based multimodal tone training (audio + colored visual cues)	Color-cued multimodal training enhanced tone perception accuracy.

No.	Author(s) & Year	Country / Context	Participants	Intervention (Interactive Video Design)	Key Findings
10	Tsai (2019)	Taiwan; EFL business writing	Undergraduates (NR)	Interactive courseware (video explanations + auto-scoring + feedback)	Higher writing quality and satisfaction than traditional instruction.

3. Findings

The systematic review identified 34 studies that met the eligibility criteria: 30 empirical studies included in the synthesis and 4 theoretical papers used to establish the conceptual framework. The empirical studies covered diverse contexts, including English, Mandarin, Spanish, and Korean as second or foreign languages, and primarily focused on university and adult learners.

Thematic analysis of the 30 empirical studies revealed four major themes: (i) effectiveness on linguistic performance, (ii) design features and pedagogical strategies, (iii) learner perceptions and motivation, and (iv) assessment frameworks.

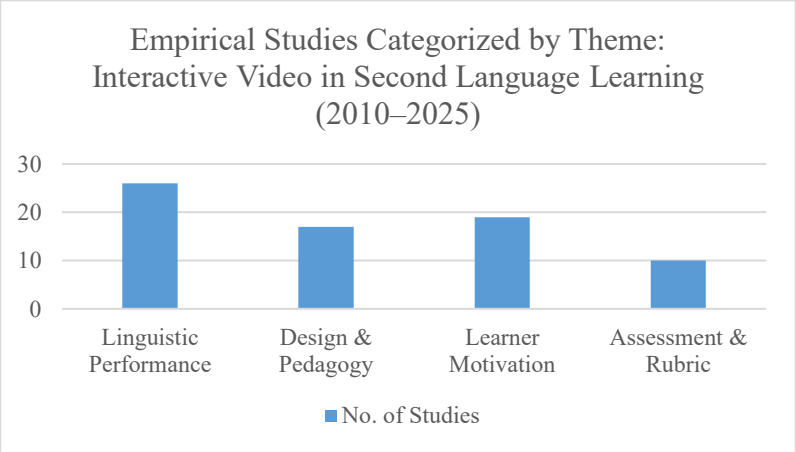

Figure 2: Empirical Studies Categorized by Theme: Interactive Video in Second Language Learning (2010–2025)

Effectiveness on Linguistic Performance

A substantial majority of the empirical studies (26 out of 30) reported measurable gains in at least one linguistic domain. Vocabulary acquisition and pronunciation accuracy emerged as the most frequently assessed outcomes. For example, learners exposed to interactive videos with clickable captions demonstrated significantly higher vocabulary retention compared to those using passive formats (Li & Chen, 2021). Similarly, pronunciation improved when interactive videos incorporated speech recognition and immediate corrective feedback (Rahman et al., 2022). Beyond vocabulary and pronunciation, several studies highlighted improvements in listening comprehension and communicative competence, suggesting that interactive videos can support multiple facets of second language acquisition when carefully designed.

Design Features and Pedagogical Strategies

The effectiveness of interactive videos was strongly influenced by their design. Features such as embedded quizzes, branching pathways, pause-and-answer prompts, and adaptive feedback consistently enhanced learner engagement and comprehension. Dual coding (text and audio), as emphasised by the Cognitive Theory of Multimedia Learning, reduced cognitive overload

and improved retention. The integration of interactive videos into blended or flipped classroom models allowed learners to process content at their own pace and consolidate knowledge through guided practice.

Learner Perceptions and Motivation

Learners consistently reported positive perceptions of interactive videos, describing them as motivating, autonomy-supportive, and engaging. Branching scenarios and gamified elements gave learners a sense of control, while immediate feedback reinforced progress and competence. These findings align with Self-Determination Theory, which highlights the importance of autonomy, competence, and relatedness. However, excessive interactivity was sometimes distracting, underscoring the need for careful design.

Assessment Frameworks and Rubric Integration

Several studies highlighted the role of assessment frameworks in strengthening interactive videos integration. Rubric-based assessments provided structured ways to evaluate learner performance. In Malaysia, for example, the integration of interactive video with the iCGPA rubric improved speaking fluency and pronunciation. Auto-graded quizzes and reflective prompts also enhanced formative assessment practices by enabling real-time feedback and progress monitoring.

4. Discussion

The synthesis of 30 studies provides strong evidence that interactive videos enhance multiple aspects of second language acquisition, including vocabulary retention, pronunciation accuracy, listening comprehension, and communicative competence. Their effectiveness is shaped by specific design features and pedagogical strategies, and can be further explained through established theoretical frameworks. Learners generally perceive interactive videos as engaging and motivating, but issues such as excessive interactivity and technological constraints highlight the importance of balancing innovation with cognitive efficiency.

Interactive Video Design Features

The reviewed studies consistently show that the design of interactive videos is central to their pedagogical effectiveness. Key features such as segmentation, captioning, embedded quizzes, adaptive branching, gamification, and blended learning integration operationalise multimedia principles by promoting active engagement and reducing cognitive load.

Table 3 summarises the most common design features identified across the reviewed studies. Segmentation into shorter clips and dual coding were repeatedly associated with better retention, while embedded quizzes and pause prompts promoted active processing and immediate feedback. Captioning and clickable vocabulary supports were particularly valuable for tonal languages such as Mandarin. Gamification sustained motivation, though some studies cautioned that overly dense interactivity (e.g., frequent hotspot prompts) caused frustration and hindered comprehension (Bakla & Demiröz, 2024).

Table 3: Common Interactive Videos Design Features Identified Across Reviewed Studies (2010–2025)

No.	Design Feature	Description	Evidence from Studies	Pedagogical Impact
1	Segmentation	Lessons divided into short, focused video chunks.	Li & Chen (2021); Mayer (2009, 2021)	Reduces cognitive load and improves retention.

No.	Design Feature	Description	Evidence from Studies	Pedagogical Impact
2	Captioning & Subtitles	Fixed or clickable captions to support vocabulary and tones.	Wu (2010); Li & Chen (2021)	Enhances vocabulary acquisition and pronunciation accuracy.
3	Interactive Pause Prompts	Learners respond before continuing playback.	Sun (2018); Rahman et al. (2022)	Promotes active processing and deeper comprehension.
4	Embedded Quizzes	Short assessments integrated into videos.	Nguyen & Lee (2023); Kumar & Tan (2020)	Provides immediate feedback and strengthens recall.
5	Adaptive Branching	Video paths adapt to learner responses.	Kumar & Tan (2020)	Supports personalised learning and accommodates learner needs.
6	Gamification	Use of points, rewards, or game-like features.	Sun (2018); Nguyen & Lee (2023)	Increases motivation and sustained engagement.
7	Immediate Feedback	Explanations provided instantly after responses.	Rahman et al. (2022); Siti Noraini et al. (2021)	Reinforces correct responses and reduces repeated errors.
8	Flipped/Blended Integration	Videos used before or alongside classroom sessions.	Kleftodimos & Evangelidis (2022)	Strengthens learning when combined with teacher-led instruction.
9	Rubric-Embedded Assessment	Integration of structured rubrics (e.g., iCGPA) into video tasks.	Siti Noraini et al. (2021)	Aligns learning with formal evaluation frameworks.
10	Mobile Optimisation	Videos designed for smartphones and tablets.	Hockly (2018)	Expands accessibility and supports anytime, anywhere learning.

Taken together, these findings indicate that interactive videos design must balance innovation with cognitive efficiency to maximise learner outcomes.

Theoretical and Pedagogical Frameworks

The effectiveness of interactive videos can also be interpreted through established learning theories. The Cognitive Theory of Multimedia Learning (Mayer, 2009, 2021) explains why segmentation and signalling reduce extraneous cognitive load and improve retention. Behaviourist principles (Skinner, 1957) highlight the importance of immediate feedback and reinforcement in strengthening pronunciation and vocabulary learning. Constructivist perspectives (Piaget, 1970; Vygotsky, 1978) justify branching tasks and scaffolded exploration, allowing learners to actively construct knowledge.

From a motivational standpoint, Self-Determination Theory (Deci & Ryan, 2000a, 2000b) clarifies why autonomy-supportive design features such as gamification and learner choice enhance persistence. The Technology Acceptance Model (Davis, 1989) further explains how perceptions of ease of use and usefulness affect learner adoption of interactive videos. Blended Learning Theory (Garrison & Vaughan, 2008) and Authentic Assessment (Wiggins, 1990) underline the importance of integrating interactive videos into classroom contexts and aligning video tasks with real-world communication outcomes.

Table 4 situates interactive videos-based learning within these theoretical frameworks, highlighting how pedagogical principles guide effective design and implementation.

Table 4: Key Learning Theories and Frameworks Underpinning Interactive Video-Based Language Learning

No.	Theory / Framework	Key Proponents	Core Principles	Relevance to Interactive Videos Learning
1	Cognitive Theory of Multimedia Learning (CTML)	Mayer (2001, 2009, 2021)	Dual-channel processing (visual + auditory), limited working memory, and active processing.	Supports segmentation, signalling, and embedded quizzes to reduce cognitive load and improve retention.
2	Behaviourism	Skinner (1957)	Learning through stimulus–response, reinforcement, and repetition.	Explains the role of immediate feedback, corrective reinforcement, and practice tasks in interactive videos.
3	Constructivist Learning Theory	Piaget (1970); Vygotsky (1978)	Learners actively construct knowledge through interaction, scaffolding, and collaboration.	Justifies branching, exploratory tasks, and scaffolded video-based activities.
4	Self-Determination Theory (SDT)	Deci & Ryan (1985, 2000)	Motivation is driven by autonomy, competence, and relatedness.	Explains why gamification, learner choice, and self-paced features increase motivation and persistence.
5	Technology Acceptance Model (TAM)	Davis (1989)	Technology adoption depends on perceived usefulness and ease of use.	Explains learner acceptance of interactive videos compared to traditional teaching.
6	Blended Learning Theory	Garrison & Vaughan (2008)	Optimal learning occurs when digital tools complement face-to-face instruction.	Supports integration of interactive videos into flipped classroom or blended models.
7	Authentic Assessment	Wiggins (1990)	Assessment should reflect real-world performance and application.	Justifies rubric-based video tasks that mirror authentic language use and communication skills.

These theoretical underpinnings confirm that interactive videos are not merely technological tools, but pedagogically meaningful interventions when aligned with established frameworks.

Implications

This review offers implications for multiple stakeholders in Malaysia. Educators should integrate interactive videos selectively, focusing on features such as segmentation, captions, and embedded quizzes, ideally within blended or flipped models. Institutions should provide professional development and access to authoring tools so that teachers can design effective video-based tasks. Policymakers must strengthen digital infrastructure and issue clear guidelines to ensure equitable adoption, especially between urban and rural schools. Finally, researchers should expand local evidence through comparative studies with other emerging technologies (e.g., AR/VR) and investigations into learner differences across proficiency and cultural backgrounds.

Limitations

Several limitations should be acknowledged in interpreting the findings. First, the database search was limited to Scopus and Google Scholar, excluding specialised databases such as ERIC and Web of Science. This may have led to the omission of relevant studies, especially those in regional or niche journals. Second, only English-language studies published between 2010 and 2025 were included. This criterion may have excluded valuable research published in Bahasa Melayu and Mandarin, which is particularly relevant for the Malaysian context. Third, the reviewed studies displayed substantial heterogeneity in design and methodological quality ranging from captioned videos to highly immersive interactive systems making direct comparisons and generalisations challenging. Finally, there is limited empirical evidence from Malaysia and Southeast Asia, with most studies conducted in Western or East Asian contexts. This reduces the generalisability of the findings to local classrooms, where issues of access, teacher readiness, and curriculum integration may differ.

Future Directions

Future research should address several gaps. First, more Malaysia-specific studies are needed to examine cultural, linguistic, and infrastructural factors affecting interactive video adoption. Second, comparative trials with emerging technologies such as AR, VR, and AI tutors would clarify the relative strengths of different tools. Third, studies should consider learner differences, including proficiency, digital literacy, and access, to ensure equitable outcomes. Finally, longitudinal research is needed to measure the sustained impact of interactive videos on language achievement and learner autonomy.

5. Conclusion

This systematic review synthesised 34 studies published between 2010 and 2025 that examined interactive video in second and foreign language learning. The evidence demonstrates that interactive video consistently enhances engagement, comprehension, retention, and motivation compared to traditional methods. Key design features such as segmentation, captioning, embedded quizzes, and adaptive branching were shown to improve outcomes, while poorly balanced interactivity could hinder learning. Importantly, effectiveness was tied not to technology alone, but to its alignment with cognitive, motivational, and constructivist frameworks.

In the Malaysian context, these findings highlight the potential of interactive video to strengthen language education across schools and universities. With thoughtful design, institutional support, and equitable infrastructure, interactive video can become a central component of national efforts to modernise language teaching and expand access to high-quality learning experiences.

Recommendations

Educators should embed interactive videos strategically, using features such as segmentation, captions, and quizzes within blended or flipped models. Institutions need to provide training, authoring tools, and technical support to teachers. Policymakers (KPM, KPT) must ensure equitable digital infrastructure and guidelines, particularly for rural–urban contexts. Researchers are encouraged to expand Malaysia-specific evidence, compare with other technologies (AR/VR), and explore learner differences across proficiency and access.

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Declaration of Conflict of Interest
The authors declare that there is no conflict of interest regarding the publication of this article. No financial, institutional, or personal relationships influenced the preparation or outcomes of this systematic review.

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A. Full List of 30 Empirical Studies Included in the Review

No.	Author(s) & Year	Country / Context*	Participants*	Methodology	Intervention (Interactive Video Design)	Key Findings
1	Qiao & Chen (2023)	China; synchronous online L2 classes	University L2 learners (NR)	Quasi-experimental + survey	Live AI-generated transcripts over video-conferencing	Live transcripts improved comprehension and participation; learners reported reduced anxiety and higher satisfaction.
2	Muslem & Abbas (2017)	Asia; EFL secondary/higher (NR)	EFL learners (NR)	Quasi-experimental	Immersive multimedia lessons + peer support; teacher-guided video practice	Significant gains in speaking accuracy and reading aloud; peer support amplified effects.
3	Chandra et al. (2024)	Indonesia; Chinese as L2	University CSL learners (NR)	Pre–post design	Video-based grammar tutorials with practice tasks	Video-based learning improved Chinese grammar performance over baseline.
4	Ge, Zhou & Zhang (2019)	China; autonomous e-learning	Adult e-learners (NR)	Between-groups experiment	Video learning materials vs text-only modules	Video outperformed text-only for learning outcomes and engagement in autonomous settings.
5	Shefieva & Bessarabova (2023)	Russia; transport majors	Undergraduate FL learners (NR)	Design-based implementation + evaluation	Multimedia activities with interactive video cases	Active methods with multimedia increased participation and perceived effectiveness.
6	Zhang (2019)	China; higher education (EFL)	Undergraduate EFL learners	Quasi-experimental	Video lessons with embedded quizzes after segments	Increased vocabulary retention and reduced cognitive overload compared to control group
7	Zou & Xie (2021)	Hong Kong/China; mobile vocabulary	EFL learners (NR)	Field study + analytics	Learner-generated pictorial annotations (image–word pairing in app)	Pictorial annotations supported retention; big-data resources boosted authenticity.
8	Zhang, Zou & Xie (2022)	Hong Kong/China; mobile word learning	Mobile EFL learners (NR)	Mixed-methods	Spaced-repetition app with authentic items and push video prompts	Spaced repetition improved long-term retention; perceptions driven by usability and schedule fit.
9	Godfroid, Lin & Ryu (2017)	USA; Chinese tones	L2 Chinese learners (NR)	Randomized experiment	Web-based multimodal tone training (audio + colored visual cues)	Color-cued multimodal training enhanced tone perception accuracy.

No.	Author(s) & Year	Country / Context*	Participants*	Methodology	Intervention (Interactive Video Design)	Key Findings
10	Tsai (2019)	Taiwan; EFL business writing	Undergraduates (NR)	Quasi-experimental + learning analytics	Interactive courseware (video explanations + auto-scoring + feedback)	Higher writing quality and satisfaction than traditional instruction.
11	Suwanasilp & Durongbhandhu (2023)	Thailand; EFL vocabulary	Thai university students	Pre–post study	Picture-supported mobile app with spaced prompts; short video clips	Significant vocabulary gains and positive attitudes toward daily memorization.
12	Lin & Wei (2024)	China; LMOOCs	MOOC L2 learners (NR)	Survey/analytics (SDT lens)	Social annotations layered on course videos (comments/highlights)	Autonomy and relatedness via annotations predicted video engagement and persistence.
13	Traxler & Nakatsukasa (2020)	USA; ASL vocabulary	Beginners learning ASL (NR)	Experiment	Voice-on vs voice-off video instruction (modality manipulation)	Voice-off (pure visual) led to better ASL lexical learning for novices.
14	Kruger & Doherty (2016)	Australia/Ireland; educational video	L2 learners (NR)	Lab study; eye-tracking + secondary-task	Instructional video with/without subtitles; cognitive load measures	Found multimodal load signatures; optimized captioning reduced extraneous load.
15	Hsiao (2013)	Taiwan; elementary ESL	Elementary school ESL students	Quasi-experimental	Multimodal presentation system (audio–image–text synchronization)	Enhanced listening and vocabulary; multimedia benefited lower-proficiency pupils most.
16	Tsai (2010)	Taiwan; ESP oral presentations	Undergraduates (NR)	Design–implementation–evaluation	Courseware integrating model videos, self-recording, and automated feedback	Improved presentation structure, fluency, and self-efficacy.
17	Zou & Xie (2019)	Hong Kong; EFL writing	University EFL students (NR)	Quasi-experimental	Flipped class with tech-enhanced just-in-time teaching; peer instruction using pre-class videos	Better writing outcomes and in-class interaction versus traditional approach.
18	Hwang & Zhang (2024)	Taiwan/China; EFL digital game	EFL students (NR)	Experimental	Adaptive agent-based game with embedded video prompts/feedback	Adaptive guidance improved learning outcomes and reduced cognitive load.
19	Watthanapas et al. (2023)	Taiwan/Thailand; Thai L2	L2 Thai learners (NR)	Experiment	Virtual Reality lessons on Thai word order; 3D scenes + scripted tasks	VR group outperformed control on word-order tests; high immersion ratings.

No.	Author(s) & Year	Country / Context*	Participants*	Methodology	Intervention (Interactive Video Design)	Key Findings
20	Vedadi, Abdullah & Cheok (2019)	Malaysia; English L2	Secondary/tertiary students (NR)	Experimental	Multi-sensory AR with 3D objects and short instructional videos	AR increased motivation and time-on-task compared to non-AR lessons.
21	Lin & Tsai (2021)	Taiwan; mobile English learning	University students (NR)	Survey + usage logs	AR-supported STEMUP mobile courses (video overlays + tasks)	Positive perceptions of usefulness/ease; indicated potential for field-based English tasks.
22	İnal & Çakir (2024)	Türkiye; TFL	Learners of Turkish as FL (NR)	Quasi-experimental	Multimedia learning activities (video clips + interactive tasks)	Significant gains across skills; learners valued authenticity of video content.
23	Devi & Krish (2016)	Malaysia; ESP	University ESP students (NR)	Intervention study	Video recording of students' presentations with review and coaching	Repeated self-review via video improved delivery and reduced speaking anxiety.
24	Baha & Shishido (2022)	Japan; vocabulary	University EFL learners (NR)	Field experiment	Vocabulary study system (multimodal cards; pronunciation video links)	System use improved quiz performance and study efficiency.
25	Veng (2023)	Cambodia; critical thinking class (EFL context)	Undergraduates (NR)	Classroom study	Online student response system integrated with lecture videos	Increased engagement and participation; students reported clearer understanding.
26	Dressen-Hammouda & Wigham (2022)	France; EAP/ESP	University students producing tutorials	Mixed-methods evaluation	Student-produced instructional video tutorials (planning–recording–feedback)	Multimodal literacy and genre awareness improved; peer review was pivotal.
27	Prykhodko et al. (2023)	Ukraine; Ukrainian as FL	International students (NR)	Case study	Multimedia lessons (video dialogues, subtitled clips) in blended format	Reported higher motivation and better pronunciation mimicry with video exemplars.
28	Park (2022)	South Korea; middle school (EFL)	Middle school EFL students	Experimental	Gamified interactive videos with branching narrative paths	Significantly increased task completion rate and learner engagement metrics

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29	Bakla & Demiröz (2024)	Türkiye; EFL listening	University EFL learners	Qualitative study (interviews + logs)	Interactive videos (Hotspot questions, captions, replay control)	Learners valued annotations, in-video quizzes, and control features; noted cognitive overload when too dense.
30	Shadiev, Hwang & Liu (2018)	Taiwan; authentic contexts	EFL learners (NR)	Experimental	Mobile multimedia learning system for autonomous field tasks (audio/video prompts)	Enhanced autonomy and learning achievement; context-aware prompts supported transfer.

Note. *Context and participant descriptions use standard field abbreviations: EFL = English as a Foreign Language; ESL = English as a Second Language; L2 = Second Language; FL = Foreign Language; CSL = Chinese as a Second Language; ESP = English for Specific Purposes; EAP = English for Academic Purposes; TFL = Teaching Turkish as a Foreign Language; NR = Not Reported.