Japanese Language Education in Mainland China (2006–2024): A Mini Review of Methods, Motivation, and Persistent Challenges

Miao Wujun, Norwaliza Abdul Wahab*

Department of Educational Studies, Faculty of Human Development, Sultan Azlan Shah Campus, University Pendidikan Sultan Idris, Proton City 35900, Perak, Malaysia

***Correspondence Author**

DOI: https://dx.doi.org/10.47772/IJRISS.2025.909000612

Received: 21 September 2025; Accepted: 26 September 2025; Published: 22 October 2025

ABSTRACT

This mini review synthesizes developments in Japanese language education in mainland China (2006–2024), arguing that rapid diversification of methods has outpaced evidence on which approaches solve which learning problems. Using a curated set of peer-reviewed studies and conference proceedings, the review provides a narrative, thematic synthesis that maps institutional drivers and delivery frames (flipped/CALL) to targeted tools (intelligent/adaptive systems, embodied strategies, autonomy/persuasive supports) and to the learning challenges they purport to address. No meta-analysis was undertaken due to heterogeneity of designs and outcomes. Programs are modernizing and becoming data-aware; classrooms increasingly use flipped/CALL as enabling infrastructure. Precision tools show promise for known bottlenecks (e.g., katakana/Kanji, loanwords), and intercultural orientations underpin sustained motivation. However, the evidence base is fragmented (single-site prototypes, non-standardized measures), limiting comparability and generalizability. The central lever is method–problem alignment, not method adoption per se. The review is intentionally compact (curated corpus). Field-level progress requires multi-site trials with shared outcome sets (immediate gain, retention, transfer, pragmatic competence) and designs that co-model motivational change with performance. Additionally, this mini review offers an integrative map linking institutional drivers, learner motivation, and linguistic bottlenecks to concrete pedagogical choices, reframing decision-making around alignment and measurable pragmatic outcomes.

Keywords: Japanese language education; China; flipped classroom; computer-assisted language learning (CALL); intelligent learning systems; embodied learning; learner motivation; loanword processing

INTRODUCTION

Over the past two decades, Japanese language education in China has undergone notable expansion and diversification, shaped by economic ties, institutional reforms, and evolving learner motivations. As Sino-Japanese economic exchanges intensified, universities and colleges in China increased the supply of Japanese language courses and majors, positioning graduates for cross-border employment and collaboration (Wu & Chen, 2015; Zhi et al., 2021). In tandem, initiatives leveraging data-driven curriculum development and instructional analytics, ranging from big data, informed resource diversification to precision teaching reform have gained traction as institutions seek demonstrable gains in learning effectiveness and employability outcomes (Li, 2024; Zhi et al., 2021). At the same time, research foregrounds persistent pedagogical challenges such as cultivating intercultural communication competence and addressing linguistic contrasts between Chinese and Japanese at the sentence and discourse levels (Tang, 2024; Wu & Chen, 2015).

Learner motivations remain central to understanding sustained engagement with Japanese. Studies consistently report that Chinese university students' interest is anchored in an intercultural orientation toward Japanese society, people, and cultural products, an orientation that shapes learners' attitudes ("posture") and sustains effort despite geopolitical ebbs and flows (Lv et al., 2017; Teo et al., 2019). Further, motivation appears dynamic across stages of study, with shifts in enthusiasm and goal focus over time, pressuring programs to align pedagogies with developmental needs (Huang & Feng, 2019; Teo et al., 2019). Beyond mainland China, broader East Asian

patterns such as the long-standing appeal of Japanese as a foreign language in Hong Kong, offer comparative insights into cultural attraction and its implications for uptake and persistence (Humphreys & Miyazoe-Wong, 2007).

Concurrently, instructional approaches in Chinese educational settings have diversified from traditional classroom modalities to blended and technology-enhanced designs. Flipped classrooms often implemented through platforms like Canvas are associated with improvements in academic performance and peer cooperation by reallocating class time toward active learning (Shi & Zhang, 2023). Computer-aided language learning (CALL) continues to address limits of textbook-centric instruction by providing multimedia resources, individualized pacing, and richer practice opportunities (Liu & Chen, 2021; Wu et al., 2018). A distinctive thread in the China–Japan context is the development of intelligent learning systems tailored to Chinese learners' challenges, including targeted katakana listening databases and adaptive drills for cross-linguistic contrasts and Kanji acquisition (Lu et al., 2006; Lu et al., 2009; Sa et al., 2010).

Complementing cognitive tools, biomechanical and multi-sensory strategies (e.g., gesture-supported practice) have been explored to enhance vocabulary, grammar, and listening comprehension by leveraging embodied learning pathways (Wu et al., 2024). In parallel, autonomy-supportive designs and persuasive technologies have aimed to scaffold self-regulated practice, particularly salient for script learning and test preparation (Berque & Chiba, 2016; Liyuan, 2023). Recognizing culture as content, educators also draw on online videos and social platforms to supplement cross-cultural knowledge, strengthening the cultural literacy essential for pragmatic competence (Kao et al., 2022; Teo et al., 2019).

Despite these advances, several enduring challenges motivate a focused synthesis. First, linguistic issues such as the processing of Japanese loanwords and phonological contrasts continue to hinder fluent comprehension, suggesting the need for more targeted instruction and assessment aligned to known bottlenecks (Geng et al., 2023; Tang, 2024). Second, while multiple modalities (flipped, CALL, intelligent systems, embodied approaches) report promising outcomes, comparative evidence linking specific methods to learning problems (e.g., katakana perception, Kanji retention, intercultural pragmatics) remains fragmented (Liu & Chen, 2021; Sa et al., 2010). Third, the intersection of motivation trajectories with pedagogical design, how shifting learner goals should inform method selection and sequencing has not been systematically consolidated (Huang & Feng, 2019; Lv et al., 2017). As a result, stakeholders lack a compact, integrative map connecting institutional drivers, learner psychology, linguistic challenges, and method-specific affordances within the mainland China context.

This mini review synthesizes recent developments (2006–2024) in Japanese language education in China, with two aims: (1) to characterize institutional and pedagogical trends; and (2) to map prominent teaching–learning methods to targeted learning needs, reported outcomes, and persistent challenges while foregrounding motivational and intercultural considerations (Li, 2024; Shi & Zhang, 2023; Teo et al., 2019).

Research questions (proposed).

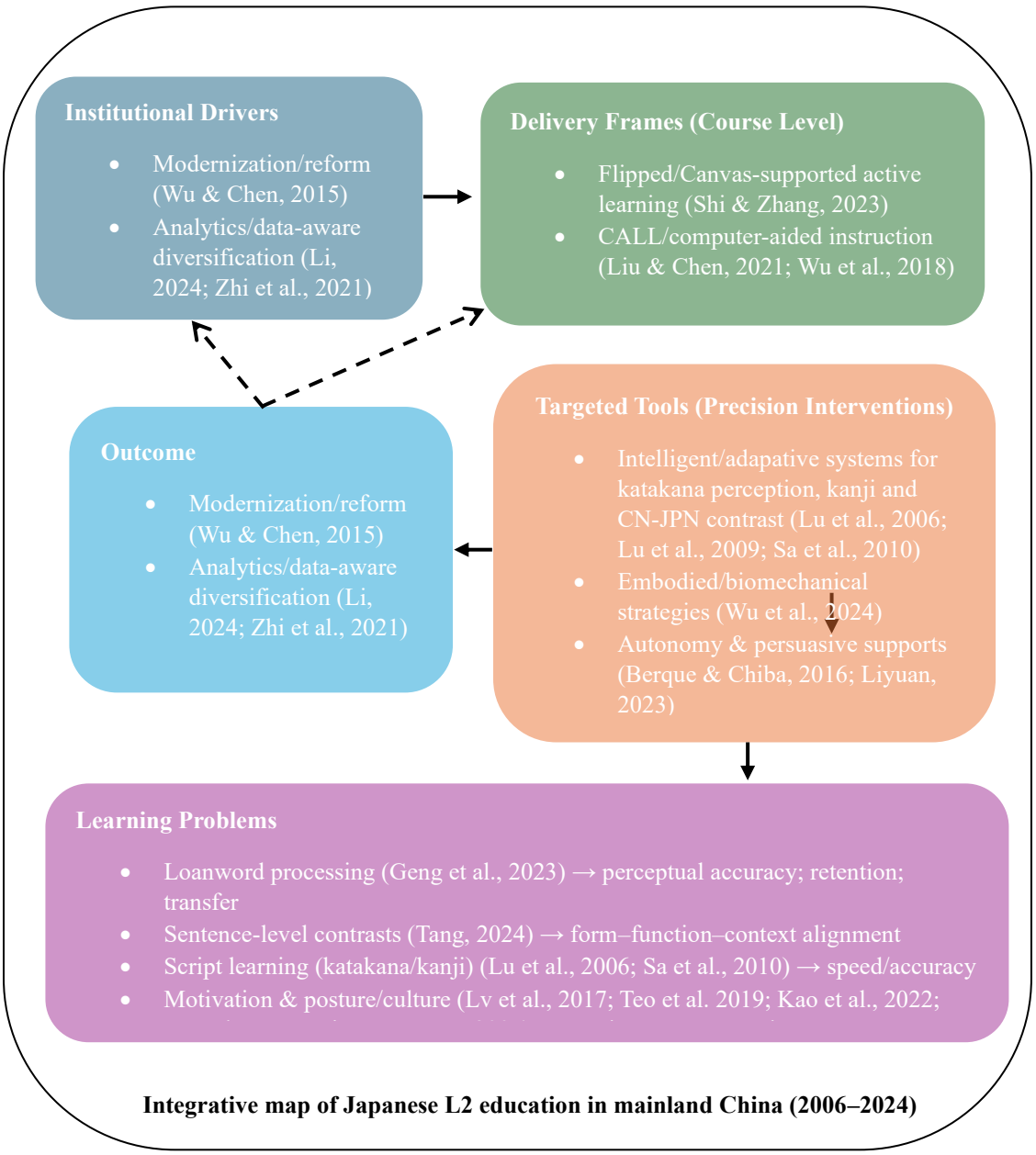
1. RQ1. What institutional and curricular trends have shaped Japanese language education in China in recent years? (Li, 2024; Wu & Chen, 2015)
2. RQ2. Which instructional methods are most employed (e.g., flipped classrooms, CALL, intelligent systems, embodied strategies), and what evidence is reported about their effectiveness and use cases? (Liu & Chen, 2021; Shi & Zhang, 2023; Wu et al., 2018)
3. RQ3. What enduring challenges: linguistic, motivational, and intercultural persist, and how might method selection or design be tailored to address them? (Geng et al., 2023; Huang & Feng, 2019; Teo et al., 2019)

The rest of this paper is structured as follows: Section 2 synthesizes prior literature on the historical and recent evolution of Japanese language education and catalogs major instructional approaches; Section 3 outlines the mini review methodology and inclusion boundaries; Section 4 presents thematic findings (trends, methods, challenges); Section 5 discusses implications for pedagogy and program design; and Section 6 concludes with limitations and directions for future research.

LITERATURE REVIEW SYNTHESIS

To address RQ1–RQ3, we structure this synthesis to make explicit the links between drivers, methods, and learning problems. Historical accounts of curriculum reform and early system designs for katakana perception, cross-linguistic contrasts, and character learning set the scene (Lu et al., 2006; Sa et al., 2010; Wu & Chen, 2015). Contemporary studies then introduce flipped and CALL frameworks and program-level analytics that expand the pedagogical toolkit (Liu & Chen, 2021; Shi & Zhang, 2023; Zhi et al., 2021), while motivational and psycholinguistic research explains why certain challenges persist and what targeted interventions might require (Geng et al., 2023; Lv et al., 2017; Tang, 2024; Teo et al., 2019). On this basis, the review proceeds through historical development and recent development, summarizes previous reviews, and culminates in a critical synthesis that evaluates evidence quality and isolates design and measurement gaps. We now turn to historical development.

Figure 1. Integrative map linking institutional drivers, delivery frames, precision tools, and learning problems/outcomes in Japanese language education in mainland China (2006–2024).



Alt text. Left-to-right flow diagram: drivers → delivery frames → targeted tools → learning problems → outcomes; dashed feedback to delivery/drivers signals data-informed iteration.

(Source: Figure generated by the authors; dashed arrows indicate assessment-data feedback to course and program design.)

Historical development: Theoretical and methodological roots

Early work foregrounded institutional reform and technology-enabled instruction. At the policy/program level, reform analyses highlighted the need to modernize Japanese programs in Chinese HEIs to better align with changing labor market and intercultural demands (Wu & Chen, 2015). In parallel, a technical lineage of intelligent learning systems emerged, tailored to Chinese learners' challenges, e.g., cross-linguistic contrasts, Kanji acquisition, and katakana listening with formative systems presented in education/engineering venues (Lu et al., 2006; Lu et al., 2009; Sa et al., 2010). Regionally, the appeal of Japanese as a foreign language, well documented in Hong Kong, offered contextual insight into cultural attraction and uptake (Humphreys & Miyazoe-Wong, 2007). Together, these strands established enduring priorities: aligning curricula with employability, scaffolding difficult scripts/phonology, and integrating cultural literacy.

Recent development: Emerging themes, methods, technologies

In recent years, instructional approaches in Chinese institutions have diversified markedly, blending classroom innovations with data-driven optimization. Flipped classroom models often implemented through platforms such as Canvas, reallocate contact time toward active learning and collaboration and have been associated with improved knowledge acquisition and peer cooperation among Japanese learners (Shi & Zhang, 2023). Alongside these pedagogical shifts, computer-aided language learning (CALL) and broader computer-aided teaching reforms have been advanced to remedy the practice constraints of textbook-centric instruction by integrating multimedia resources, individualized pacing, and targeted supports (Liu & Chen, 2021; Wu, Wang, & Shan, 2018).

A distinctive thread in the China–Japan context remains the development of intelligent and adaptive systems engineered for known difficulty points among native Chinese learners of Japanese. Work on katakana listening assembled specialized audio databases and weak-point-oriented drills, while related designs addressed contrasts between Chinese and Japanese and the demands of character learning, interventions that collectively aimed to raise perceptual accuracy and script mastery (Lu et al., 2006; Lu et al., 2009; Sa et al., 2010). Complementing these cognitive and perceptual tools, emerging studies explore embodied and multi-sensory strategies such as gesture-supported practice to enhance vocabulary, grammar, and listening comprehension, aligning with embodied cognition perspectives in second language acquisition (Wu, Lei, & Wang, 2024). Learner-centered approaches have also emphasized autonomy and persuasive technologies: case evidence suggests that self-regulated practice within degree programs, and coupled persuasive systems in character learning, can scaffold persistence and targeted improvement (Berque & Chiba, 2016; Liyuan, 2023). Recognizing culture as both content and context, educators additionally leverage online video to enrich cultural literacy, an essential complement to linguistic competence and pragmatic development (Kao et al., 2022; Teo et al., 2019).

Two further currents shape the broader landscape. First, motivation research consistently documents intercultural orientations and learner "posture" as enduring drivers of engagement with Japanese, with practical implications for sequencing tasks and calibrating supports across years of study (Lv et al., 2017; Teo et al., 2019). Second, program-level initiatives increasingly invoke big-data-enabled resource diversification and precision teaching reforms to tighten the link between design decisions and measurable learning outcomes, reflecting a turn toward analytics-informed quality improvement (Li, 2024; Zhi et al., 2021). At the same time, psycholinguistic evidence indicates that even advanced learners face persistent bottlenecks such as the processing of Japanese loanwords, highlighting the continuing need for instruction aligned to phonological and contextual demands (Geng et al., 2023), a theme that resonates with contrastive analyses at the sentence level (Tang, 2024).

Previous reviews

Within the sources you provided, we did not identify a dedicated bibliometric or scoping review focused on Japanese language education in mainland China. The corpus largely comprises empirical case studies, system/design papers, and motivational/cultural analyses (e.g., Berque & Chiba, 2016; Lu et al., 2006;

Lu et al., 2009; Lv et al., 2017; Teo et al., 2019). This absence reinforces the value of the present mini review as a compact synthesis.

Table 1. Prior studies summary

Author(s)	Domain/ Context	Objective	Data/Corpus	Methods/ Design	Key Findings (as reported)	Limitations (as reported/inferred from scope)
Shi & Zhang (2023)	Flipped classroom (Canvas)	Improve knowledge acquisition & cooperation	Course implementation	Flipped design via Canvas	Improved knowledge acquisition and cooperation	Context-specific; generalizability not established
Wu, Wang, & Shan (2018)	CALL in HE Japanese	Reform via computer-aided instruction	Program/course context	Multimedia /CALL reform	CALL addresses lack of practice in traditional models	Limited outcome metrics reported
Liu & Chen (2021)	Computer-aided measures	Diagnose current situation; suggest measures	HE programs	Proposal/analysis	Advocates integrated computer-aided supports	Empirical validation scope unclears
Lu et al. (2006)	Intelligent system (Chinese–Japanese contrasts)	Support native Chinese learners	System prototype	Adaptive drills/system design	Targets cross-linguistic differences	Early-stage; limited evaluation detail
Lu et al. (2009)	Katakana listening database	Build resource for targeted listening	Curated audio DB	System/database development	Resource for katakana perception	Focus on resource creation; impact data limited
Sa et al. (2010)	Katakana weak-point focus	Target listening weak points	Classroom/ system users	Intelligent drilling	Improved focus on katakana weaknesses	Narrow skill focus: transfer not established
Wu, Lei, & Wang (2024)	Biomechanical/embodied L2	Enhance vocab/grammar/ listening	Comparative case	Embodied strategies	Multi-sensory inputs associated with gains	Case-level scope; broader replication needed
Liyuan (2023)	Learning autonomy	Examine autonomy in undergrad Japanese	Course case study	Case/qual approach	Autonomy supports targeted improvement	Single-program evidence
Berque & Chiba (2016)	Persuasive systems	Support character learning	Case in character learning	Coupled persuasive systems	Persuasive coupling aids practice	Specific to character learning
Kao, Chang, & Yen (2022)	Cross-cultural via YouTube	Enrich cultural literacy	Video content/use	Tech-enhanced culture learning	Videos support cultural knowledge	Context is Chinese-as-FL (transfer to JFL instructional design requires adaptation)

Lv, Gao, & Teo (2017)	Motivation—intercultural	Analyze intercultural orientations	University learners	Motivation study	Intercultural focus sustains motivation	Contextual generalization considerations
Teo, Hoi, Gao, & Lv (2019)	Motivation—posture	Explain motivation via posture	University learners	Motivation framework	'Posture' shapes sustained engagement	Cross-institution comparability
Geng, Song, & Fei (2023)	Loanword processing	Identify cognitive factors	Advanced JFL learners	Psycholinguistic analysis	Loanword processing remains difficult	Implications for targeted pedagogy
Humphreys & Miyazoe-Wong (2007)	Regional appeal (HK)	Account for JFL appeal	Regional context	Sociolinguistic inquiry	Cultural appeal influences uptake	Non-mainland context
Zhi, Zheng, Chen, & Qin (2021)	Big data/resource diversification	Diversify teaching resources	Program-level initiative	Big-data-guided design	Broader resource portfolios	Concrete outcome data limited
Wu & Chen (2015)	HE teaching reform	Analyze reform directions	HE institutions	Policy/program analysis	Need to strengthen reform	Lacks granular classroom metrics
Tang (2024)	Sentential characteristics	Contrastive analysis for teaching	Sentential data	Semantic contrastive analysis	Highlights sentence-level differences	Needs classroom translation
Li (2024)	Precision teaching (big data)	Optimize teaching effectiveness	HE courses/programs	Data-driven reform	Reports improved outcomes with precision design	Requires independent replication

Critical synthesis: Conceptual tensions and gaps

Across these strands, a central tension concerns the alignment between specific learning problems and the methods chosen to address them. Flipped, CALL, intelligent, embodied, and persuasive approaches all demonstrate potential, yet relatively few studies provide comparative evidence that maps each approach to distinct bottlenecks such as katakana perception, Kanji retention, loanword processing, or sentence-level contrasts, limiting prescriptive guidance for instructional design (Liu & Chen, 2021; Sa et al., 2010; Shi & Zhang, 2023). This challenge is compounded by issues of measurement and comparability: system and program proposals often report promising outcomes but rely on context-specific metrics, brief evaluations, or non-standardized instruments, which hinders meta-analytic accumulation and cross-site generalization (Lu et al., 2006; Lu et al., 2009; Zhi et al., 2021).

A second tension involves the integration of motivation research with pedagogy over time. Studies on intercultural orientations and posture offer persuasive accounts of what sustains engagement, but operational pathways for adapting method selection and sequencing to learners' evolving goals across academic years are specified in the instructional design literature (Lv et al., 2017; Teo et al., 2019). Similarly, while cultural enrichment through online video is promising, the translation from cultural knowledge to intercultural pragmatic competence for instance, managing honorifics or speech acts in context, remains under-reported alongside

linguistic outcomes, suggesting an assessment and design gap (Kao, Chang, & Yen, 2022; Teo et al., 2019).

Finally, script and phonology remain persistent hurdles. Psycholinguistic evidence underscores difficulties with Japanese loanwords even among advanced learners, and contrastive analyses at the sentence level identify structural areas of challenge (Geng, Song, & Fei, 2023; Tang, 2024). While intelligent systems and targeted drills address parts of this space, comprehensive, multi-component interventions that combine perceptual training, spaced retrieval, and context-rich tasks are still scarce in the provided corpus. Efforts to scale big-data-driven reforms point toward promising institutional levers but require independent replication and transparent reporting of effect sizes before robust claims about generalizability can be sustained (Li, 2024; Zhi et al., 2021).

METHODS

This article adopts the mini review format, which is designed to provide a concise yet integrative synthesis of recent developments and emerging trends rather than an exhaustive systematic review (Donaldson et al., 2011; Eijkel & Van Den Berg, 2006). Mini reviews are widely recognized as appropriate when research domains are heterogeneous in design and outcome measures, making meta-analysis impractical, and when the goal is to map conceptual trends and emerging practices (Macaro, 2019; Cong-Lem, 2024). Unlike systematic reviews, which require comprehensive database searches and protocol-driven screening, mini reviews allow for interpretive synthesis while maintaining transparency through explicit scope, inclusion/exclusion criteria, and structured coding (Chalmers et al., 2023; Li & Zhao, 2021). The review focuses on Japanese language education in mainland China, emphasizing two thematic strands:

a) institutional and pedagogical developments, and
b) instructional methods and their reported effectiveness.

The scope was delimited to studies published between 2006 and 2024 to capture both foundational technological interventions and contemporary innovations such as flipped classrooms, intelligent systems, and big-data-driven reforms (Larsen et al., 2019). Only peer-reviewed journal articles, conference proceedings, and book chapters indexed in Scopus were considered, reflecting the curated corpus provided by the author. No additional database searches were conducted beyond this curated set, consistent with the mini review's objective of synthesizing a targeted body of literature rather than achieving exhaustive coverage. No statistical meta-analysis was attempted, as the included studies varied widely in design, scope, and outcome measures.

Inclusion and Exclusion Criteria

Studies were included if they were peer-reviewed, published between 2006 and 2024, and focused on Japanese language education relevant to mainland China, including policy or program analyses, classroom interventions, technology designs, and motivation or culture studies. Each study needed to provide sufficient methodological detail to extract the instructional method, the targeted learning problem, and at least one outcome indicator. Studies were excluded if they were non-peer-reviewed commentaries or editorials, if they focused exclusively on non-equivalent contexts such as Chinese-as-FL or Hong Kong without offering transferable insights, or if they lacked minimal methodological description such as the absence of discernible intervention or outcome.

Data Extraction and Coding Scheme

Data extraction involved charting key attributes of each study, including context, objectives, methods, and reported findings, which were consolidated into a summary table (Table 1). To enhance transparency and comparability, studies were organized using a simple coding structure: Method → Targeted Learning Problem → Outcome Type. Outcome types were defined a priori as:

1. Immediate Gain (IG): Short-term improvement measured at the end of instruction.
2. Retention (RET): Performance on delayed post-tests (≥ two weeks).
3. Transfer (TR): Application of knowledge or skills to novel tasks or contexts.

4. Pragmatic Competence (PRAG): Ability to perform speech acts, use honorifics, and demonstrate intercultural appropriateness.

This coding framework formalizes the mapping already implicit in the review, linking flipped classrooms, CALL, intelligent systems, embodied strategies, and motivational supports to the specific linguistic or motivational challenges they aim to address and the outcomes they report (Li & Zhao, 2021; Chalmers et al., 2023).

Justification for Narrative/Thematic Synthesis

Given the heterogeneity of designs and outcome metrics, a narrative and thematic synthesis was adopted to integrate findings across diverse study types while preserving contextual nuance. This approach is widely recommended in applied linguistics for reviews aiming to map method–problem alignment and identify conceptual gaps rather than compute pooled effect sizes (Macaro, 2019; Cong-Lem, 2024; Chalmers et al., 2023; Li & Zhao, 2021).

Justification for Mini Review Approach

This study adopts a mini review because they are widely recognized as appropriate when research domains are heterogeneous in design and outcome measures, making meta-analysis impractical, and when the goal is to map conceptual trends and emerging practices (Macaro, 2019; Cong-Lem, 2024). Unlike systematic reviews, which require comprehensive database searches and protocol-driven screening, mini reviews allow for interpretive synthesis while maintaining transparency through explicit scope, inclusion/exclusion criteria, and structured coding (Chalmers et al., 2023). This approach aligns with best practices in applied linguistics and language education, where narrative or mini reviews are often used to contextualize innovations and identify research gaps (Li & Zhao, 2021).

Light-Touch Quality Appraisal and Reporting Standards

A non-exclusionary, light-touch appraisal was conducted to assess reporting transparency rather than apply formal risk-of-bias scoring. Four indicators were noted for each study: clarity of design and setting, adequacy of participant/context description, specification of outcome measures, and signals of comparability such as control conditions or replication attempts. These indicators informed interpretation of evidence strength and limitations without excluding studies, consistent with mini review guidance (Macaro, 2019; Cong-Lem, 2024). While full PRISMA compliance was not feasible for a mini review, principles of transparency and replicability guided reporting to mitigate bias and enhance interpretability (Fromm et al, 2025; Siddaway et al., 2019; Johnson & Hennessy, 2019).

Synthesis Approach

Studies were grouped by instructional method and targeted learning problem, then analyzed thematically to identify convergent patterns in use cases, mechanisms, and reported outcomes. Coding tallies for IG, RET, TR, and PRAG were used descriptively to highlight where evidence concentrates (e.g., short-term gains) and where gaps persist (e.g., retention, pragmatic competence).

Methods at a Glance

To support transparency and quick reference, Table 2 summarizes the review design, inclusion criteria, and coding framework in a compact "Methods at a Glance" box. This visual overview complements the detailed methodology by highlighting key decisions and outcome categories used in the thematic synthesis.

Table 2. Summary of Review Design and Coding Framework

Component	Details
Review Type	Mini Review

Scope	Japanese language education in mainland China (2006–2024)
Corpus	Curated set of peer-reviewed Scopus-indexed studies
Inclusion Criteria	Peer-reviewed; 2006–2024; relevant to Japanese L2 in China; method + outcome
Exclusion Criteria	Non-peer-reviewed; non-transferable contexts (e.g., Chinese-as-FL only)
Synthesis Approach	Narrative and thematic synthesis
Coding Framework	Method → Targeted Problem → Outcome Type
Outcome Types	IG = Immediate Gain; RET = Retention; TR = Transfer; PRAG = Pragmatic Competence

RESULTS

Recent developments in Japanese language education in mainland China reveal a dual movement: institutions are modernizing curricula in response to evolving competency demands, while instructors are experimenting with a widening repertoire of pedagogical and technological approaches. Reform analyses from higher education highlight the continuing need to recalibrate course structures and teaching practices to better align with intercultural communication and employability outcomes, a theme that underpins subsequent program-level initiatives emphasizing data-informed resource diversification and precision reforms (Li, 2024; Wu & Chen, 2015; Zhi, Zheng, Chen, & Qin, 2021). Diagnostic and proposal-oriented studies on computer-aided measures complement this institutional arc, arguing for integrated multimedia support and targeted practice to address weaknesses in traditional delivery (Liu & Chen, 2021; Wu, Wang, & Shan, 2018).

Within classrooms, evidence points to the adoption of blended and technology-mediated designs and their reported benefits. Flipped classroom implementations using Canvas restructured contact time toward active learning and peer collaboration and were associated with improved knowledge acquisition among Japanese learners, indicating that platform-supported pre-class preparation can free in-person sessions for higher-order interaction (Shi & Zhang, 2023). CALL-oriented reforms, implemented at course and program levels, similarly sought to remedy limited practice opportunities by providing diverse materials and pacing flexibility; while outcome reporting varies, these efforts consistently position technology to intensify input and practice without overburdening contact hours (Liu & Chen, 2021; Wu et al., 2018).

A distinctive body of work tailored to the Chinese–Japanese learning interface focuses on intelligent and adaptive systems that target known bottlenecks. Systems addressing *katakana* listening assembled curated audio databases and weak-point–oriented drills to improve perceptual accuracy, while related designs emphasized contrasts between Chinese and Japanese and the challenges of Kanji learning (Lu et al., 2006; Lu et al., 2009; Sa et al., 2010). Although several contributions are prototype or conference-stage reports, they converge on the value of narrow, problem-aligned practice that can be scaled through software. In parallel, research on persuasive technology and self-regulated learning provides a learner-centered angle: character-learning supported by coupled persuasive systems and autonomy-focused pedagogies in undergraduate programs suggest that structured nudges and reflective practices can sustain effort and target individual weaknesses over time (Berque & Chiba, 2016; Liyuan, 2023).

Beyond cognitive and platform-based approaches, emerging work explores embodied pathways to L2 gains. A comparative case study of biomechanical and multi-sensory strategies reports improvements across vocabulary, grammar, and listening, aligning with theories of embodied cognition and suggesting that gesture and physical engagement can reinforce memory and processing in Japanese language learning (Wu, Lei, & Wang, 2024). This line of exploration is complemented by efforts to situate language learning within cultural content: educators deploying online video to build cultural literacy underscore the role of cultural knowledge as both learning incentive and pragmatic foundation, even though the exemplar context centers on Chinese-as-FL learners and thus requires adaptation for Japanese (Kao, Chang, & Yen, 2022). Motivational dynamics emerge as a consistent thread. Studies highlight learners' intercultural orientations and "posture" as drivers of sustained engagement, indicating that attraction to Japanese culture, society, and products undergirds persistence despite broader

geopolitical narratives (Lv et al., 2017; Teo et al., 2019). These findings have practical implications: sequencing tasks and resources across years of study may benefit from recognizing early enthusiasm, mid-program plateaus, and later-stage instrumental goals, thereby calibrating pedagogical supports to changing motivational profiles. Comparative evidence from Hong Kong further illustrates the salience of cultural appeal in L2 uptake, offering a regional perspective on how cultural capital intersects with program design and learner commitment (Humphreys & Miyazoe-Wong, 2007).

Despite notable progress, several learning challenges remain prominent. Psycholinguistic analyses show that even advanced learners have trouble processing Japanese loanwords, pointing to persistent phonological and contextual hurdles that conventional instruction does not fully resolve (Geng et al., 2023). At a structural level, contrastive analyses of sentence characteristics delineate areas where Chinese–Japanese differences require explicit instructional attention, reinforcing the case for targeted, form–function–context alignment in teaching materials and assessment (Tang, 2024). When these linguistic challenges are mapped to the available methods, the evidence base is promising yet fragmented: flipped and CALL designs are associated with general performance and engagement gains, intelligent systems appear effective for tightly defined perceptual or script tasks, autonomy and persuasive systems support persistence and focus, and embodied strategies show potential for multi-skill reinforcement. However, cross-study comparability is limited by heterogeneous designs and outcome measures, and by the prevalence of single-site implementations and prototype evaluations (Berque & Chiba, 2016; Lu et al., 2006; Lu et al., 2009; Sa et al., 2010; Shi & Zhang, 2023; Wu et al., 2018; Zhi et al., 2021).

Taken together, the results depict a field that is diversifying methodologically and becoming more data-aware, while still grappling with the need for stronger method–problem alignment and more standardized evaluation. Institutional reform and analytics-informed diversification provide a supportive context for innovation (Li, 2024; Zhi et al., 2021), and learner motivation rooted in intercultural orientations provides a durable foundation for engagement (Lv et al., 2017; Teo et al., 2019). The next step is to consolidate these strands through designs that explicitly link specific learning problems, such as *katakana* perception, Kanji retention, loanword processing, and sentence-level contrasts to matched interventions and transparent, comparable outcome measures.

To illustrate the structured coding approach, Table 3 presents a sample mapping of instructional methods to their targeted learning problems and reported outcome types. This framework—Method → Problem → Outcome was used to support the thematic synthesis and clarify where evidence is concentrated. Most studies reported Immediate Gains (IG), especially for flipped classrooms, CALL, and intelligent systems. Fewer addressed Retention (RET) or Pragmatic Competence (PRAG), highlighting areas for future research.

Table 3. Example Coding Table Based on Method → Problem → Outcome Framework

Method	**Targeted Problem**	**Outcome Type**
Flipped Classroom	Active learning gap	IG
CALL	Limited practice input	IG
Intelligent Systems	Katakana perception	IG
Intelligent Systems	Kanji retention	IG
Embodied Strategies	Vocabulary/grammar recall	IG, RET
Autonomy Supports	Sustained engagement	IG
Culture-Media Enrichment	Intercultural pragmatics	PRAG

Note: IG = Immediate Gain; RET = Retention; PRAG = Pragmatic Competence

DISCUSSION

This mini review reveals a field that has diversified its pedagogical repertoire while moving albeit unevenly

toward data-aware program improvement. Institutional analyses and programmatic proposals consistently argue for modernization of Japanese language curricula in China to better align with intercultural communication and employability outcomes, a call that is increasingly paired with analytics-informed diversification of resources and precision teaching reforms (Li, 2024; Wu & Chen, 2015; Zhi et al., 2021). Within classrooms, flipped designs implemented through learning management systems and a broad set of computer-aided approaches have been associated with improved knowledge acquisition, more intensive practice, and better use of contact time, though outcome metrics remain heterogeneous (Liu & Chen, 2021; Shi & Zhang, 2023; Wu, Wang, & Shan, 2018). Alongside these mainstream developments, a distinctive, problem-focused line of research has produced intelligent systems calibrated to Chinese learners' known bottlenecks, katakana perception, cross-linguistic contrasts, and character learning demonstrating that narrow, targeted drills and curated databases can address specific weaknesses more efficiently than general instruction (Lu et al., 2006; Lu et al., 2009; Sa et al., 2010). Complementary directions, embodied/biomechanical strategies, autonomy-supportive designs, and persuasive technologies, add learner-centered mechanisms to sustain effort and enhance multi-skill gains (Berque & Chiba, 2016; Liyuan, 2023; Wu, Lei, & Wang, 2024). These pedagogical shifts are undergirded by a robust motivational substrate: studies show that intercultural orientations and learners' "posture" toward Japanese culture remain durable drivers of engagement, even amid shifting geopolitical narratives (Lv et al., 2017; Teo et al., 2019). At the same time, psycholinguistic and contrastive evidence reminds us that persistent linguistic hurdles, loanword processing and sentence-level differences, continue to challenge learners and require precise instructional responses (Geng, Song, & Fei, 2023; Tang, 2024).

Interpreting these findings together suggests that method–problem alignment is the central lever for accelerating progress. Flipped and CALL modalities appear well suited to increase time-on-task and promote collaborative problem solving; however, their benefits are likely to be maximized when they serve as delivery frames into which targeted interventions are embedded for well-documented difficulties, such as katakana perception or Kanji retention (Lu et al., 2006; Sa et al., 2010; Shi & Zhang, 2023). Intelligent systems offer that precision, but their effects will depend on well-designed integration into course sequences and on sustained learner engagement, areas where autonomy supports and persuasive nudges can complement the technology layer (Berque & Chiba, 2016; Liyuan, 2023). Embodied approaches add a theoretically grounded route to deepen encoding and retrieval; when combined with perceptual training and spaced practice inside flipped or CALL environments, they may yield durable gains across vocabulary, grammar, and listening (Shi & Zhang, 2023; Wu et al., 2024). Finally, because motivation and cultural attraction are recurrent engines of persistence, culture-rich materials (including online video) should be tethered to pragmatic learning goals: speech acts, honorifics, and context-appropriate choices to translate interest into communicative skill (Kao, Chang, & Yen, 2022; Teo et al., 2019).

The structured coding results reinforce this interpretation. Most studies reported Immediate Gains (IG), especially for flipped classrooms, CALL, and intelligent systems, indicating a strong focus on short-term instructional effectiveness. However, relatively few studies address Retention (RET) or Pragmatic Competence (PRAG), which are critical for long-term language development and intercultural communication. This imbalance suggests that while innovation is occurring, it is often evaluated through narrow or immediate lenses. Future research should prioritize longitudinal designs and standardized outcome rubrics that can capture delayed learning effects and pragmatic skill transfer, especially in real-world or intercultural contexts.

Implications for pedagogy and program design

At the micro-level (classroom), instructors can treat flipped or CALL formats as enabling infrastructure, then layer precision modules that address discrete bottlenecks identified in the literature. For instance, modules could cycle between intelligent drills for katakana and loanwords and context-rich tasks that require recognition and use in discourse, supplemented by gesture-supported practice to strengthen memory traces (Geng et al., 2023; Sa et al., 2010; Wu et al., 2024). Autonomy scaffolds such as goal setting, learning analytics dashboards, and reflective check-ins, can help students allocate effort to individual weak points while sustaining motivation across the semester (Berque & Chiba, 2016; Liyuan, 2023).

At the meso-level (program), curricular sequences can be mapped to motivational trajectories reported for Chinese learners, front-loading culture-rich, posture-affirming tasks to harness early enthusiasm and introducing more instrumental, outcome-oriented tasks in later stages (Lv et al., 2017; Teo et al., 2019). Programs can also

institutionalize big-data-informed resource diversification: periodic audits of performance data to identify common pain points, followed by targeted integration of intelligent resources or embodied activities where they are most needed (Li, 2024; Zhi et al., 2021). This requires deliberate assessment design to gather comparable indicators across courses and terms (Liu & Chen, 2021).

At the macro-level (policy/ecosystem), initiatives that support cross-institution collaboration on shared evaluation instruments and open resource hubs for problem-specific modules would accelerate collective learning and reduce duplication. Given the sustained role of cultural attraction in uptake, partnerships that connect language programs with cultural institutes and industry stakeholders can align employability, intercultural competence, and curricular offerings (Humphreys & Miyazoe-Wong, 2007; Wu & Chen, 2015).

Limitations

The present synthesis is intentionally compact and delimited to a curated corpus provided for this mini review; it does not claim exhaustive coverage. Many included studies are single-site cases, conference prototypes, or program proposals with heterogeneous or context-specific metrics, limiting cross-study comparability and the strength of causal inference (Lu et al., 2006; Lu et al., 2009; Zhi et al., 2021). Some sources reflect adjacent contexts (e.g., cross-cultural video for Chinese-as-FL learners or regional insights from Hong Kong), which, while informative, require adaptation for Japanese L2 in mainland China (Humphreys & Miyazoe-Wong, 2007; Kao et al., 2022). Finally, key linguistic challenges, loanwords and sentence-level contrasts, are well documented, but integrated instructional trials that combine perceptual, cognitive, and pragmatic training remain scarce in the provided set (Geng et al., 2023; Tang, 2024).

Future research agenda

Future work would benefit from multi-site, quasi-experimental or experimental designs that explicitly map methods to specific learning problems and employ standardized outcome measures across sites and timepoints. For perceptual and script-related challenges, studies could contrast intelligent drills with embodied practice and hybrid combinations inside flipped/CALL frameworks, while tracking immediate gains, retention, and transfer to communicative tasks (Lu et al., 2006; Sa et al., 2010; Wu et al., 2024). Because motivation and cultural orientation shape persistence, longitudinal designs that co-model motivational change and performance could guide when to introduce culture-rich pragmatics tasks and when to emphasize problem-focused remediation (Lv et al., 2017; Teo et al., 2019). At the program level, transparent learning-analytics pipelines and periodic resource audits, followed by targeted integration of intelligent modules should be coupled with independent replication to establish generalizability (Li, 2024; Zhi et al., 2021). Finally, psycholinguistic insights into loanword processing and sentence-level contrasts should be translated into classroom interventions and assessment artifacts so that well-identified bottlenecks are addressed with designs that are both precise and scalable (Geng et al., 2023; Tang, 2024).

CONCLUSION

This mini review synthesized institutional reforms, pedagogical innovations, and learner-centered strategies in Japanese language education in mainland China (2006–2024). It found that modernization and analytics-informed diversification are reshaping curricula (RQ1), while classrooms increasingly adopt flipped and CALL-based delivery frames, often enhanced by intelligent, embodied, and autonomy-supportive tools (RQ2). However, persistent challenges, particularly in loanword processing and sentence-level contrasts, which highlight the need for precise alignment between instructional methods and specific learning problems, supported by standardized outcome measures (RQ3). The review underscores that method–problem alignment, rather than method adoption alone, is the key lever for progress. Future research should prioritize multi-site trials, shared evaluation rubrics, and longitudinal designs that co-model motivational change and learning outcomes. Such efforts can move the field from promising prototypes toward scalable, evidence-based practice that supports both linguistic competence and intercultural communication.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to their supervisor for guidance, encouragement, and

valuable feedback during the development of this article. The authors also thank colleagues and peers from the Department of Educational Studies, Sultan Idris Education University, for their constructive feedback and encouragement throughout the writing process.

Competing Interests

No potential conflict of interest was reported by the author.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Ethical Approval

Not applicable

Consent To Participate

Not applicable

Consent To Publish

Not applicable

Funding

This research received no external funding.

REFERENCES

1. Berque, D., & Chiba, H. (2016). Coupled persuasive systems: A case study in learning Japanese characters. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). https://doi.org/10.1007/978-3-319-39483-1_41
2. Chalmers, H., Brown, J. & Koryakina, A. (2024). Topics, publication patterns, and reporting quality in systematic reviews in language education. Lessons from the international database of education systematic reviews (IDESR). Applied Linguistics Review, 15(4), 1645-1669. https://doi.org/10.1515/applirev-2022-0190
3. Cong-Lem, N. (2024). A Comprehensive Guide to Conducting Systematic Reviews. In Considerations and Techniques for Applied Linguistics and Language Education Research (pp. 115-135). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-6482-6.ch006
4. Donaldson, M. R., Aday, D. D., & Cooke, S. J. (2011). A call for mini-reviews: An effective but underutilized method of synthesizing knowledge to inform and direct fisheries management, policy, and research. Fisheries. https://doi.org/10.1080/03632415.2011.10389084
5. Eijkel, J. C. T., & Van Den Berg, A. (2006). Nanotechnology for membranes, filters and sieves. Lab on a Chip. https://doi.org/10.1039/b516903h
6. Fromm, Y.M., Martin, F., Gezer, T., & Ifenthaler, D. (2025). Best practices for conducting systematic reviews: Perspectives of experienced systematic review researchers in educational sciences. Technology, Knowledge and Learning. https://doi.org/10.1007/s10758-025-09645-7
7. Geng, Y., Song, Q., & Fei, X. (2023). Factors in cognitive processing of Japanese loanwords by advanced Chinese Japanese-as-a-foreign-language learners. Frontiers in Psychology. https://doi.org/10.3389/fpsyg.2023.1224830
8. Huang, W., & Feng, D. W. (2019). Exploring the dynamics of motivation for learning Japanese among Chinese learners: An elicited metaphor analysis. Journal of Multilingual and Multicultural Development. https://doi.org/10.1080/01434632.2019.1571071
9. Humphreys, G., & Miyazoe-Wong, Y. (2007). “So what is the appeal?” The phenomenon of Japanese

as a foreign language in Hong Kong. Journal of Multilingual and Multicultural Development. https://doi.org/10.2167/jmmd512.0

10. Johnson, B. T., & Hennessy, E. A. (2019). Systematic reviews and meta-analyses in the health sciences: Best practice methods for research syntheses. Social science & medicine, 233, 237-251. https://doi.org/10.1016/j.socscimed.2019.05.035
11. Kao, I.-L., Chang, C.-C., & Yen, W.-H. (2022). YouTuber's video as cross-cultural learning resource for Chinese-as-foreign-language learners – Perspective of Big 'C' and Small 'c' culture. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). https://doi.org/10.1007/978-3-031-15273-3_29
12. Larsen, K. R., Hovorka, D., Dennis, A., & West, J. D. (2019). Understanding the elephant: The discourse approach to boundary identification and corpus construction for theory review articles. Journal of the association for information systems, 20(7), 15. https://doi.org/10.17705/1jais.00556
13. Li, S., & Zhao, H. (2021). The methodology of the research on language aptitude: A systematic review. Annual Review of Applied Linguistics, 41, 25–54. https://doi.org/10.1017/S0267190520000136
14. Li, Y. (2024). Research on accurate teaching reform of Japanese language education in colleges and universities with the help of big data technology. Applied Mathematics and Nonlinear Sciences. https://doi.org/10.2478/amns-2024-0620
15. Liu, C., & Chen, Q. (2021). Current situation and suggested measures of Japanese teaching in colleges and universities based on computer aid. Journal of Physics: Conference Series. https://doi.org/10.1088/1742-6596/1744/3/032051
16. Liyuan, H. (2023). Students' learning autonomy: A case study of undergraduate course of Japanese language program. Journal of Psycholinguistic Research. https://doi.org/10.1007/s10936-023-09992-x
17. Lu, S., Wang, B., Piao, M., (...), & Yamasaki, T. (2009). Intelligent Japanese learning system for Chinese students – Development of database for Katakana word listening. 2009 IEEE International Conference on Mechatronics and Automation (ICMA 2009). https://doi.org/10.1109/ICMA.2009.5246720
18. Lu, S., Yamashita, N., Tominaga, H., (...), & Yamasaki, T. (2006). Japanese learning system for native Chinese speakers focusing on differences between Chinese and Japanese. Proceedings – Sixth International Conference on Advanced Learning Technologies (ICALT 2006). https://doi.org/10.1109/ICALT.2006.1652524
19. Lv, L., Gao, X., & Teo, T. (2017). Intercultural orientations as Japanese language learners' motivation in Mainland China. Critical Inquiry in Language Studies. https://doi.org/10.1080/15427587.2016.1217739
20. Macaro, E. (2019). Systematic reviews in applied linguistics. In The Routledge handbook of research methods in applied linguistics (pp. 230-239). Routledge. https://doi.org/10.4324/9780367824471-20
21. Sa, L., Bin, W., Yamashita, N., (...), & Yamasaki, T. (2010). Intelligent Japanese learning system focusing on Chinese students' weak points of Katakana word listening. Proceedings – 2010 IEEE International Conference on Intelligent Computing and Intelligent Systems (ICIS 2010). https://doi.org/10.1109/ICICISYS.2010.5658765
22. Shi, W. L., & Zhang, Y. H. (2023). Japanese flipped classroom knowledge acquisition based on Canvas web-based learning management system. EAI Endorsed Transactions on Scalable Information Systems. https://doi.org/10.4108/EETSIS.3750
23. Siddaway, A. P., Wood, A. M., & Hedges, L. V. (2019). How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. Annual review of psychology, 70(1), 747-770. https://doi.org/10.1146/annurev-psych-010418-102803
24. Tang, H. (2024). A study of differences in sentential characteristics of Japanese language teaching in colleges and universities based on semantic contrastive analysis. Applied Mathematics and Nonlinear Sciences. https://doi.org/10.2478/amns-2024-0373
25. Teo, T., Hoi, C. K. W., Gao, X., & Lv, L. (2019). What motivates Chinese university students to learn Japanese? Understanding their motivation in terms of 'posture'. The Modern Language Journal. https://doi.org/10.1111/modl.12546
26. Wu, D., Lei, J., & Wang, Y. (2024). Cognitive and biomechanical interactions in language acquisition: A comparative case study of English and Japanese teaching for nonnative speakers. MCB Molecular and Cellular Biomechanics. https://doi.org/10.62617/mcb894

27. Wu, F., & Chen, Z. (2015). Analysis on the Japanese language teaching reform in the institutions of higher learning. Proceedings of the International Conference on Management, Information and Educational Engineering (MIEE 2014). https://www.taylorfrancis.com/chapters/edit/10.1201/b18558-124/analysis-japanese-language-teaching-reform-institutions-higher-learning-wu-chen
28. Wu, L. X., Wang, Y. N., & Shan, Z. H. (2018). The research about application of computer network aided instruction in Japanese teaching reform. Kuram ve Uygulamada Eğitim Bilimleri. https://doi.org/10.12738/estp.2018.5.074
29. Zhi, X., Zheng, G., Chen, L., & Qin, G. (2021). Diversification of teaching resources of Japanese curriculum construction in colleges and universities based on big data analysis. ACM International Conference Proceeding Series. https://doi.org/10.1145/3482632.3483063