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Teachers' Perceptions of Gamification in Online Basic Chinese Courses for Primary School Students: Use and Challenges

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Abstract

With the rapid expansion of digital technology and the growing prevalence of online education, gamification- the integration of game-based elements into instructional design-has become an increasingly prominent approach in online language learning. Existing research has largely focused on university-level learners, app-based language platforms, or general gamification design principles, with limited attention to how teachers of Chinese as a foreign language (TCFL) apply gamification in online basic Chinese courses for young beginners. Moreover, few studies have examined teachers' perceptions, the challenges they encounter, and the strategies they employ in real instructional settings. To address this gap, this study investigated how 139 TCFL teachers perceived and used gamification in online Chinese courses for primary school students and explored the instructional challenges they faced as well as the solutions they adopted. A mixed-methods approach was adopted, with quantitative and qualitative data analyzed using SPSS 27 and content analysis, respectively. The questionnaire data showed that TCFL teachers reported a high level of gamification use in online Chinese instruction ($\bar{x}$ = 3.782, SD = 1.300). While they expressed positive attitudes toward gamification ($\bar{x}$ = 3.649, SD = 1.364), they also identified significant challenges ($\bar{x}$ = 3.944, SD = 1.234). Interview data further revealed that common gamification types primarily supported learning motivation, cultural knowledge expansion, and language skills practice. The relevance of tools such as Pinyin Cannon and Chinese Character Puzzles to Chinese language learning was particularly emphasized. Although gamification was found to improve student motivation, engagement, and learning outcomes, TCFL teachers still faced multiple challenges, including: 1) balancing games with teaching objectives; 2) resource limitations; 3) technical barriers; 4) insufficient accommodation of diverse learning styles; and 5) limited parental awareness. To address these challenges, teachers employed creative strategies such as designing customized games and preparing backup lesson plans. By highlighting teachers' firsthand experiences and practical pedagogical responses, this study contributes to the literature by offering an empirically grounded understanding of how gamification functions in online TCFL contexts for young learners. The findings provide actionable implications for educators, program designers, and policymakers aiming to enhance the quality and effectiveness of online Chinese language instruction through gamification.

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Keywords: teaching Chinese as a foreign language (TCFL), online basic Chinese courses, gamification teaching method, primary school students, teacher perceptions

Introduction

In recent years, digital transformation has redefined the educational landscape, bringing with it new methodologies and challenges. One such approach is gamification, which incorporates game-based elements, such as points, rewards, storylines, and competitive tasks, into non-game educational settings (Deterding et al., 2011). In the domain of second language acquisition (SLA), particularly Teaching Chinese as a Foreign Language (TCFL), gamification is increasingly gaining attention as a method to boost learner engagement and performance (Xu, 2011). This trend is particularly significant in online teaching contexts, which have surged in popularity due to global demand and pandemic-related constraints (Wang, 2021).

Primary school students present a unique demographic: they are often digital natives yet require developmentally appropriate and interactive content (Hu, 2018). The tonal and logographic nature of the Chinese language, while rich in culture and history, presents unique challenges for young learners (Everson & Shen, 2010). Teachers must balance the complexity of the language with the need to maintain student motivation and attention spans. Gamification, when implemented effectively, can provide a solution to this pedagogical dilemma (Su & Cheng, 2015).

However, despite the increasing popularity of gamification teaching, few empirical studies have explored the specific experiences and perspectives of TCFL teachers using gamification in online basic Chinese courses for primary school students (Zhang & Kim, 2021). Addressing this gap is important not only for Chinese language education, but also for broader language teaching contexts. Insights from TCFL teachers' experiences can inform pedagogical strategies for other foreign languages, including English, particularly in online or digitally enhanced learning environments. The study explored TCFL teachers' definitions and attitudes toward gamification, common teaching methods, perceived benefits, challenges, and practical strategies for overcoming obstacles, offering guidance for educators across different language classrooms.

Literature Review

Different Perceptions on the Definitions of the Gamification Teaching Method

The Gamification Teaching Method has been defined and interpreted from multiple perspectives within educational research and practice. At its core, gamification refers to the integration of game elements, such as points, badges, leaderboards, levels, and rewards, into non-game contexts to enhance engagement and motivation (Deterding et al., 2011; Werbach & Hunter, 2012). In teaching, especially within language education, gamification is not merely about playing games but about applying game design principles to create immersive, goal-driven learning environments. Researchers emphasize its alignment with contextualized learning, where storytelling, challenge, and feedback are used to stimulate curiosity and foster deep learning (Zichermann & Cunningham, 2011; Kapp, 2012).

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In the context of Teaching Chinese as a Foreign Language (TCFL), definitions of gamification are shaped by both educational goals and classroom realities. Many TCFL teachers view gamification as a way to enhance student motivation and interaction by making lessons more dynamic and enjoyable. For instance, Reinders and Wattana (2015) highlight its ability to create a sense of progress and achievement through visual and interactive elements, while Chen and Tsai (2020) point to its role in facilitating vocabulary retention and grammar acquisition through repetition and play. Some TCFL teachers define gamification as a behavioral management strategy that fosters collaboration, competition, and peer engagement (Li, 2022). By leveraging leaderboards and group challenges, teachers can create a supportive and motivating classroom atmosphere. Others stress its personalization potential-gamified tools allow students to progress at their own pace, adapt to varying ability levels and experience a sense of control over their learning journey (Godwin-Jones, 2014). Furthermore, gamification is perceived by some TCFL educators as a tool for promoting social interaction. Team-based activities and peer challenges help develop real-life communication skills and cultural understanding (Hamari et al., 2014). For younger learners especially, gamification aligns with cognitive development needs by providing frequent repetition in a playful format (Zhao, 2021).

In summary, the perceptions of gamification in TCFL range from enhancing motivation and engagement to improving classroom dynamics and language acquisition. Despite differences in emphasis, ranging from psychological, pedagogical, to social benefits, there is consensus that well-designed gamification enriches the language learning experience and contributes to better outcomes when applied thoughtfully.

The Use of the Gamification Teaching Method

The application of gamification in teaching Chinese as a Foreign Language (TCFL) has revealed both patterns and divergences, particularly between novice and experienced educators. Existing literature shows that less experienced TCFL teachers are generally more likely to adopt gamification techniques in online basic Chinese courses. Several factors contribute to this trend. First, younger or less experienced teachers are often more receptive to modern, student-centered teaching methods (Li, 2022). Second, novice teachers are more comfortable using digital tools and gamification platforms (Chen & He, 2019). Third, gamification helps compensate for less experienced teachers' limited teaching resources (Zhao, 2021). Fourth, veteran teachers prefer traditional methods and may lack training in gamification, leading to reluctance in adopting it (Wang, 2020). Furthermore, professional development of gamification is more common in newer teacher training programs (Li, 2022).

Regarding implementation, TCFL teachers employ various types of games to enhance learning. These include vocabulary matching games (Chen & Tsai, 2020), quiz-based activities (Reinders & Wattana, 2015), flashcard games (Li, 2022), role-playing and interactive storytelling (Jenkins, 2018), puzzles like crosswords and jigsaws (Wang, 2020), memory games (Godwin-Jones, 2014) and interactive quests (Hamari et al., 2014). Many programs incorporate badges and reward systems (Sailer et al., 2017), helping to track progress and foster student motivation. Recent scholarship further highlights the value of gamified quiz platforms in language learning. For example, Dayag (2025) demonstrates how Quizizz, when incorporated into learner-

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centered frameworks, can enhance intrinsic motivation, reduce affective barriers, and deepen vocabulary acquisition, offering insights applicable across online language learning contexts.

Perceptions of gamification's effectiveness also vary. Some TCFL teachers highlight benefits such as improved motivation, enhanced learning outcomes, and cultural integration (Li, 2022). Others point to barriers like the time and effort required for design, as well as technical challenges (Wang, 2020). Ultimately, the use of gamification is shaped by a combination of personal experience, technological readiness, and pedagogical context. Well-supported and thoughtfully implemented, gamification can be a powerful tool to engage young learners in online Chinese language education.

The Benefits of the Gamification Teaching Method

Gamification transforms traditional education into an interactive and dynamic learning experience, bringing many benefits to language teaching, especially in teaching Chinese as a foreign language (TCFL). Existing literature emphasizes that gamification improves students' learning motivation, participation, and engagement through game elements such as points, badges, and levels (Deterding et al., 2011; Papastergiou, 2009). It encourages students to learn autonomously and personalized, allowing students to progress at their own pace (Huang & Soman, 2013; Werbach & Hunter, 2012). When students experience autonomy, competence, and a sense of achievement, intrinsic motivation is also enhanced (Deci & Ryan, 2000; Hanus & Fox, 2015). In addition, gamification promotes collaboration through multiplayer challenges and social interactions (Sailer et al., 2017) and improves creativity (Eow & Baki, 2010) and problem-solving skills (Vandenberg et al., 2023). It can also reduce students' anxiety by making learning fun and reducing fear of failure (Papastergiou, 2009; Ke, 2009). Gamified teaching provides immediate feedback, which improves students' retention and thus learning outcomes (Gee, 2007; Domínguez et al., 2013; Kapp, 2012).

Chinese teachers for foreigners also have different perceptions on the effectiveness of gamification. While some teachers point out challenges in terms of time, design, and technology (Wang, 2020), many teachers believe that gamification significantly increases learner engagement and supports cultural integration in Chinese education (Li, 2022).

The Challenges of the Gamification Teaching Method

Although existing research has identified numerous challenges associated with gamification in language education, many studies treat these issues in isolation, leaving limited understanding of how they interact within real-world online TCFL contexts. A recurring concern is the over-reliance on extrinsic rewards, which may undermine intrinsic motivation when students prioritize points or badges over meaningful learning (Hanus & Fox, 2015). Yet these studies often overlook the contextual factors, such as task design or teacher mediation, that could mitigate this risk. Similarly, scholars note the difficulty of balancing entertainment with instructional rigor (Bado & Franklin, 2014) but few address how teachers can calibrate this balance differently across student proficiency levels or lesson goals. Research also highlights the challenge of designing gamified activities that accommodate diverse learning styles (Dicheva et al., 2015). However, such discussions remain largely theoretical, offering

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limited guidance on how teachers in online environments can diagnose and respond to learners' differences. A related issue is the decline in engagement once novelty fades (Seaborn & Fels, 2015), yet studies rarely examine strategies for sustaining long-term participation in young beginner-level Chinese classes, where attention spans are especially variable. Several studies emphasize the potential for gamification to disrupt structured instruction if not integrated carefully, particularly for complex skills such as character writing or grammar instruction (Li, 2022b). However, these critiques tend to generalize across languages without considering the unique demands of TCFL, such as the orthographic and tonal features of Mandarin. Likewise, research on implementation challenges frequently highlights the heavy preparation load, technological limitations, and inequalities between digitally skilled and less skilled learners (Caponetto et al., 2014; Domínguez et al., 2013; Wang, 2021) but little is known about how these challenges differ between novice and experienced TCFL teachers or between synchronous and asynchronous online settings. Another unresolved issue concerns the measurement of learning outcomes. While scholars argue that traditional assessment tools fail to capture the depth of gamified learning (Hamari et al., 2014), empirical studies rarely propose alternative assessment models suited for online TCFL. Moreover, specific skill areas, such as pronunciation and long-term vocabulary retention, show mixed results (Lyster & Saito, 2010; Luo, 2023), yet prior research seldom explores the mechanisms behind these inconsistencies or how game design features (e.g., feedback type, pacing, scaffolding) contribute to them.

Despite advances in understanding gamification's potential and limitations, several gaps remain. First, existing studies tend to examine challenges generically rather than within the specific context of online TCFL for young learners, where cognitive, linguistic, and technological demands differ significantly from other learning settings. Second, teachers' perspectives-particularly the contrast between novice and experienced educators-are underexplored, even though teachers determine how gamification is implemented and sustained. Third, the strategies teachers use to navigate or overcome challenges are insufficiently documented, leaving a gap between theoretical limitations and practical solutions. Finally, little research synthesizes how multiple challenges co-occur in actual online classrooms, limiting the field's ability to develop comprehensive, context-sensitive recommendations.

By addressing these gaps, the present study aims to offer an empirically grounded examination of TCFL teachers' perceptions, uses, challenges, and strategies related to gamification in online basic Chinese courses for primary school students. This analysis provides insights that can refine existing theories of gamification and inform more effective pedagogical practice.

Research Objectives

1. To investigate teachers' perceptions of the use of the gamification teaching method in online basic Chinese courses for primary school students
2. To identify the challenges faced by teachers of Chinese as a foreign language in using the gamification teaching method in online basic Chinese courses for primary school students

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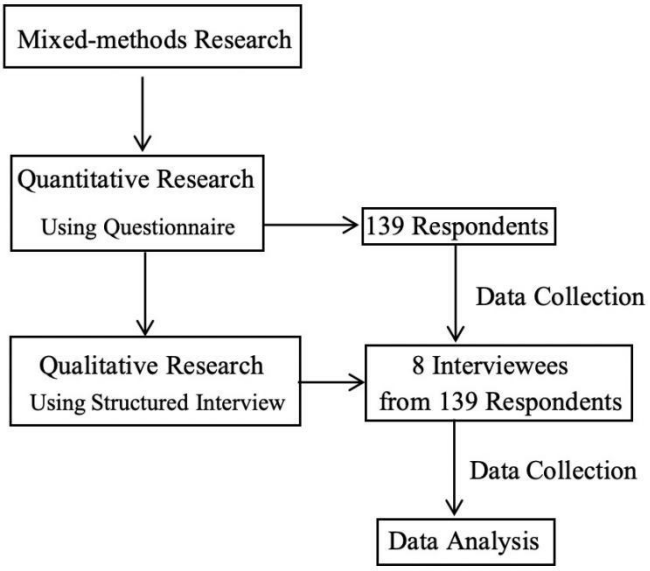
Research Methodology

Research Design

In view of the research objectives, this study employed an explanatory sequential mixed-methods design (Figure 1). In this design, quantitative data are collected first to provide an initial understanding of the research problem, followed by qualitative data to explain, refine, or deepen the quantitative findings. Accordingly, two instruments were used: a questionnaire and structured interviews. The questionnaire was administered first to identify TCFL teachers' perceptions of the use and challenges of the gamification teaching method. The subsequent qualitative interviews were then conducted to further interpret and elaborate on the survey results, allowing the researcher to explore underlying reasons, contextual factors, and nuanced teacher experiences. This sequence strengthened the methodological rigor of the study by enabling the qualitative data to validate, clarify, and expand on the quantitative patterns.

Figure 1
The Research Process



Population and Sample

The research location was the online "Chinese Basic Course Teacher Group" organized by the LA online education platform. The research population was 213 TCFL teachers in the online "Chinese Basic Course Teacher Group." The researcher obtained the platform's consent to distribute questionnaires in the group and conduct online structured interviews with teachers who participated in the questionnaire survey. The teachers participating in the study all met the following five criteria: 1. Bachelor's degree or above, 2. Mandarin level II or above, 3. Teacher qualification certificate, 4. Participated in gamification teaching training, 5. Have more than 1 year of online basic Chinese teaching experience.

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According to the Taro Yamane formula $n = \frac{N}{1 + N e^2} = \frac{213}{1 + 213 \times 0.05^2} \approx 139$, where "n" represents the sample size, "N" represents the population (213), and "e" represents the margin of error (0.05), the sample size was calculated to be 139 people to ensure the representativeness and reliability of the sample (Creswell, 2013). Based on this calculation, random sampling was used to select 139 participants from the total population (213), ensuring that each teacher had an equal chance of being included in the quantitative phase. Quantitative data were collected through questionnaires. Table 1 shows that the majority of respondents were female teachers (70.50%), while male teachers accounted for 29.50%. In terms of age, most participants were in the 30-50 age group (69.79%), followed by those 30 years or younger (22.30%), with only a small proportion over 50 years old (7.91%). Regarding teaching experience in onsite Chinese courses, the distribution was relatively balanced: 38.13% had 1-5 years of experience, 35.97% had 5-10 years, and 25.90% had more than 10 years. As for teaching online basic Chinese courses on the LA platform, most teachers had relatively shorter experience: 72.66% reported 1-4 years, while only 27.34% had 4-7 years of online teaching experience.

Table 1
Descriptive Statistics of Basic Information

Basic Demographic Information		N	Percent
1. Gender	Male	41	29.50%
	Female	98	70.50%
2. Age Range	$x \leq 30$ years old	31	22.30%
	$30 < x \leq 50$ years old	97	69.79%
	$x > 50$ years old	11	7.91%
3. Years of Teaching Chinese Onsite Courses	$1 < x \leq 5$ years	53	38.13%
	$5 < x \leq 10$ years	50	35.97%
	$x > 10$ years	36	25.90%
4. Years of Teaching Basic Chinese Online Courses on LA Platform	$1 < x \leq 4$ years	101	72.66%
	$4 < x \leq 7$ years	38	27.34%

Qualitative data came from structured interviews with 8 volunteers, selected through voluntary sampling. This aligns with Creswell's view that the qualitative component of a mixed-methods design typically involves a smaller sample (e.g., 8-12 participants) to allow for deeper understanding and the acquisition of high-quality data. Therefore, the researcher selected 8 volunteers from the 139 teachers who participated in the questionnaire survey to participate in the structured interviews. The selection criteria for these 8 volunteers were determined by the first item of the questionnaire, "Gender," and the fourth item, "Years of Teaching Basic Chinese Online Courses on This Platform." After collecting 139 questionnaires, two male teachers and two female teachers were purposively selected from the first option of the fourth item (i.e., "1 < x

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⩽ 4 years"), and two male teachers and two female teachers were purposively selected from the second option (i.e., "4 < x ⩽ 7 years"). In this way, 8 teacher volunteers were ultimately obtained through voluntary sampling to participate in the structured interviews (as shown in Table 2), ensuring that more comprehensive and in-depth data were collected.

Table 2
The Composition of the Eight Interviewees

Teacher	Gender	Years of Teaching Basic Chinese Online Courses on This Platform	Five Criteria
T1	Male	1 < x ≤ 4	1. Bachelor Degree or Above 2. Mandarin Level II or Above 3. Teacher Qualification Certificate 4. Participated in Gamification Teaching Training 5. Have More Than One Year of Online Basic Chinese Teaching Experience
T2	Male	1 < x ≤ 4	
T3	Female	1 < x ≤ 4	
T4	Female	1 < x ≤ 4	
T5	Male	4 < x ≤ 7	
T6	Male	4 < x ≤ 7	
T7	Female	4 < x ≤ 7	
T8	Female	4 < x ≤ 7	

Research Instruments

This study employed two research instruments: a questionnaire and a structured interview. This questionnaire was based on the one designed by Sykes and Reinhardt (2012). The questionnaire consisted of three parts, the composition of which is shown in Table 3. The first part, "Personal Information," collected information on the gender, age, and teaching experience of the 139 participants. The second and third parts used a 5-point scale (Likert, 1932) to allow participants to indicate their level of agreement with the questionnaire's contents. Items 5 through 55 were scored on a 5-point scale, with "1" representing "totally disagree," "2" representing "disagree," "3" representing "moderately agree," "4" representing "agree," and "5" representing "totally agree." To further understand TCFL teachers' perspectives on the use of gamified teaching methods in online elementary Chinese courses and the challenges they faced, the researchers asked five interview questions, the distribution of which is shown in the Table 4.

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Table 3
The Composition of the Questionnaire

	Parts	Location
Part 1	Personal Information	Items1-4
Part 2	A. The Use of the Gamification Teaching Method	Items 5-24
	B. The Perceptions on Using the Gamification Teaching Method	Items 25-39
Part 3	The Challenges of Using the Gamification Teaching Method	Items 40-55

Table 4
The Composition of the Structured Interview Questions

	Parts	Location
Part 1	The Use of the Gamification Teaching Method	Questions 1-2
Part 2	The Challenges of Using the Gamification Teaching Method	Question 3
Part 3	The Perceptions on Using the Gamification Teaching Method	Questions 4-5

Validity and Reliability of the Research Instruments

This study employed content validity (Lawshe, 1975) to assess the research instruments (questionnaires and structured interviews). Three experts evaluated the questionnaire items and structured interview questions. The three experts ensured the validity of the research instruments through detailed review of content coverage, relevance, linguistic accuracy, applicability, feedback and suggestions. Using the Item Object Congruence (IOC) index, any item scoring below 0.67 was deleted or reformulated based on the experts' suggestions. The original questionnaire contained 67 items. After calculating the IOC scores of the three experts, the researcher deleted 12 items scoring below 0.67 and revised the remaining 55 items based on the experts' suggestions. The original structured interview questions consisted of five, each with an average IOC score of 1. Based on the experts' suggestions, the researchers divided the five interview questions into three parts.

To ensure the reliability of this study, the questionnaire was pre-tested with 30 teachers of Chinese as a foreign language. These 30 teachers were not participants in this study but they had similar characteristics. The Cronbach's alpha coefficient reached 0.92, indicating excellent internal consistency; no further items needed to be eliminated.

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Data Collection

Quantitative data were collected using questionnaires. Qualitative data were collected using structured interviews. Quantitative and qualitative data were collected sequentially. The researcher distributed the questionnaire online through the "so-jump" app on December 18, 2024. During the data collection process, the questionnaire included a one-minute prompt reading to ensure the accuracy of the answers and emphasize authenticity. After the questionnaires were collected, the researcher conducted structured interviews of approximately 30 minutes each with 8 teachers through “VOOV Conference” from December 28 to 30, 2024. The interviews were conducted in Chinese, and after obtaining the consent of the 8 interviewees, the researcher recorded the entire interview process. To ensure research ethics, The researcher submitted the research proposal, research instruments, personal resume, advisor’s resume and informed consent form of the interviewees to the Ethics Review Board of Rangsit University for approval, modified them as required and finally obtained Certificate of Approval No.RSUERB 2024-220.

Data Analysis

According to the research plan, the researcher sorted and classified the collected questionnaires. The researcher conducted a statistical analysis on items 1-4 and used SPSS 27.0 to calculate the mean and standard deviation（S.D）of the data of items 5-55. In order to quantify the perceptions of TCFL teachers on the use of gamification teaching methods in primary school students' basic Chinese online courses, as well as the challenges they faced in the process of using gamification teaching methods, the researcher set criteria based on Creswell (2013). Table 5 is to interpret the mean scores of TCFL Teachers’ Perceptions towards the Use and Challenges of the Gamification Teaching Method.

Table 5
Interpretation of the Mean

Range of the Mean	Interpretation
1.00 - 1.49	lowest level of agreement
1.50 - 2.49	low level of agreement
2.50 - 3.49	moderate level of agreement
3.50 - 4.49	high level of agreement
4.50 - 5.00	highest level of agreement

The score of each item indicates the teachers' perceptions on the use and challenges of gamification teaching. The higher the score, the higher the level, indicating that more teachers agree with the description in the item. The lower the score, the lower the level, indicating that fewer teachers agree with the description in the item.

Regarding the analysis of the structured interview data, the researcher first transcribed the interview recordings, translated them into English, and then systematically analyzed all text data using content analysis. An initial open-coding process was conducted in which the researcher read through the transcripts multiple times to identify meaningful units related to teachers' perceptions, use of gamification,

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and challenges encountered. These preliminary codes were then organized through axial coding to cluster similar ideas and develop broader categories. Finally, selective coding was applied to refine and integrate these categories into coherent themes that aligned with the research questions. Throughout this iterative process, constant comparison was used to ensure consistency across transcripts and to revise earlier codes when necessary, following Creswell's (2013) recommended procedures for rigorous qualitative data analysis.

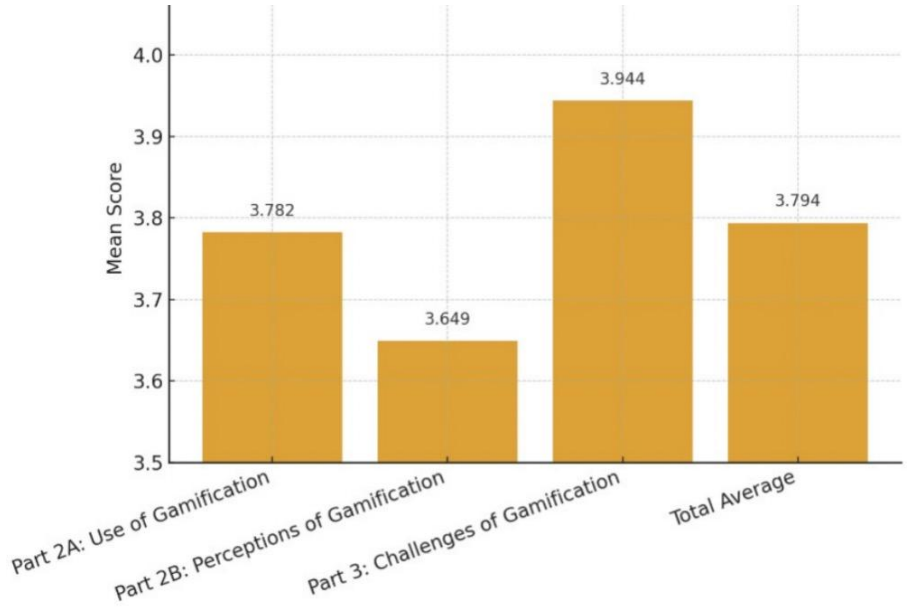
Research Results

Results for Research Objective 1

To study the perceptions of the teachers of Chinese as a foreign language towards the use of the gamification teaching method in online basic Chinese courses for primary school students.

Figure 2

Average Scores across Parts of Gamification Teaching Method



The questionnaire data showed that the overall mean for items 5-55 was 3.794 (S.D. = 1.298), with the mean values for all three parts ranging from 3.50 to 4.49 (as shown in Figure 2). Interpreting the mean scores in Table 5 indicated that TCFL teachers had a high degree of agreement with the statements in the questionnaire. Data from Part 2 indicated that TCFL teachers had a positive attitude toward the use of gamification in online Chinese instruction, and their use of gamification in basic online Chinese courses is high. Data from Part 3 indicated that while TCFL teachers recognized the benefits of gamification, they also recognized the major challenges it faced. Finally, the high standard deviation (S.D.) indicates variability among respondents' responses, meaning that while the overall trend was consistent, individual teachers' opinions vary. Some teachers might strongly support gamification, while others were unsure or disagree.

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Table 6
The Three Items with the Highest Mean Scores in Part 2B of the Questionnaire

Part 2B. The Perceptions on Using the Gamification Teaching Method			
Items	Mean	S.D	Interpretation
39. I have found that incorporating gamification into my lessons improves the overall quality of my teaching.	3.971	1.346	high level of agreement
35. My use of gamification in my classes helps make learning Chinese more interactive and fun for my students.	3.799	1.292	high level of agreement
36. My use of gamification in my classes can increase my students' engagement and motivation in class.	3.755	1.290	high level of agreement

Table 6 shows that the three statements with highest mean scores in Part 2B of the questionnaire (items 39, 35, and 36) indicated that TCFL teachers held a positive attitude toward the use of gamification in online basic Chinese courses. Specifically, they firmly believed that gamification could enhance interactivity and engagement in Chinese learning for primary school students, and they acknowledged its impact on overall teaching quality.

Table 7
The Items with the Highest and Lowest Mean Scores in Part 2A of the Questionnaire

Part 2A. The Use of the Gamification Teaching Method			
Items	Mean	S.D	Interpretation
14. I use different games to improve students' class participation according to their different preferences.	3.957	1.245	high level of agreement
24. I actively seek out new trends and research related to the gamification of language teaching to enhance my teaching practice.	3.612	1.170	high level of agreement

Table 7 shows that the highest-rated statement (item 14, $\bar{x}$= 3.957) and the lowest-rated statement (item 24, $\bar{x}$= 3.612) from Part 2A of the questionnaire indicated that TCFL teachers prioritized adapting games to students' preferences rather than seeking new gamification research. TCFL teachers viewed gamification more as a practical teaching tool than a research-driven strategy. They prioritized student-centered learning experiences and advocated for interactive methods to increase student engagement and encourage deeper learning.

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Table 8
The Five Items with the High Mean Scores in Part 2A of the Questionnaire

Part 2B. The Perceptions on Using the Gamification Teaching Method			
Items	Mean	S.D	Interpretation
12. I reward students with a point for each Chinese question they answer correctly.	3.885	1.330	high level of agreement
19. I play the game of "you draw, I guess" with my students to consolidate and evaluate their Chinese vocabulary.	3.842	1.331	high level of agreement
20. I use games to compete with my students in writing Chinese characters to motivate my students through competition.	3.835	1.376	high level of agreement
10. I use role-playing games to let students practice sentence expression.	3.827	1.429	high level of agreement
11. I use puzzle games to let students practice writing Chinese characters.	3.827	1.367	high level of agreement

Table 8 shows that TCFL teachers used different game strategies to achieve different teaching objectives. Commonly used gamification teaching methods included: 1) "rewards" for students' motivation; 2) "you draw, I guess" for the consolidation of vocabulary; 3) "competitions" for students' participation; 4) "role-playing" for sentence construction; 5) "puzzle game" for Chinese characters writing.

In addition to the above findings from the questionnaire data, the findings from the structured interviews further supported and supplemented those from the questionnaire data. First, analysis of the fourth question in Part 3 of the structured interviews further revealed that despite the challenges faced by TCFL teachers in implementing gamification teaching methods, all interviewees expressed their willingness to continue using gamification teaching methods. The researcher analyzed the transcripts of the fourth question and summarized the reasons under the theme of "benefits." The researcher then listed the distribution of two benefits of gamification teaching methods identified by the eight interviewees (see Table 9).

Table 9
The Results of the Fourth Interview Question

Question 4: Faced with the challenges related to the gamification teaching method, are you willing to continue using this teaching method? If so, why?		
	Topic	Interviewees
Benefits	Improve Students' Participation and Learning Motivation	T1, T2, T4, T6
	Improve Learning Outcomes	T3, T5, T7, T8

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In addition, the researcher analyzed the interview transcripts for the fifth question and found that all respondents considered singing, storytelling, rewards, and role-playing as gamified instructional methods. Based on the respondents' responses, the researcher listed their definitions of gamification teaching methods and categorized the commonly mentioned game types (see Table 10).

Table 10
The Results of the Fifth Interview Question

Question 5: Do you think singing, storytelling, rewards and role-playing belong to the category of the gamification teaching method? How would you define the gamification teaching method? List two gamification teaching activities that you use most often.

Topic			Interviewees
Definition	Integration of Game Elements		T1, T3
	Enhancing Students' Motivation and Participation		T2, T7, T8
	Combining Learning with Entertainment		T4, T5, T6
Most Commonly Used Game Types	Motivation & Engagement	1. Rewards	T1, T2, T3, T5, T6
	Cultural & Knowledge Expansion	2. Chinese Culture Quiz	T4
	Language Skills Practice	Pronunciation	3. Pinyin Cannon	T1
		Vocabulary & Sentence	4. Guessing Games	T7, T8
			5. Make Sentences with Pictures	T5
			6. Fill in the blanks	T6
		Writing	7. Chinese Character Puzzles	T3
			8. Chinese Character Writing Competition	T4
		Speaking	9. Storytelling	T8
			10. Role-playing	T7, T2

In summary, these findings indicated that TCFL teachers generally hold a positive attitude towards the use of gamification in online Chinese teaching, employing different game strategies to achieve various teaching objectives. While they firmly believe that gamified teaching can enhance the interactivity and engagement of primary school students' Chinese learning and acknowledge its impact on overall teaching quality, they also recognize numerous challenges, particularly regarding technical issues and time constraints.

Results for Research Objective 2

To identify the challenges faced by teachers of Chinese as a foreign language in using the gamification teaching method in online basic Chinese courses for primary school students.

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Table 11

The Six Items with the Highest Mean Scores in Part 3 and the Three Items with the Lowest Mean Scores in Part 2B. of the Questionnaire

Part 3. The Challenges of Using the Gamification Teaching Method			
Items	Mean	S.D	Interpretation
49. I find that technical issues such as compatibility and access often prevent me from incorporating gamification into online Chinese courses.	4.101	1.259	high level of agreement
51. Providing timely and constructive feedback to students who participate in gamified activities is a challenge I face in my classroom.	4.079	1.186	high level of agreement
54. Time constraints and limited resources posed a challenge to implementing a comprehensive gamification strategy in my classroom.	4.058	1.361	high level of agreement
43. I find that there are not enough types of games in the basic Chinese courseware, which would make students who had studied Chinese for a while find the gamification elements of the courseware repetitive or predictable and lose interest in learning Chinese.	4.043	1.245	high level of agreement
52. Managing and monitoring students' progress and performance in gamified activities in my classroom is a challenge.	3.806	1.089	high level of agreement
40. When I use trophies to reward students, students are too focused on the number of trophies and are distracted from learning Chinese.	3.755	0.992	high level of agreement
Part 2B. The Perceptions on Using the Gamification Teaching Method			
28. My students' Chinese pronunciation is better when I use gamification teaching.	3.453	1.303	moderate level of agreement
30. My students can remember new Chinese words better when I use gamification teaching.	3.410	1.238	moderate level of agreement
26. I have easy access to resources and tools for designing engaging gamified content.	3.396	1.322	moderate level of agreement

According to Table 11, the data from the third part of the questionnaire show that the main challenges faced by TCFL teachers when using gamified teaching in online Chinese courses are: 1) technical issues ($\bar{x}$=4.101); 2) feedback difficulties ($\bar{x}$=4.079); 3) time constraints (x=4.058); 4) insufficient diversity of learning styles ($\bar{x}$=4.043); 5) weak assessment transparency ($\bar{x}$= 3.806); 6) the balance between games and teaching objectives ($\bar{x}$=3.755); 7) limited effectiveness in pronunciation ($\bar{x}$=3.453) ;

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8) limited effectiveness in vocabulary memorizing ($\bar{x}$=3.410); 9) resource limitations ($\bar{x}$=3.396).

In addition, according to the data analysis of the third question of the structured interview, five key challenges faced by TCFL teachers in gamified teaching and their solutions were found (as shown in Table 12). Among these five challenges, only the last challenge "Parent Awareness" is a supplement to the nine challenges in the questionnaire results.

Table 12
The Results of the Third Interview Question

Question 3: What challenges have you encountered when using the gamification teaching method? How did you deal with these challenges?	
Challenges	Solutions
The Balance between Games and Teaching Objectives	Improve Game Design; Adopt a Structured Approach; Set Clear Time Limits and Adjust the Game Format
Resource Limitations	Modify or Supplement Existing Games
Technical Issues	Test the Equipment; Preparing Backup Teaching Plans; Providing Timely Feedback to the Technical Department
Insufficient Diversity of Learning Styles	Try Different Game Formats; Designing Tiered Tasks
Parent Awareness	Demonstrating Concrete Learning Outcomes

Figure 3
The Challenges TCFL Teachers Faced Using the Gamification Teaching Method in Online Basic Chinese Courses for Primary School Students

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In summary, TCFL teachers faced many challenges when using the gamification teaching in online basic Chinese courses for primary school students. The main challenges (as shown in Figure 3) included: 1) technical issues; 2) feedback difficulties; 3) time constraints; 4) insufficient diversity of learning styles; 5) weak assessment transparency; 6) the balance between games and teaching objectives; 7) limited effectiveness in pronunciation; 8) limited effectiveness in vocabulary memorizing; 9) resource limitations; 10) parent awareness. These results directly address Research Objective 2 by demonstrating that while gamification offers pedagogical potential, TCFL teachers encounter substantial technical, pedagogical, and contextual barriers that hinder its effective implementation.

Discussion

This study examined TCFL teachers' perspectives and the challenges they encountered when implementing gamification in online basic Chinese courses for primary school students. Regarding perspectives, TCFL teachers in this study defined gamification as the integration of game elements to enhance motivation, participation, and enjoyment. This aligned with Werbach and Hunter's (2012) argument that gamification introduces playful elements to increase engagement, and with Deterding et al. (2011), who emphasized the motivational potential of game mechanics. Teachers also expressed positive attitudes toward gamification, consistent with Hanus and Fox (2015), noting its benefits for increasing interactivity and overall teaching quality. Besides, the findings revealed ten major challenges, several of which corroborate existing research, such as feedback limitations (Domínguez et al., 2013), time constraints (Dicheva et al., 2015; Yang & Wu, 2020), limited pronunciation improvement (Lyster & Saito, 2010) and mixed long-term vocabulary gains (Luo, 2023). Issues related to assessment transparency (Hamari et al., 2014) similarly echoed earlier findings.

However, this study also identified findings that extend or complicate prior research. First, the misalignment between gamification feedback systems and pedagogical feedback needs emerged more strongly than in previous studies. TCFL teachers emphasized that reward-based systems (e.g., points, badges) not only fail to provide corrective feedback but may also blur students' perceptions of actual learning progress. This adds nuance to earlier critiques by demonstrating how misaligned feedback can distort learners' self-assessment in online TCFL contexts specifically. Second, the challenge of balancing games with culturally specific learning content (e.g., tones, stroke order, radicals) was highlighted by TCFL teachers but is underrepresented in current literature. The structural complexity of Chinese appears to magnify design and pacing difficulties in gamified lessons, suggesting subject-specific barriers not fully captured in broader gamification studies. Third, TCFL teachers reported that parental skepticism exerted a stronger influence in online TCFL settings than in other subjects or delivery modes. This finding suggested that gamification in early Chinese language learning was shaped not only by teacher and learner factors but also by parental expectations about what "serious learning" should look like, presenting a socio-cultural layer not widely documented. Fourth, experienced TCFL teachers expressed greater concern about cognitive overload during online gameplay than novice TCFL teachers. While previous studies note differing adoption rates, this study added evidence that

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experience level also shapes perceived pedagogical risks, potentially influencing long-term sustainability of gamification practices. Collectively, these findings highlighted novel intersections between gamification design, Chinese-specific learning demands, online instructional constraints, and parent-teacher dynamics.

In summary, while TCFL teachers recognized the motivational and pedagogical value of gamification, they also faced persistent and context-specific challenges. This study contributes new insights by demonstrating how mismatched feedback systems, subject-specific linguistic demands, parental expectations, and teacher experience levels complicate gamification in online TCFL contexts. Future research should validate these emerging patterns, particularly through longitudinal studies and design-based approaches, and explore how corrective feedback, instructional scaffolding, and reusable resources may address sustainability concerns.

Limitations

This study has some limitations that need to be explained. The sample size is limited to TCFL teachers who teach basic Chinese courses for primary school students on a single online platform. The results may not fully represent the experiences of other TCFL teachers when teaching learners of different levels and ages on other online platforms or offline. Therefore, the generalizability of the results is limited, and future research needs to expand the sample size to cover more diverse teaching scenarios.

Recommendations

Given these limitations, future research should expand the participant pool to strengthen representativeness. Researchers could include TCFL teachers across multiple online platforms, instructors teaching learners at various proficiency levels, or even students and parents who participate in or observe gamified online Chinese lessons. Such expansion would help generate more comprehensive insights into the implementation and effectiveness of gamification in online Chinese language learning.

Additionally, although this study used a mixed-methods design to produce valuable insights into teachers' perceptions, alternative research methodologies could be explored. For instance, narrative studies involving classroom observations or learner-voice data could provide richer contextual understanding, while longitudinal research could examine sustained effects of gamification on language retention, pronunciation, and learner engagement over time. Employing more diverse data collection and analytical techniques in future studies may lead to deeper and more holistic interpretations of gamified Chinese language instruction.

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