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# Effect of Gamification Combined with Mobile Learning on Chinese Language Speaking Skills of Second-Year Foreign Students at Guangdong University of Foreign Studies

**Liu Yang[1], Angkana Karanyathikul[2], and Sombat Kotchasit[3]**

[1]Master student, Curriculum and Instruction Program, Valaya Alongkron Rajabhat University under the Royal Patronage Pathum Thani Province, Thailand

[2,3] Lecturer, Curriculum and Instruction Program, Valaya Alongkron Rajabhat University under the Royal Patronage Pathum Thani Province, Thailand

E-mail: liu.yan@vru.ac.th , ORCID ID: https://orcid.org/0009-0004-4282-7214

E-mail: angkana@vru.ac.th, ORCID ID: https://orcid.org/0009-0008-6288-6923

E-mail: sombat@vru.ac.th ORCID ID: https://orcid.org/0000-0002-8057-7656

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**Abstract**

**Background and Aims:** In the era of the mobile internet, transforming language learning content into interesting game tasks could stimulate students' interest in learning and improve engagement and learning outcomes. The study aimed to evaluate the impact of gamification combined with a mobile learning approach on students' Chinese language speaking skills and satisfaction. The significance of the study was to innovate teaching methods and improve oral expression. Students were guided to participate in interactive learning by designing gamified learning tasks with clear objectives.

**Methodology:** This study utilized a pre-experimental design featuring a one-group pretest-posttest model. The sample of this study was 30 second-year foreign students studying at Guangdong University of Foreign Studies derived from a cluster random sampling method. The research tools were (1) Course lesson plan, (2) Chinese language speaking skill test, and (3) Student satisfaction questionnaire. Conduct pre-test and post-test on the sample using the Chinese speaking proficiency test, and analyze the mean, standard deviation, paired sample t-test, and one sample t-test of the data using statistics.

**Result:** After using gamification combined with mobile learning, students' Chinese language speaking skills improved by 13.75%, surpassing the predetermined criteria of 70% and the difference was statistically significant at 0.05. Based on the scores from the statistical student satisfaction questionnaire, the overall results of Gamification combined with mobile learning by students are at a high level with (M=4.02, S.D. = 0.77)

**Conclusion:** The study confirms that learning management using gamification combined with mobile learning significantly enhances Chinese language speaking skills it stimulates students' interest in learning, develops their independent learning ability, boosts their motivation and initiative, and caters to their individual learning needs. This is a new trend in future education.

**Keywords:** Gamification; Mobile Learning; Chinese Language; Speaking Skill; Foreign Students; Gamification combined with Mobile Learning

## Introduction

In today's globalized world, learning Mandarin Chinese or spoken Chinese makes it much simpler to communicate, comprehend, and collaborate with people from diverse cultural backgrounds. The ability to communicate in multiple languages is a significant factor that contributes to the expansion of this capability (Rustamov & Mamaziyayev, 2022). As a direct result of the increasing interdependence of countries and people worldwide, there has been a meteoric rise in recent years in the demand for individuals who are native speakers of more than one language. Mandarin Chinese is considered one of the most relevant and widely



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used languages in the world today. It is also one of the most commonly used languages. Chinese is a crucial language for international trade, diplomatic relations, and the exchange of cultural ideas. This is because there are over a billion people globally who can speak Chinese.

The importance of learning Chinese in countries and regions outside of China has been growing in recent years (Jin et al., 2019). Chinese schools, universities, and community centers all over the world are among the many types of establishments that are realizing that Chinese has significance as a global language and are beginning to provide Chinese language programs (Wen & Zhang, 2020). Foreign students are affected by native language interference, small vocabulary, cultural differences, and the psychological impact of fear of speaking wrongly in their learning of spoken Chinese. These factors make them feel difficult and unconfident in expressing themselves in Chinese, resulting in an inability to effectively improve their speaking ability. Therefore, it is crucial to help foreign students overcome these obstacles and improve their oral Chinese expression (Hong, 2012).

With the development of the mobile Internet and the arrival of the 5G era of education and teaching, today's teaching methods are richer. The 2018 China Vocational Education Technology Outlook: Horizon Project Report proposes advancing the innovative practice of gamified learning in university education. Efficiently integrating gamification and mobile learning into the classroom, integrating formal and informal learning, reconstructing a wide range of learning spaces and time, and exploring in-depth learning methods are important construction contents for education and teaching in the era of "Internet + Education" (Song, 2020). Modern Chinese oral language courses for foreigners have shifted focus from rote learning to fostering communication skills. This is achieved through various methods like task-based learning, where students complete tasks in real-world contexts, and situational teaching, where they practice speaking in simulated scenarios. The choice of method depends on factors like student level, learning goals, and available resources (Fu, 2018). In the current stage of teaching, whether or not it can achieve teacher-student interaction and enliven the classroom is a measure of the effectiveness of every Chinese as a Foreign Language teacher's classroom teaching. Gamification combined with m-learning can effectively stimulate learners' interest and motivation, improve the learning effect, and provide a personalized learning experience (Chen & Chen, 2015). Gamification combined with mobile learning involves integrating game design elements and mechanics into mobile-based educational experiences to enhance engagement, motivation, and learning outcomes. This approach leverages the capabilities of mobile devices and the motivational aspects of gamification to create a more interactive and immersive learning environment (Luo & Sun, 2017)

Gamification is a strategy that involves incorporating elements of traditional gameplay—like points, achievements, and leaderboards—into settings that are not traditionally associated with gaming to motivate and engage students (Li & Lv, 2018). It has been found that including components of gaming in the process of learning a language can boost a learner's motivation, tenacity, and pleasure in the process. This is because gamers tend to be more persistent and love the process more. If students' language classes included elements of gaming, we would be able to help them become more interested, motivated, and successful learners. This would make it feasible for us to achieve our goals of assisting students in becoming successful language learners. In addition, there has been a lot of discussion on the use of gaming features in the classroom as a way to pique the interest of students and encourage them to learn new things (Bertrand & Namukasa, 2020). The findings of studies conducted to investigate whether or not gamification and mobile learning are effective in the process of language acquisition have resulted in the production of conclusions that are optimistic. Gamification, as shown by many studies carried out in English and Spanish classrooms, helps students recall more vocabulary, have better pronunciation, and have higher levels of listening



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comprehension. When students are exposed to learning environments that are gamified, their motivation, engagement, and perceptions of their ability as language learners improve (Luma et al., 2016).

Mobile learning has recently attracted a lot of attention as a new development that has the potential to improve language education. The term "mobile learning," which can also be spelled as "m-learning," refers to the process of acquiring access to educational resources and information through the utilization of mobile computing devices, such as smartphones and tablets (Valeeva et al., 2019). This process is also sometimes referred to as "blended learning." Because mobile devices are so widely available, the process of learning Mandarin Chinese or spoken Chinese has become more accessible to a greater number of people and simpler. This is mostly because more individuals are now able to use mobile devices. Students now have more latitude to customize their study routines to match their specific requirements as a result of the availability of language learning apps, internet resources, and interactive activities (Tafazoli & Gómez Parra, 2017).

With the advantages of fun and flexibility, m-learning makes the Chinese classroom lively and interesting, and students' motivation is improved (Islam & Hasan, 2020). Therefore, the current problems of teaching spoken Chinese can be improved by using m-learning resources to improve the efficiency of teaching spoken Chinese. As far as international students are concerned, the biggest difficulties in learning spoken Chinese are the tones and pinyin pronunciation. These characteristics determine that the forms of expression should be diversified, requiring more media forms such as audio, video, images, etc., and the expression of the Chinese language also needs the support of contextualized and communicative media technologies. The characteristics of mobile learning can meet the needs, make the oral learning process flexible and vivid, and then improve the learners' interest in learning (Gao & Guo, 2020).

Therefore, in the context of quality education and new curriculum reform, this study proposes the teaching concept of Gamification combined with mobile learning, "Gamification as a leading role combined with mobile learning, teachers as a guide, and students as the main body." It applies to the teaching of spoken Chinese in universities. This study's objective is to determine whether or not mobile learning and gamification would be able to help language students at the university level overcome the specific problems that they are up against. Even though people from different cultures speak different languages and come from a variety of backgrounds, it is becoming increasingly important for people all over the world to be able to communicate clearly and effectively with one another (Tursunovich, 2022).

The purpose of this study is to investigate the impact that mobile learning and gamification have on the Chinese language speaking skills of university students who are in their second year of study. The findings have the potential to have an impact on pedagogical practices and the curriculum for language acquisition, which would ultimately result in an experience that is more engaging and fruitful for students learning languages everywhere. It is more important than it has ever been to provide students with the linguistic resources they'll need to succeed in the interconnected world of the twenty-first century than it has ever been to teach them Mandarin Chinese or speak Chinese.

**Research questions**

1. How is the second-year students' Chinese language speaking skill before and after learning through Gamification combined with mobile learning?

2. How is the second-year students' Chinese language speaking skill after learning through Gamification combined with mobile learning compared with the determined criterion of 70%?

3. How is the students' satisfaction with learning management gamification combined with mobile



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learning after learning through it?

**Research objectives**

1. To compare the second-year students' Chinese language speaking skills before and after learning through Gamification combined with mobile learning.
2. To compare the second-year students' Chinese language speaking skills after learning through Gamification combined with mobile learning with the determined criterion of 70%.
3. To assess the students' satisfaction with Gamification combined with the mobile learning method.

**Literature Review**

The use of mobile learning and gamification has become increasingly prevalent in recent years, which has been of tremendous help to the teaching and learning of Chinese as a Chinese language, as well as the teaching and learning of any other language. Multiple studies conducted in a variety of locations have come to the conclusion that studying with the aid of mobile devices and gaming mechanics has a positive impact on the student's capacity to speak Chinese.

Zhang (2023) points out in his study on the application of gamification teaching in Chinese language teaching for international students, taking Jiaxing Nanyang Vocational and Technical College as an example, that traditional teaching methods are not effective for international students to learn Chinese, and therefore advocates the use of gamification to design games that meet the preferences of international students for teaching, to improve their understanding of Chinese language knowledge and their learning effects. For international students, teaching the Chinese language must be carried out in a targeted way by using various games, so that they can learn and understand in games, and understand the profound meanings of different Chinese languages in the games. Only by designing the various aspects of gamification teaching can we ensure the effectiveness of the Chinese language learning process for international students.

Teaching Chinese language skills to students through the use of mobile devices and gaming elements has been beneficial. Qian, C. (2022) conducted a study with university students using a mobile language learning app that contained gamification elements. It was shown that using gamification might raise the level of interest and engagement shown by students, which in turn led to observable improvements in students' ability to communicate verbally. Researchers can gain valuable insights into the efficacy of gamification in mobile language learning, its impact on student motivation and engagement, and its potential to enhance language skill development. The groundwork for exploring the role of gamification in language education informs future research and pedagogical practice in Chinese language teaching.

Despite the favorable outcomes, there are still challenges to solve before mobile learning and gamification can be broadly embraced in China's Chinese language schools. The digital gap is a significant barrier, particularly in rural areas, which may have fewer alternatives for accessing the internet or using mobile devices. Esteban-Navarro et al., (2020) in their study of the challenges of the digital divide for Chinese language schools found that despite the good results of gamification and m-learning, there are still many challenges that need to be addressed for m-learning and gamification to be widely implemented in Chinese language schools in China. The digital divide remains a significant barrier, especially in rural areas where less access to the Internet or mobile devices may affect students' choices to utilize the Internet or mobile devices. By identifying the barriers to implementing m-learning and gamification, educators and policymakers can develop strategies to enhance access to technology and promote more inclusive learning environments. So that all students can benefit from these advanced teaching and learning practices.



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Mobile learning and gamification offer many benefits to students learning the Chinese language. Because it is played like a game, mobile language learning can even improve students' ability to collaborate and get along with one another. Zhu, B. (2021) in his study of the experience of Chinese overseas university students of how Mobile Assisted Language Learning (MALL) affects their motivation to learn foreign languages and their learning emotions found that since mobile language learning is conducted like a game, it can even improve collaboration and getting along among students. Students can communicate with each other through verbal exchanges, exercises with peers, and gamified challenges, thus creating a collaborative and dynamic learning environment. The ability to incorporate authentic cultural materials in a Chinese language environment is a major selling point for mobile learning and gamification. By utilizing gamified language learning resources that incorporate traditional elements of Chinese culture, students can gain a deeper understanding of Chinese nuances, idioms, and conventions.

A further challenge is posed by the prospect of integrating parts of gaming into already established linguistics programs. It's possible that teachers and educators could benefit from additional advice and practice with gamified language learning tools to help students reach their full potential in terms of their oral communication abilities. It was found that the mobile phone allows pupils to learn quickly to develop their language comprehension skills. A significant improvement in pedagogical methods was brought about by integrating smartphone apps and games with the curriculum, thus enabling the students to learn freely in time, space, and motivation on an individual basis. The studies by Ishaq et al. (2019) emphasize the effectiveness of integrating smartphone apps and games with the curriculum to enhance literacy and numeracy skills. This innovative approach to pedagogy demonstrates the potential of mobile technologies to transform traditional.

Mobile learning and game-based learning present students of Chinese anywhere in the world with several opportunities to improve their language skills. Haron et al. (2021) conducted research highlighting the benefits of mobile language learning platforms for students worldwide. Their findings indicate that mobile learning and gamification contribute to improved Chinese language competency globally. Students benefit from the mobility, versatility, and cultural authenticity of these tools, leading to increased engagement in language practice when presented in a game-like format. This enhanced engagement drives improved fluency in speaking, as students are motivated by the gamified elements. The research by Haron et al. was published in a respected language education journal in 2021. Mobile learning liberates students from the confines of time and location, making it possible for them to study Chinese languages and hone their speaking skills whenever and wherever they choose. This versatility satisfies the requirements of pupils whose homes are located in a variety of time zones and cultural traditions. During language drills, students are encouraged to exert themselves to a greater degree by using gamification features like achievements, leaderboards, and chat rooms. If students are allowed to earn points, and badges, or compete with their classmates, it is more likely that they will practice their spoken improve their fluency.

The utilization of mobile learning and gamification can facilitate improvements in one's cultural awareness as well as sincerity. Students can develop a more nuanced sense of Chinese culture, which is the context in which the language is utilized, thanks to the incorporation of cultural elements into language-learning resources. The global adoption of mobile learning and gamification for Chinese language training still faces challenges, despite the numerous benefits that these approaches offer.

Equally as important is giving some attention to how various people from diverse backgrounds and with different beliefs might be accommodated by modifying the elements of gamification. Some students from specific cultural backgrounds may be more interested in certain gamified features than students from



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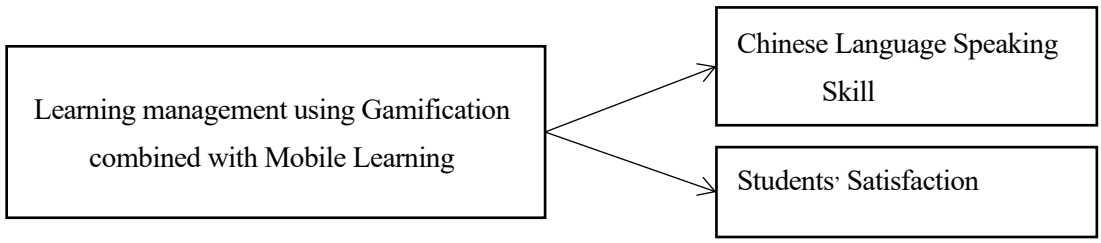
other cultural backgrounds. It is essential, with the goal of universal application in mind, to establish a happy medium between the standard gamification elements and the culturally relevant content. Afikah et al., (2022) found that m-learning and game-based learning provide Chinese language students around the world with a great number of opportunities to improve their language skills. Mobile learning frees students from the constraints of time and place, allowing them to learn Chinese and improve their speaking skills anytime, anywhere. This versatility meets the requirements of students with homes in different time zones and cultural traditions. Students are more likely to actively engage in language practice when it is presented in a game-like format, which, in turn, increases students' fluency in speaking since the students are motivated by the game-like elements. However, to carry out the technology on a global scale, it is necessary to surmount challenges such as insufficient internet infrastructure and cultural rigidity. Mobile learning and game-based learning make it possible for students and teachers to connect across geographic and cultural borders to establish learning environments for the Chinese language that are both interesting and productive.

The above analysis shows that scholars in China and the West have conducted extensive research and exploration on gamification and mobile learning. These studies have laid a solid foundation for future research, development, and application of gamification combined with mobile learning.

## Research Conceptual Framework

Based on the content of this study, the independent variable is Learning management using Gamification combined with Mobile Learning on second-year foreign students studying in the Guangdong University of Foreign Studies learning approach which is based on self-determination theory, goal-setting theory, constructivism, and connectivism. Based on these theories, the researcher applied the theories to a new method of teaching, which effectively enhanced the students speaking skills. On the other hand, second-year university students' proficiency in spoken Chinese is the focus of this analysis which is the dependent variable.




## Research Methodology

### 1. Population and sample

The study population consisted of international students majoring in Chinese at the Guangdong University of Foreign Studies, all of whom were sophomores. This university was chosen because of its successful experience in offering Chinese language programs and its diverse student body with different cultural and linguistic backgrounds. Students from all over the globe can participate in the university's language programs, which demonstrates a broad interest in learning Mandarin. The group of students is carefully selected to focus on their transition from beginner to intermediate speaking levels of Chinese.

1.1 The population of the study is 150 (5 Classes) second-year foreign students studying in Guangdong University of Foreign Studies.

1.2 The sample of this study is 30 (1 Class) second-year foreign students studying at Guangdong



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University of foreign students derived from cluster random sampling method.

**2. Research instruments**

Research instruments were the tools for collecting data. The research instruments which were used in this study were:

**2.1 Instruments for Measuring Students' Chinese Language Speaking Skills**

**Evaluate Gamification combined with mobile learning. The researcher created the evaluation form of lesson plans.**

2.1.1 An expert group composed of five experts evaluates the evaluation form. The experts were required to hold the title of professor or associate professor and have at least 5 years of research experience in the relevant field. The five experts include three from China and two from Thailand in a field related to education. After collecting data, analyze the collected data to determine the appropriateness and consistency of the lesson plans. If the average score of appropriateness and consistency assessed by a group of experts is higher than 3.51, it means that the components of the lesson plans have good appropriateness quality and internal consistency. After obtaining the expert evaluation results, the developed teaching model was revised and improved according to the expert's suggestions. The lesson plans to be assessed are specifically categorized into four areas, which are learning aspects (e.g. Learning objectives covered the learning behaviors in terms of knowledge, skills, and attitude), instructional strategies aspects (e.g. The teaching method is consistent with the teaching objectives), instructional media aspects (e.g. Teaching methods include individual activities and group activities), and Assessment of teaching (e.g. Learning outcomes can be applied to the real-life situations)

2.1.2 It was found that the mean score of appropriateness was at 4.61 and the standard deviation was at 0.63 which means the lesson plans had the quality at a very high level. Therefore, applying the lesson plans of learning management using Gamification combined with mobile learning to the teaching of foreign students at Guangdong University of foreign students can improve students' Chinese Language Speaking Skills.

**2.2 Instruments for collecting data**

An instrument for measuring: An oral test of students' Chinese Language Speaking Skills and satisfaction questionnaire.

**2.2.1 The test of students' Chinese Language Speaking Skills**

There were three primary questions in the paper: Post-listening repetition; Talking about the Picture; and Respond to the questions. Nine factors are examined in the test: Fluency, Accuracy, Complexity, Appropriateness, Coherence, Communicative Effect, Relevance, and Interactivity. The evaluation form included five levels: Excellent, Good, Medium Good, Pass, and No Pass. Every student's performance is graded following specific standards; The index of Item Objective Congruence (IOC) value of Evaluation criteria in the test paper was 0.80 at the lowest and 1.00 at the highest. The result of analyzing the IOC value showed that all test items were appropriate and could be used in the test. The test paper reliability is 0.73 and more than 0.7 (Richardson & Kuder, 1939: 681-687).

**2.2.2 Satisfaction Questionnaire (5-point Likert scale)**

**The questionnaire is provided to 5 experts for content validity check and suggestions. The quality of the questionnaire is considered according to the Index of Item Objective Congruence (IOC) obtained from the achievement test evaluation form. The IOC of each item of the satisfaction questionnaire was between 0.80-1.00. The result of analyzing the IOC index showed that 15 items in the satisfaction questionnaire were appropriate and could be used in the satisfaction evaluation of**



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**Gamification combined with mobile learning. The Cronbach's Alpha coefficient of the reliability of the student satisfaction questionnaire is 0.718, which is greater than 0.70 (Cronbach, 1951). This showed that the internal consistency of the student satisfaction questionnaire met the requirements.**

**3. Data collection**

The procedures of data collection were as follows:

**3.1 The samples were given the pretest by Chinese language speaking skills with constructed instruments.**

3.2 The samples were taught by using Gamification combined with mobile learning. The entire experiment lasted 21 days, including instructional time (14 days), out-of-class time (6 days), and testing time (1 day). Instruction using gamification combined with m-learning was divided into three parts: before class, in class, and after class. During this phase, the students will engage in the intervention, which includes using mobile learning apps with gamified features to improve their spoken Chinese proficiency.

3.3 After finishing the instruction, the samples received the post-test by using the same instrument that was used in the pretest.

3.4 The samples were given the students' satisfaction questionnaire.

**4. Data analysis**

In this study, data were analyzed by using the statistical program according to the research objectives

4.1This study data must meet the following requirements: Dependent variable that is continuous (i.e., interval or ratio scales) The paired measurements must be recorded in two separate variables. In related samples, the subjects in each sample are the same. This means that the subjects in the first group are also in the second group. Random sample of data from the population normal distribution (approximately) of the difference between the paired values no outliers in the difference between the two related groups. There are two hypotheses they are the null hypothesis $H_0: \mu_{pretest} = \mu_{posttest}$ and the alternate hypothesis subscript Hypothesis $H_1: \mu_{pretest} < \mu_{posttest}$. If the sample mean is equal to the population mean， the one sample t-test can be expressed as $H_0: \mu = X$. If the sample mean is not equal to the population mean， the one sample t-test can be expressed as ,.$H_{01}: \mu \neq X$.

4.2 Compare Chinese language speaking skills before and after learning through Gamification combined with Mobile Learning by using a t-test for dependent samples.

4.3 Compare Chinese language speaking skills after learning through Gamification combined with mobile learning with the determined criteria set at 70 percent by using a t-test for one sample.

4.4 Assess the student's satisfaction with Gamification combined with Mobile Learning by using arithmetic mean and standard deviation.

**Research Results**

**The results were presented according to the research objectives as follows:**

**1. The result of comparing the mean score of Chinese Language Speaking Skills before and after learning through using Gamification combined with the Mobile Learning method.**

**The below table shows descriptive statistics and t-tests as analyzed by the statistical package program. This table aimed to answer the research objective about whether learning management using Gamification combined with Mobile Learning was able to enhance Chinese Language Speaking Skills.**



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**Table 1 Paired sample test about Chinese Language Speaking Skill**

| Group | N | Pretest scores | | Posttest scores | | t | p |
|---|---|---|---|---|---|---|---|
| | | M | S.D. | M | S.D. | | |
| Experimental group | 30 | 71.33 | 6.28 | 81.13 | 6.11 | 37.07** | .000 |

**p＜0.01

As presented in Table 1, the mean score of the pretest of students' Chinese Language Speaking Skills was 71.33 (S.D. = 6.28) and the posttest of students' Chinese Language Speaking Skills was 81.13 (S.D. =6.11). The result of this table showed that after learning through Gamification combined with Mobile Learning to enhance Chinese Language Speaking Skills in the classroom, posttest scores of students' Chinese Language Speaking Skills were greater than pretest scores at. 01 level of statistical significance ($t_{29}$ = 37.071, $p$=*0.000* <.01). The average scores of the study developed increasingly higher than pretest.

2. The result of comparing the mean scores of Chinese Language Speaking Skills of students before and after learning management using Gamification combined with Mobile Learning with the determined criterion set at 70 percent of full scores.

The result of comparing the different scores of Chinese Language Speaking Skills after learning through Gamification combined with Mobile Learning with the criteria set at 70 percent. The below table shows descriptive statistics and t-tests as analyzed by the statistical package program. This table aimed to answer the research objective about whether Gamification combined with Mobile Learning was able to students' Chinese Language Speaking Skills.

Table 2 The result of comparing the different scores of Chinese Language Speaking Skills after learning through Gamification combined with Mobile Learning with the criteria set at 70 percent.

| Group | N | Full score | Criteria score | M | S.D. | t | p |
|---|---|---|---|---|---|---|---|
| Experimental group | 30 | 100 | 70 | 81.13 | 6.11 | 9.98** | 0.000 |

**p＜0.01

As presented in Table 2, the mean scores of t students' Chinese Language Speaking Skills after learning through Gamification combined with Mobile Learning was 81.13 from possible full marks of 100 and the standard deviation was 6.11 which was statistically higher than the criterion of 70% at.01 levels of statistical significance ($t_{29}$=9.98, $p$=*0.000*<.01). The above data indicates that learning management using Gamification combined with Mobile Learning can improve Chinese Language Speaking Skills among students.

3. To assess the students' satisfaction with Gamification combined with Mobile Learning

The result of comparing the mean score of satisfaction after learning management using Gamification combined with Mobile Learning. The below table shows descriptive statistics and t-tests as analyzed by the statistical package program. This table aimed to answer the research objective about whether learning management using Gamification combined with Mobile Learning was able to enhance satisfaction.



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Table 3 Data analysis result of Students' satisfaction questionnaire

| NO. | ITEM | M | S.D. | Level of appropriateness |
|---|---|---|---|---|
| **Students' satisfaction with the form of teaching** | | **3.94** | **0.77** | **High** |
| 1. | Likes to use gamification combined with mobile devices to learn spoken language. | 3.97 | 0.89 | High |
| 2. | Gamification combined with mobile learning helps personalize learning | 3.93 | 0.74 | High |
| 3. | Enjoy the classroom atmosphere of learning spoken Chinese through gamification combined with mobile devices. | 4.10 | 0.71 | High |
| 4. | Gamification combined with mobile learning is designed to meet the developmental level of students | 3.77 | 0.73 | High |
| 5. | Hope to continue to use gamification combined with mobile learning for spoken Chinese learning. | 3.93 | 0.78 | High |
| **Students' satisfaction with the content of the course** | | **4.05** | **0.78** | **High** |
| 6. | Gamification combined with mobile learning combines new knowledge with existing knowledge | 4.13 | 0.78 | High |
| 7. | Gamification combined with mobile learning increases interest in learning after learning spoken Chinese. | 4.07 | 0.78 | High |
| 8. | Gamification combined with mobile learning makes it easy to get a sense of achievement after learning spoken Chinese. | 3.90 | 0.80 | High |
| 9. | Gamification combined with mobile learning improves collaboration skills | 4.10 | 0.76 | High |
| **Students' satisfaction with the results of the course** | | **4.07** | **0.78** | **High** |
| 10. | Gamification combined with mobile learning to improve speaking practice. | 3.97 | 0.67 | High |
| 11. | Gamification combined with mobile learning to improve creativity | 4.07 | 0.74 | High |
| 12. | Gamification combined with mobile learning improves problem-solving skills. | 4.10 | 0.80 | High |
| 13. | Gamification combined with mobile learning improves the efficiency of learning spoken | 4.23 | 0.77 | High |



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| NO. | ITEM | M | S.D. | Level of appropriateness |
|---|---|---|---|---|
| | Chinese. | | | |
| 14. | Gamification combined with mobile learning improves independent learning | 4.00 | 0.83 | High |
| 15. | Gamification combined with mobile learning improves academic performance | 4.03 | 0.85 | High |
| | **Overall Total** | **4.02** | **0.77** | **High** |

Based on the results, we can state the following: As shown in Table 3, the overall results of the learning management using Gamification combined with Mobile Learning by experts are at a high level with (M=4.02, S.D.= 0.77). Thus, it was concluded that students' satisfaction of the students after receiving Gamification combined with Mobile Learning was high.

**Discussion**

1. The purpose of this study is to evaluate the efficacy of gamification combined with mobile learning to improve the Chinese language speaking skills of second-year students. A comparison of the student's results from the pre-test to the post-test reveals that the second-year students' Chinese language speaking skills after learning through Gamification combined with mobile learning are higher than before. In this study, a new teaching strategy gamification combined with mobile learning is proposed to improve students' Chinese language speaking skills (Albertazzi, Ferreira, & Forcellini, 2019). The teaching strategy is divided into three stages and there are five instructional steps in the second stage to maximize students' language skills. The three stages include before, during, and after class. Before the class, students watch the teaching course on the teacher's online platform, complete the tasks set by the teacher, and the teacher sort out students' questions after watching the video course. This step is very important because it promotes students' independent learning. In class is offline face-to-face teaching, which is divided into 5 steps. Step 1 was assessing student readiness. In the classroom, the teacher explains the students' pre-class preview questions, the second step is to explain the new lesson in detail, the third and fourth steps are to set up a group discussion task, the students discuss in-depth in small groups, and the groups present the results. After expressing their views, the teacher comments and summarizes, which is the fifth step. After the lesson, the network is mainly divided into two sections, namely, expansion and enhancement, and summarization and reflection, in which the teacher combines the students' mastery of some knowledge points to expand them and release them to the network platform. The ultimate use of Chinese speaking skills is for students to apply the knowledge system established in the classroom to real life and solve real problems. Instructional strategies are based on several theoretical concepts, including self-determination theory, goal-setting theory, constructivism, and connectivism provide a theoretical foundation and guidance for Gamification combined with Mobile Learning. The integration of gamified learning environments and mobile learning systems can significantly enhance the Chinese-speaking skills of students. The engagement and participation fostered by gamification, with its incorporation of challenges, incentives, and progress tracking, motivate students to actively interact with the learning material (Rutledge et al., 2018). This active engagement leads to improved language skills as students immerse themselves in the content.



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2. After using gamification combined with mobile learning, students' Chinese language speaking skills improved, surpassing the predetermined criteria of 70%. When post-intervention student scores were compared to pre-determined criteria, it was found that second-year students' Chinese language speaking skills after learning through gamification combined with mobile learning were higher than 70 percent. The students had already received high scores in the pre-test, which was based on the fact that the students already had a good foundation in spoken Chinese before they participated in the study and that these students had a high level of interest and motivation in learning Chinese, leading to their better performance in the study. Students scored higher after going through the intervention. This may be because pre-class pre-study content and post-class knowledge development content are learned outside the classroom by the mobile platform students independently, and in the classroom teachers and students carry out high-quality learning activities to allow students to learn in specific contexts. This includes student-directed learning, independent problem-solving, and inquiry-based activities. Students will be able to better understand what they are learning by discussing in groups and sharing different opinions in the classroom. This improvement is due to the engagement and motivation brought by gamification and mobile learning. Game elements make learning more appealing and engaging for students. Mobile learning offers flexible and convenient access to learning materials, allowing students to practice and improve their Chinese language skills at their own pace. This integration aligns with modern educational theories emphasizing student engagement, autonomy, and collaboration. So this was higher than the standard of 70%.

3. Gamification combined with Mobile Learning improves students' satisfaction with the Chinese Language Speaking Course. The reasons may be related to the following aspects: 1) Students' satisfaction with the form of teaching was at a high level. Gamification combined with Mobile Learning is more flexible and interesting than the traditional teaching mode, which is conducive to increasing students' intrinsic interest and making the learning process more entertaining. 2) Students' satisfaction with the content of the course was at a very high level. The content of the course "Chinese Language Speaking Course" is practical. 3) Students' satisfaction with the results of the course was at a high level. After learning to teach the Chinese Language Speaking Course through Gamification combined with Mobile Learning teaching, the students' post-test scores were significantly higher than the pre-test scores for Chinese Language Speaking skills.

In summary, the emergence and application of Gamification combined with Mobile Learning have significantly improved the learning experience of students. By studying the design and implementation of Gamification combined with Mobile Learning, we can better provide personalized education for students, improve learning efficiency and quality, and promote the deep integration of Gamification and education.

## Conclusion

Through comparative analysis of the students using Gamification combined with Mobile Learning pretest and posttest, after the intervention of Gamification combined with Mobile Learning, the impact of Gamification combined with Mobile Learning on students' Chinese language speaking skills is obtained. The conclusion is as follows:

1) Chinese Language Speaking Skill test scores of the Students who received Learning Management Using Gamification combined with mobile learning have higher scores than before at a statistically significant level of 0.05.

2) Students who received the learning management using Gamification combined with mobile learning have higher scores than the determined criterion of 70%. (M= 81.13, S.D. =6.11)

This study used statistical software to evaluate the satisfaction of teaching through Gamification



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combined with mobile learning. The results indicate that students are highly satisfied with teaching through Gamification combined with mobile learning (M= 4.02, S.D. =0.77). Through Gamification combined with mobile learning classroom practice, learning efficiency has been improved, and the personalized learning needs of students have been met improving students' independent learning ability. It helps to improve students' Chinese language speaking skills.

## Recommendation

### Recommendation for implication

Based on the findings from the study, the following recommendations are made:

1) Teachers should innovate more interactive language learning games: design challenging and interesting Chinese speaking games for international students to practice speaking and stimulate their interest in learning. Personalized learning plans and speaking practice content are tailored to students' Chinese language level and learning needs, ensuring that each student receives effective learning assistance.

2) In teaching, Learning management using Gamification combined with Mobile Learning takes students as the main body and teachers as the lead to complete the teaching organization. Teachers should guide students to actively learn the content of this lesson, and always keep supervision and guidance so that students will not deviate from the topic during the learning process.

3) Personalized learning path: Ensure that learning management gamification combined with mobile learning can provide personalized learning paths and resources based on the specific learning needs and performance of learners, to meet their needs to the greatest extent possible.

### Recommendation for further research

With the rapid development of contemporary information technology, Gamification combined with Mobile Learning in the field of education is becoming increasingly widespread. In the future, there are several research prospects in the following areas:

1) All of the students are from Guangdong University of Foreign Studies. One school cannot represent all ordinary colleges and universities, so Gamification combined with Mobile Learning still needs to be verified in more ordinary colleges and universities, to make the experimental results more convincing.

2) The practice time of Gamification combined with Mobile Learning is relatively short and the number of classroom experiments is limited. To better test the influence of Gamification combined with Mobile Learning on the cultivation of students, teachers also need to use Gamification combined with Mobile Learning to conduct more effective empirical research in the classroom for a long period.

3) Insufficient real-life contextual practice. Although the speaking tasks are designed for real-life scenarios, they may still not be able to fully cover a variety of daily communication situations and lack comprehensiveness.

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