Original Researcher Article

Enhancing Mandarin Writing Skills through Gamified Learning among Year Four Students in Malaysian SJK(C) Schools

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ABSTRACT

Malaysian Sekolah Jenis Kebangsaan (Cina) (SJK(C)) schools have a large population of Year Four students who face great challenges in Mandarin writing. Students can easily communicate using spoken Mandarin; however, they have difficulties in the accuracy of characters, sentence structure, structure of ideas, and use of vocabulary in their speech. The paper will examine the utilization of gamified learning tools, in this case, Wordwall and Baamboozle, in improving Mandarin composition abilities in primary school learners. The mixed-methods design was applied that included the quantitative analysis of 300 composition samples (150 before intervention, 150 after the intervention) with the qualitative information of the teacher interviews. The results have shown an observable positive change in writing performance after administering online writing games, a decrease in low level scores and more high scoring bands performance. The educators have expressed that their engagement and motivation improved, but limitations in infrastructure, time, and workload were cited as issues. The research is concluded with the finding that the gamified learning in its strategic approach may be used to improve the writing competence and classroom interaction in Mandarin language studies.

Keywords: Mandarin writing, gamified learning, SJK(C), primary education, digital learning, composition skills, economic growth, education policy

INTRODUCTION

Composing in Mandarin is a cognitively challenging task, which involves being able to recognize character, use vocabulary, structure sentences, and have a logical flow of ideas. In contrast with the concept of speaking, that is developed during the day-to-day communication process, writing is a process that demands the conscious creation of meaning and the respect of linguistic precision. In Malaysian primary schools using Chinese (especially Sekolah Jenis Kebangsaan (Cina) (SJK(C)) in their instruction, most Year Four students are fluent in spoken Mandarin, but have significant problems with written composition. These difficulties involve the wrong character formation, the inability to use vocabulary, poor sentence structure, and insufficient idea development (Chen et.al, 2021; Nasrudin et.al, 2025; Gazi et al., 2025). Writing thus turns out to be a frustration instead of a creative way of expressing oneself.

The conventional teaching methods in most of primary classrooms still focus on imitating model essays, reading vocabulary, and doing teacher-directed exercises. Although such techniques might enhance short-term memory of words and structures, they tend to restrict their ability to think critically, be innovative, and engage students (Palpanadan et.al, 2019). According to the study conducted on teacher-centered pedagogy in Malaysian primary schools, it was found that overly using rote learning decreases student involvement and intrinsic motivation (Ghaizi et.al, 2022). Consequently, pupils can be done with writing without any deeper thinking or conviction in writing similar texts. Over the past few years, the digital transformation in the education industry has promoted the application of interactive and student-focused pedagogies. Gamified learning entails the use of game design elements, including points, leaderboards, rewards, competition, and instant feedback, into the learning design and has become one of the promising approaches to enhancing engagement and learning outcomes (Lampropoulos et.al, 2022). Gamification also encourages engagement and long attention especially among young learners who react well to interactive learning settings. It has been demonstrated that the digital game-based learning can be used to improve language acquisition, vocabulary retention, and writing fluency in primary schools (Tan et.al, 2024; Arslan et.al, 2025).

Wordwall and Baamboozle are the websites that enable teachers to construct vocabulary-matching tasks, sentence-reordering tasks, and idea-generation tasks, which structure the writing process. These tools allow giving instant feedback and it is necessary to support the correct use of character and correct grammar. Also, the gamified platforms produce a low-stress learning environment that promotes experimentation and team

learning (Wang et.al, 2025). It has been shown that, these interactive environments can enhance motivation as well as academic outcomes when implemented systematically in classroom teaching (Maharani et.al, 2025). Although there is accumulating evidence of gamification application in English and general language learning settings, there is scanty literature on the use of gamification in the area of Mandarin writing performance in Malaysian SJK(C) primary schools. The bulk of available literature addresses the topic of vocabulary learning or language overall but not the ability to compose structure (Novia et.al, 2024). As the Mandarin characters and the composition organization are quite unique, there is a need to research whether the gamification tool can be relevant in solving writing-specific issues in young learners.

Thus, the research question of this study is whether the application of gamified learning resources into composition classes could be used to improve Mandarin writing among Year Four students in Malaysian SJK (C) schools. Through the analysis of the results of writing performance and classroom activities, the study will be valuable to the existing research on digital language pedagogy in primary schools.

2. Literature Review

2.1 Challenges in Mandarin Writing

The Mandarin writing shows unique difficulties as it is written logographically, that is, each character has a certain meaning and a sound at the same time. In contrast to the alphabetic languages, the learners have to memorize the order of strokes, radicals, space structure, and contextual usage. This adds to the cognitive load particularly on young learners who are moving past the fluency in oral language to written composition (Wang et.al, 2025). Research points out that primary students tend to have a problem with accuracy in character, sentence construction and comprehensible flow of ideas (Chen et.al, 2021). Studies in the field of Chinese language education indicate that students often create works with little development of content, which is often simple and has only two or three sentences without any elaboration (Nasrudin et.al, 2025). Another typical problem is vocabulary limitation, students use repetitive or simple words, which leads to expressive loss (Novia et.al, 2024). Also, the syntactic control is weak and causes grammatical mistakes and disjointed sentence construction (Zhang et.al, 2023). The lack of proper paragraph structure also influences clarity, since students do not have techniques of ordering ideas in the logical order.

Anxiety associated with writing is also an important factor. Young students can be depressed by the inability to remember the right characters or the fear of making a mistake (Liu et.al, 2022). It is an emotional block, which decreases writing confidence and motivation. Pedagogies based on memorization and imitating essay models at the teacher level can be used to support superficial learning without encouraging critical thinking and creativity (Palpanadan et.al, 2019; Ghaizi et.al, 2022). This frequently leads to failure to show active learning processes and inadequate participation on part of the students when it comes to writing lessons. Mandarin orthography and the traditional methods of instructional activity imply the necessity of new strategies that facilitate the process of vocabulary building, organizing ideas, and motivation at the same time (Mok et.al, 2023).

2.2 Gamified Learning in Language Education

The word gamification describes the implementation of game-related features, including points, leader boards, levels, rewards, and instant feedback in non-games education to improve engagement and motivation (Lampropoulos et.al, 2022). Gamified tools have been generally accepted as a way to enhance participation and vocabulary retention in language learning (Tan et.al, 2024). The presence of platforms, like Wordwall, is an opportunity that enables teachers to create interactive matching exercises, quizzes, and sentence-reordering exercises to scaffold vocabulary learning and grammar exercise. On the same note, Baamboozle also promotes classroom competitions in teams that encourage group learning and prompt feedback on learning. Studies have shown that gamified platforms have a number of pedagogical advantages. First, the immediate feedback strengthens the usage of the correct language and provides students with the opportunity to realize the mistakes within a short period (Maharani et.al, 2025). Second, competition factors trigger intrinsic drive and maintain attention in classes (Arslan et.al, 2025). Third, group activities based on games encourage interaction with peers and knowledge building, which fits into the principles of constructivist learning (Wang et.al, 2025).

The research findings in the primary education setting indicate that the use of digitally based learning games promotes the writing fluency and vocabulary use in a significant way (Nasrudin et.al, 2025). Students, who have been introduced to gamified writing activities, have more engagement rates and confidence in writing texts (Novia et.al, 2024). Also, interactive online platforms decrease the anxiety about writing by establishing a low-stress learning condition (Liu et.al, 2022). Although there is a good body of evidence indicating the effectiveness of gamification in English and general language learning, very few studies have been conducted to identify its effect on Mandarin composition skills among Malaysian SJK(C) schools. Thus, the discussion of the incorporation of gamified elements into the process of learning Mandarin writing is a research question that can be pursued.

2.3 Theoretical Framework

The study is based on Constructivist Learning Theory that recognizes the constructive power of learning through interaction, exploration and significant engagement of learners as opposed to being passively informed. According to constructivist scholars, the learning process takes place when the students relate the new information to their previous experiences in the social and contextual worlds (Vygotsky, 1978; Bruner, 1996). In language teaching, this approach indicates that, students can acquire competency in writing better when they engage in interactive activities that involve vocabulary, sentence construction and organization of ideas instead of being taught by rote memorization.

Constructivism principles are close to gamified learning environments. Using digital platforms, like Wordwall and Baamboozle, learners can manipulate the language components and provide immediate feedback on their answers, as well as improve their answers by taking them on again. This type of interaction promotes learning through experience and facilitates scaffolding in the zone of proximal development of the learner (Vygotsky, 1978). It has been shown that digital game-based learning improves active engagement, collaborative problem-solving, and more significant cognitive processing in the primary school setting (Lampropoulos et.al, 2022; Wang et.al, 2025). Through vocabulary-matching, sentence-ordering and idea-generation, students build meaning gradually thus enhancing fluency in writing, as well as, structural awareness.

In addition, constructivism emphasizes social interaction in the construction of knowledge. Activities in gamified classrooms also tend to include cooperative learning with peers and competition in teams, which encourages conversation and mutual learning (Mok et.al, 2023). These types of collaborative learning are specifically useful in Mandarin writing classes where learners have the opportunity to learn about other sentence structures, talk about word choices, and work together to resolve linguistic problems. Besides constructivism, this research is also enlightened by the student motivation theory that highlights the importance of intrinsic and extrinsic motivation in maintaining academic engagement. The Self-Determination Theory states that learners should be motivated by autonomy, competence, and relatedness (Ryan and Deci, 2020). The gamified platforms have reward systems, progress indicators, and instant feedback, which strengthen the feeling of competency and success in the students. Extrinsic motivation can be increased by competitive factors, including points and leaderboards, and intrinsic interest in learning tasks can be aroused through interactive and entertaining games (Tan et.al, 2024).

There is empirical evidence that gamification can enhance student engagement, attention span and persistence in language tasks (Arslan et.al, 2025). Corrective feedback during the process can alleviate anxiety and generate confidence, particularly with writing scenarios where anxiety about errors could be a barrier to the process (Liu et.al, 2022). Gamified learning environments will facilitate prolonged engagement in composition activities by reducing the affective barriers and boosting the motivational drive. Thus, the combination of constructivist learning principles and motivation theory would provide a solid theoretical basis when analyzing how gamified learning tools would be able to improve Mandarin writing abilities in Years Four students at Malaysian SJK(C) schools.

3. Methodology

3.1 Research Design

The current study has adopted a mixed-methods case study design in achieving both quantitative and qualitative results regarding the efficacy of gamified learning in enhancing Mandarin writing. The mixed-methodology was chosen to have the full picture of the research issue because it would involve both the quantifiable data of student performance and the qualitative data of teacher opinions. The quantitative part was aimed at comparing the writing scores of students before and after the intervention, whereas the qualitative part covered the experience of teachers, classroom difficulties, and attitude towards technology integration. The combination of these two types of data was the purpose of the study to create a more balanced and situational understanding of the effects of gamified learning on the teaching of writing.

3.2 Participants

The population of this research consisted of thirty Malaysian Students in two classes in Sekolah Jenis Kebangsaan (Cina) (SJK(C)). The students were chosen due to the fact that they were in the developmental stage where the composition writing is more structured and challenging. Before the implementation of gamified tools all participating students had already got conventional teaching in writing. Besides the student participants, six Mandarin teachers of the same school were also a part of the qualitative part of the study. These were the teachers who had the responsibility of teaching composition writing to learners in Year Four. Their engagement offered information about current practices in teaching, the difficulties encountered in teaching writing and the experience in using digital tools in the classroom.

3.3 Data Collection

The process of collecting the data was carried out in two phases in a period of twelve weeks. The first six weeks (pre-intervention period) the students underwent five composition tasks with the traditional instructional practices without the aid of gamified learning tools. The compositions were composed according to the given topics and were based on the level of baseline writing performance of students. The same group of students was given five more composition tasks in the subsequent six weeks (post-intervention) period. In this stage, classroom teaching was involved with the introduction of online game writing to help students build their vocabulary, form sentences in the language, and generate ideas, all this prior to the onset of writing their compositions.

A total of 300 compositions were collected for analysis:

- 150 compositions before the intervention
- 150 compositions after the intervention

Each composition was assessed using a standardized rubric with a maximum score of 15 marks. The rubric evaluated four key components:

- **Content** (clarity of ideas, relevance to topic, depth of elaboration)
- **Language accuracy** (vocabulary usage, grammar, sentence structure)
- **Structure** (organization, paragraph flow, logical sequencing)
- **Handwriting** (legibility, punctuation, spelling accuracy)

In a bid to maintain consistency, compositions were thoroughly checked and graded using the same criteria of evaluation in the two phases.

In the case of the qualitative component, the data were gathered on teachers using structured questionnaires with questions of open-ended nature. These questions were aimed at the problems that were experienced when teaching composition, the experience of using online writing games, their perceived advantages and drawbacks, and their general willingness to adopt the use of technology in teaching writing. These reactions were used to give contextual insight to the quantitative results.

4. Results

4.1 Quantitative Results

The quantitative results were obtained using the results of the analysis of 300 student compositions, half of which were written prior to the introduction of gamified learning tools and the other half were written after the intervention. The findings have shown that there is a definite increase in the performance of students in Mandarin writing after introduction of the online writing games.

Table 1: Distribution of Scores Before Intervention

Score Level	Marks Range	Number of Students	Percentage (%)
First	14–15	10	6.7%
Second	11–13	18	12.0%
Third	9–10	36	24.0%
Fourth	6–8	34	22.7%
Fifth	4–5	27	18.0%
Sixth	1–3	25	16.6%
Total		**150**	**100%**

The results of Table 1 depict the distribution of writing scores of the students prior to the introduction of gamified learning tools. Most of the students were clustering in the low score ranges with 57.3 per cent scoring in the 1-8 marks. This shows that over 50 percent of the students had problems with the basic writing abilities including developing ideas, use of vocabulary, structure of their sentences, and organization. On the one hand, there was low excellence in composition writing at the lowest level, as only 10 students (6.7%) received the highest level of performance (1415 marks). The statistics indicate that the age-old teaching tools were not enough to enable most students to achieve greater writing competencies.

Table 2: Distribution of Scores After Intervention

Score Level	Marks Range	Number of Students	Percentage (%)
First	14–15	19	12.7%
Second	11–13	33	22.0%
Third	9–10	48	32.0%
Fourth	6–8	24	16.0%
Fifth	4–5	17	11.3%
Sixth	1–3	9	6.0%
Total		**150**	**100%**

Table 2 provides the performance of students in the form of writing once the use of gamified learning tools was introduced. The findings indicate that there is a strong positive change in the level of achievement. Students with scores of 14-15 marks have improved by 10 to 19 showing an improvement in high performing students. Simultaneously, the students in the lowest band (10 marks or less) were reduced significantly (25 to 9). There was also a significant improvement in middle-level categories (9–13 marks). This reallocation of scores implies that gamified learning had a positive impact on the development of writing by enhancing the vocabulary usage, sentence structure, and the organization of ideas among the learners of various abilities.

Table 3: Comparison of Lower and Higher Score Bands

Category	Before	After	Difference
Top Level (14–15)	10	19	+9
Lowest Level (1–3)	25	9	–16
Upper Middle (11–13)	18	33	+15
Lower Bands (1–8 total)	86	50	–36

A comparison of performance of students prior to and after the intervention is done in Table 3, which shows the trends of improvement clearly. The highest level (14 -15 marks) expanded with 9 students, whereas the lowest level (1 -3 marks) reduced by 16 students. Moreover, the general amount of students in lower scores (15–8 marks) reduced considerably to 50. These alterations indicate that there were numerous students who moved down the ladder to better performance groups following the exposure of the gamified learning activities. The comparison proves that the intervention was successful in moving the overall performance to the higher level and decreased the number of students with problems with the basic composition skills.

Table 4: Improvement in Writing Components

Writing Component	Observed Improvement After Intervention
Idea Expansion	Students wrote longer and more detailed compositions

Vocabulary Usage	Greater variety and accuracy in word choice
Sentence Construction	Improved grammatical structure and coherence
Organizational Clarity	Better paragraph sequencing and logical flow

Table 4 presents qualitative gains on the particular aspects of writing that were found post-intervention. Students proved to have better expansion of the idea by writing more precise and longer compositions. There was an enhanced usage of vocabulary that was more diverse and accurate in the use of words. The structure of the sentences became more grammatically consistent and the students were more in control of sentence flow. Also, there was an increase in organization in which compositions were more precise on paragraph structure and the flow of ideas. These advancements imply that the gamified learning not only improved the overall score but also improved the main roots of effective Mandarin writing, which means the contributions of more systematic and meaningful writing.

4.2 Qualitative Findings

Positive Outcomes Identified by Teachers

The qualitative findings indicated that educators saw gamified learning as an effective method to enhance the classroom environment and facilitate the improvement of students' writing skills. A lot of people said that one of the best things that happened was that youngsters were more engaged in writing classes. Teachers saw that when they used online writing games as part of pre-writing homework, pupils were more interested and paid more attention. Writing sessions that were turned into games were a lot more enjoyable and interesting than typical writing sessions, when some students were preoccupied or bored. The activities were hands-on, which helped the students concentrate on utilizing words and constructing sentences before they began writing.

Many teachers also said that students should communicate more in class. Only a few students who are sure of themselves and eager to answer questions generally show up for writing sessions. Teachers, on the other hand, considered that games made it easy for more people to join in. The exercises made persons or groups answer questions, which prompted additional students to join the class. This type of contact made sure that even the shy youngsters did things that helped them learn new vocabulary and think of new concepts. Teachers said that the environment was both competitive and helpful, which made students desire to help without being intimidated. Another huge advantage that came up was that kids who weren't as good at learning felt better about themselves. Teachers report that a number of pupils who generally had problems writing essays felt a lot more confident after playing games. Online tools gave students instant feedback, which let them repair problems right away and learn from them right away. Students didn't have to wait days for written modifications; they received feedback right immediately. Teachers claimed that this rapid reaction made youngsters less nervous and more willing to attempt challenging words and sentence structures. Because of this, students who weren't very good at writing started to put down their ideas more and more.

Another good thing that occurred was that individuals were more eager and driven to accomplish their work. Teachers claimed that pupils were more interested in writing classes when they incorporated games. Adding something entertaining made what was formerly seen to be a challenging topic into something fun to do. After playing vocabulary games or conducting sentence arrangement exercises, students were more eager to come up with ideas, create sentences, and make their work longer. Teachers also saw that after the intervention, pupils were more eager to write lengthier essays than they had been before. A lot of students desired to create longer, better-organized paragraphs instead of just two or three phrases. Teachers also indicated that making learning fun helps pupils work together to learn. Students spoke to each other on how to utilize the proper words and sentence structure while they were in groups. Before they began writing their essays, the students gathered together to talk about their ideas and ask each other questions. This contact helped individuals comprehend better and made linguistic patterns stronger. Most professors anticipated that gamified learning may influence how people felt about being in class. It got individuals more engaged, active, confident, and thrilled, and it taught them by doing. Kids in Year Four still had trouble writing, but playing games made it simpler to learn and less terrifying.

Challenges Identified by Teachers

The negative impact on student engagement due to unequal access to electronic devices was a source of concern for many educators, who felt that use of gamification in the classroom would improve student learning outcomes while at the same time creating several challenges with implementation. For example, many schools do not allow students to bring their own devices from home; some do not have sufficient numbers of computers for each student to use and therefore require multiple students to share devices. As students could not each use their devices at the same time, this decreased the overall amount of time that they could engage in learning through gamification. Many educators worried that lack of access to similar devices would decrease the likelihood that students would take an active role in their own education.

Many participants stated that intermittent connections plagued their use of technology in education. According to the teachers, there would be interruptions to their instruction because of slow/unreliable internet connections. When games do not load correctly or too slowly, both the students and teacher's expectations are not met; therefore, there is a break in the student's interest and in the flow of the lesson. Teachers also reported having issues with the use of technology due to technical problems, which negatively affect both the student and teacher. The teachers indicated that having a reliable infrastructure/ Internet connection is critical in order to effectively incorporate digital tools into writing lessons.

There were many discussions regarding how much additional time was needed to plan lessons. The teachers stated that creating meaningful gamified activities that align with planned lessons require more work than creating a traditional worksheet. The use of appropriate language, creating an interactive exercise, and ensuring that the game is aligned with the lesson goal all require careful consideration during the development of supporting materials. For those teachers that work a great many hours to prepare class content, the amount of additional time that was needed for preparation is a significant issue. Many of the teachers expressed concern about working in an environment that did not provide adequate support for the use of gamified tools at all times to avoid increasing their workload.

There was also an issue with the level of noise during class and the level of competitiveness built into games. The teachers observed that while competitive elements can be great motivators; they can also cause too much excitement and noise in the classroom. There were also times when students would try to answer questions as fast as they could, without consideration for whether their answers were correct. In some situations, the competition resulted in tension or distraction when the students were competing against other teams. Teachers said that gamified lessons could become chaotic and difficult to manage without established classroom management rules.

Finally, teachers stressed how important it is to have balance. They said that gamified learning could help with motivation, but they also said that it shouldn't completely replace traditional writing instruction. Instead, they suggested using games as extra tools to help students learn new words and come up with ideas before they start writing formal essays. Teachers stressed that students still needed structured guidance and time to think about what they had learned in games in order to use those skills in their writing. In conclusion, while gamified learning showed clear benefits for motivation, teachers pointed out problems with infrastructure, workload, and managing the classroom. To make gamified writing instruction as effective and long-lasting as possible, it would be important to get rid of these practical barriers by providing better resources, institutional support, and structured implementation strategies.

5. Discussion

The findings from this study indicate that gamified learning can aid Year Four students in SJK(C) schools in Malaysia with writing Mandarin. There was a demonstrable shift of student results, with fewer students placed within the lower score bands and more placed in the higher score bands. This improvement supports the claim that these gamified activities contributed to helping students enhance their ability to generate ideas, use vocabulary with greater accuracy, and develop more coherent sentence structures. Additionally, educators reported to the researchers that they had observed increased levels of student engagement, participation, and self-confidence among their lower-achieving students through using online writing games as part of their writing instruction. The use of these interactive educational tools seems to reduce student anxiety about writing and help develop a more student-centered classroom environment. Prior to engaging in writing tasks, students were able to better organize their ideas using vocabulary development and sentence stretching exercises. However, according to the conversation, teacher readiness and infrastructure are essential considerations given limited device availability, inconsistent internet access, and longer preparation time needed prior to the implementation of gamified learning. Therefore, gamified learning should be utilized to augment traditional writing instruction rather than serving as a complete substitute.

6. Conclusion

This research showed gamified learning is an effective means for Malaysian SJK(C) Year Four students to develop their ability to write in Mandarin. Game-based online writing improved writing ability, especially with regard to idea development, vocabulary use, sentence structure, and overall organization. Apart from the quantitative method of collecting data, both sets of qualitative data demonstrate an increase in motivation, engagement, and self-confidence among students who found it difficult to write previously as a result of gamification. To be successful, however, gamification requires adequate infrastructure, teacher training, and structured classroom management. In addition, all students must have access to dependable Internet service and an adequate number of devices in order for everyone to have the same opportunity to participate. Schools must support teachers with help in managing their preparation time, as well as structuring lessons to incorporate game use in a functional manner. Generally speaking, gamified learning has a positive result in terms of making Mandarin writing lessons both enjoyable and engaging. With proper care and application of gamified tools, students' writing skills as well as their attitudes toward language acquisition can be improved. Future projects should focus on ensuring that gamified learning continues to have an impact, while expanding its use to additional schools

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