

Application of Gamified Teaching in Junior School

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Abstract. At present, junior high school English learning is facing the challenge of single teaching methods, resulting in low interest in learning and low participation of students. Game-based teaching creates an interactive learning experience by integrating game elements, showing potential in improving learning interest and understanding. This research focuses on the application of game-based teaching in junior high school English learning. Through literature analysis, it is found that game-based teaching can significantly improve students' learning interest, classroom participation and text understanding ability, and cultivate the spirit of teamwork. This article verifies the adaptability of game elements to the cognitive development laws of junior high school students, puts forward three strategies for situational creation, game type diversification and gender difference adaptation, and proves its effectiveness through the analysis of empirical cases. Future research should explore the long-term effect of gamified teaching and build a localized framework. At the practical level, priority should be given to teacher training and curriculum integration.

Keywords: Gamified teaching, Junior high school English learning, game activities

1. Introduction

English reading teaching in junior high school is the core link in the development of language ability. It is not only the basic functional carrier of vocabulary accumulation and grammar input, but also a keyway to cultivate students' critical thinking and information extraction ability. The Compulsory Education English Course Standards (2022 Edition) clearly requires guiding students to be "ling to learn and good at learning", emphasising that reading teaching should shift from mechanical exercises to meaning construction and interest driven [1]. However, traditional reading classes are often in trouble: teachers explain sentence by sentence, and students take notes passively; textbooks are often separated from students' life experience; teaching methods are biased towards grammar analysis and exercises, lacking interactivity and interest. Students are prone to anxiety when faced with long and difficult sentences --these pain points directly hinder the in-depth development of reading literacy.

Against this background, Gamified learning, an emerging strategy that integrates digital technology and educational psychology, is gradually attracting attention. It transforms learning tasks into "explorable, challenging and collaborative" interactive scenarios by integrating points, badges, role-playing and other game elements [2]. Can gamification solve the dilemma of 'low efficiency and high consumption' in reading teaching? Does its theoretical foundation and practical model fit

the cognitive characteristics of junior high school students? These problems urgently need to be systematically discussed.

Through literature analysis, this research explores the application of game-based teaching in junior high school English reading. It aims to clarify the theory, identify the practical model and integrate the effect. Based on students' psychology, it proposes optimization strategies to provide teachers with an operable framework to achieve "enjoy learning, learn well".

2. Physiological and psychological characteristics of junior high school students

Junior high school students are in the transition period from Piaget's "specific operation stage" to "formal operation stage". Abstract logical thinking has initially developed, but their ability is still unstable. Although its intentional attention has been developed, its continuity is limited, and it is easily disturbed by novelty and stimulation. In the face of a single boring text, it is difficult to focus for a long time, and the traditional teacher-led reading class is more likely to distract it; while it shows strong interest in challenging, interactive and interesting activities and can invest in it for a long time.

According to Self-Determination Theory, human beings are born with the psychological needs of autonomy, a sense of competency and a sense of belonging. If reading tasks are passively assigned, or repeated setbacks and isolation in the process, students' internal learning motivation will be weakened, which will lead to avoiding and fatigue reading.

In summary, the cognitive characteristics of junior high school students require the necessary "support" for reading materials and tasks. Traditional English reading teaching is one-way knowledge transmission, out of context and monotonous, resulting in students' low interest and poor effect, which provides a dual basis for theory and practice for introducing a game-based learning model that meets their psychological needs.

3. Gamified learning: theory and practice

3.1. Definition and theoretical foundations

Gamified learning refers to integrating the conceptual elements of game design (such as points, levels, challenges, etc.) into the learning process. By setting goals and challenges, instant feedback, creating an immersive background, etc., it can effectively stimulate the internal motivation of learners and improve their participation, concentration and overall learning results.

Its core theoretical supports include Self-Determination Theory, Flow Theory and Behaviorism.

3.1.1. Self-Determination Theory (SDT)

Meeting the three basic psychological needs of autonomy, a sense of competency and a sense of belonging is the key to stimulating the intrinsic motivation for learning. In gamified learning, this theory is reflected in: giving learners the autonomy to choose learning content or path, providing clear feedback (such as level improvement, achievement unlocking), and building a supportive social interaction environment, so that the learning process is more proactive and sustainable.

3.1.2. Flow theory

When the difficulty of the challenge matches the individual ability, people will enter a state of high concentration, immersion and pleasant mental flow. In order to create this state, gamified learning

has designed a gradual difficulty curve to ensure that the task is moderately difficult and the rhythm is coherent, so as to help learners deeply devote themselves to the learning process.

3.1.3. Behaviorism

Starting from the perspective of "stimulation-reaction-reinforcement", the theory believes that instant and positive feedback can effectively shape and consolidate learning behaviour. In gamified learning practice, this principle is widely reflected in the points system, instant rewards, rankings and other mechanisms.

3.2. Benefits

Gamified learning effectively optimises the reading teaching process through interactive, situational and competitive design. The following three core aspects show their advantages.

3.2.1. Enhancing reading motivation

Gamified learning makes full use of the characteristics of junior high school students such as curiosity, activity and competitive psychology, and stimulates the enthusiasm for learning with interest and rewards. For example, theatre performances can immerse students in the story situation, reduce learning anxiety and enhance the sense of participation. Research shows that a low-anxiety environment can reduce emotional filtering and make students more receptive to language input, thus enhancing intrinsic motivation [3].

3.2.2. Enhancing understanding

Gamified learning promotes students' in-depth understanding of the text through multi-sensory interaction and situational design. The process of gamification helps students transform abstract language rules into actionable knowledge and improve reading accuracy and fluency. Practice has proved that gamified learning can significantly enhance students' vocabulary memory, detailed understanding and overall reading ability [4].

3.2.3. Cultivating team spirit

Gamified learning can effectively cultivate students' communication skills and community awareness. Students work together in the game, discuss and evaluate each other, and learn to negotiate, compromise and solve problems together. This process not only improves social communication ability and inclusiveness, but also enhances language output ability and team cohesion.

3.3. Challenges faced by gamified learning

3.3.1. Teacher training

Game-based teaching requires teachers to have the ability of game design, technical integration and classroom management. It takes a lot of time and effort to design effective game activities, and many teachers lack relevant training. Insufficient training may cause game activities to be formal and unable to truly achieve the teaching goals [5].

3.3.2. Technical equipment

Gamified learning usually relies on digital tools such as tablets or interactive whiteboards. However, some school equipment is outdated or insufficient, which affects students' participation. At the same time, the complexity of technology integration is high, such as network delay or software failure may interrupt the game process.

3.3.3. Assessment mechanism

Traditional assessment methods, such as written tests, are difficult to fully capture the process results of gamified learning. Gamified learning requires a diversified evaluation system, including formative evaluation and summary evaluation (such as project display), which is more complex to implement than traditional evaluation.

4. Application of gamified learning in English reading teaching

The successful implementation of gamified teaching requires multi-dimensional strategic coordination. The core strategies include situational creation, game type diversification and gender differentiation adaptation.

4.1. Context creation

The core of situational creation is to transform abstract knowledge into specific tasks by simulating real problem scenarios.

Real situation embedding requires teachers to establish a connection between the text and students' real life, and emphasize the practicality and immersion of learning. In 2022, Han Li took "Healthy Eating" in Unit 10 of 6A of the Oxford Shanghai version as an example, designed the "Healthy Ambassador" situation and transformed the learning tasks in the text into campus practice projects. The research results show that "the embedding of this real situation significantly improves students' learning investment and knowledge application ability" [6]. Jiang Zhijie also verified the practical value of real situation embedding in the experiment of the "Personal Characteristics" unit. Based on the content of the textbook, he designed the "Characteristic Debate Competition" activity. Students discussed "who is more suitable to be the monitor", so that language learning can be naturally integrated into the real social situation [7].

In practical application, teachers need to combine text analysis and academic situation research and judgment to design personalized task sequences.

4.2. Diversification of game types

The application of diversified game-type strategies in gamified teaching is primarily reflected in the use of different types of game mechanisms and activity designs to stimulate students' learning interest, enhance engagement, and improve learning outcomes.

4.2.1. Role-playing games

Role-playing games realize the deep integration of language input and emotional experience through situational immersion and character immersion. In his research on interactive teaching model based on role-playing, Lu Yifan built a complete role-playing system including role recognition, evidence

analysis, clue reasoning and group debate based on "Around the World in 80 Days". Through specific experience, reflection and observation, abstract generalization and active application The four stages (Colb experiential learning cycle) have effectively improved students' reading comprehension and cross-cultural communication [8].

4.2.2. Level-based mission games

Level-based mission games effectively sustain students' learning motivation through clearly defined progression paths and immediate feedback mechanisms. In a 2016 university English teaching study conducted by Sun Yanbin, the Schoology learning management platform and the ClassDojo classroom management system were used to design the learning content as a series of tiered mission levels, including pre-class micro-lecture study, video comprehension tests, text comprehension tests, and key vocabulary tests. Each level allowed two attempts, and students earned points and badge rewards upon completing the tasks [9].

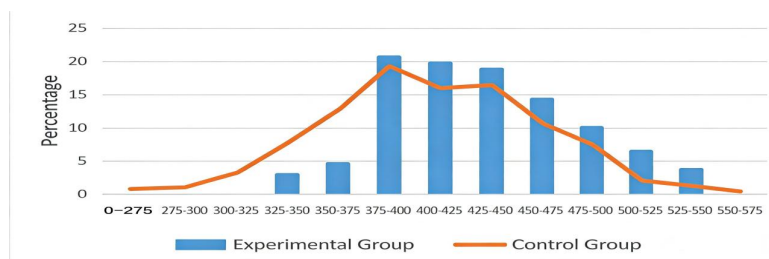


Figure 1. Comparison of percentage distribution between experimental and control groups across different score ranges

Research findings indicated that the experimental class outperformed the control class significantly in the College English Test Band 4 (CET-4), with average scores of 432.9 versus 409.2, and the disparity in English proficiency among students was markedly reduced (See Figure 1).

4.2.3. Technology-enhanced games

Technology-enhanced games utilize modern information technology, fully leveraging the technical advantages of mobile terminals like Pads to organically integrate learning content with game mechanics, creating an immersive and personalized learning experience [10].

In her 2020 study, Lü Ting constructed an experiential learning activity model based on Pads.

Table 1. Paired sample size statistics of first round scores and pre-test scores

	Mean value	N	Standard deviation	Standard error of the mean
Pre-test scores	32.4419	43	7.24832	10536
One round of results	33.2558	43	7.47724	14027

Table 2. Paired sample statistics of the second round results and the first round results

	Mean value	N	Standard deviation	Standard error of the mean
One round of results	33.2558	43	7.47724	14027
Two- round of results	33.9302	43	8.43856	1.28687

The study conducted two rounds of action research, with results showing a significant improvement in the experimental class's reading scores (post-test average 33.93 vs. pre-test 32.44) (See Table1&2). 95.35% of students believed the Pad resource library could meet their personalized learning needs. Technology-enhanced games, through adaptive learning paths and instant feedback, realized the teaching philosophy of "teaching students according to their aptitude" [11].

4.3. Gender difference adaptation

Gender difference adaptation does not reinforce stereotypes but rather, through "flexible and inclusive" design, allows each learner to find the most suitable way to participate. Xu Wenjiao carried out a relevant teaching experiment in her research in 2021. The researchers first confirmed that male and female students have their own game biases through teacher interviews and classroom observations. Then researchers designed teaching tasks with different strategies such as "mixed gender grouping", "complementary tasks", "transgender mutual evaluation", etc., and finally used the method of combining classroom observation, evaluation scale and in-depth interviews for data collection.

The results show that after the optimisation of teaching design, classroom participation has been significantly improved, and the complementarity of advantages between male and female students is also more obvious. Interview data revealed that boys learned attentiveness and expressive skills from girls during collaboration, while girls adopted boys' reasoning abilities and speedreading strategies [12].

In summary, conducting gamified instruction based on gender differences hinges on combining "differentiated teaching by gender" with cooperative learning and designing game tasks and materials that accommodate different cognitive preferences. Ultimately, on the basis of respecting individual differences, this approach facilitates the coordinated development of reading literacy for all students.

5. Conclusion

In general, the implementation of gamification teaching will encourage the student to have more interest to learn English, the student is more motivated to be involved in games, they will be more initiative to look for the real meaning of English words and sentence, it is easier to remember the vocabulary and English grammar, in classroom, most of students strengthened their expressive ability, team-work spirit, learn how to cooperate with other partners to finish game, it is positive to help the introverted student to overcome their psychological disorder.

When the teacher lead in gamification teaching, they need to optimize the game selection, the game selected shall be matched with the object at certain English course, much easier or more difficult games could not help the student on English learning, improper game leading result in losing interest of English learning, and even make student frustrated. So it is most important for teacher to prepare well the proper and diversified games before class.

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