

An Empirical Study on Gamified Learning Strategies in Primary School English Teaching

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Abstract: The purpose of this study is to explore the application of gamified learning strategies in primary school English teaching and its influence on students learning interest and learning effect. Through empirical research methods, this paper analyzes the changes of learning behavior and students learning results in real classroom. The results show that gamified learning strategies can effectively improve students interest in learning and classroom participation, and significantly improve the learning effect. This study provides new ideas and practical references for primary school English teaching, and provides suggestions for future teaching strategy optimization.

Keywords: Gamified Learning; Primary School English Teaching; Learning Interest; Learning Effect

1. Introduction

1.1 research background

With the development of globalization, English plays a core position in international communication. As the critical period of language learning, the effect of English teaching directly affects students future language ability. However, the traditional English teaching model has obvious deficiencies in stimulating students interest and participation, which often leads to unsatisfactory learning effect. In recent years, the rapid development of educational technology has provided new opportunities for teaching innovation. As an emerging learning method, gamified learning strategy (Gamification Learning) has gradually attracted the attention of the educational community.

Gamification learning aims to enhance students learning motivation and participation experience by integrating game elements into teaching scenarios, such as points, leaderboards, and challenge tasks. Studies by educational institutions such as the University of Liverpool show that gamified learning can effectively improve students online participation and learning enthusiasm. In addition, 2024 is considered as an important turning point year for the development of educational technology, and gamification learning has become one of the nine noteworthy trends, showing its potential in the global education system^[1].

1.2 research meaning

This study has important implications at both the theoretical and practical levels. At the theoretical level, this study explores the specific impact of gamified learning strategies on English teaching in primary schools, aiming to fill the existing literature research gap on gamified learning in basic education, and provide empirical basis and theoretical support for subsequent studies.

At the practical level, this study proposes a set of practical teaching strategies by analyzing the influence of gamified learning on students learning interest and learning effect. This not only helps to improve the teaching effect of primary school English classroom, but also provides teachers with innovative teaching tools to help them to better stimulate students enthusiasm for learning in the classroom. Ultimately, the results of this study can provide strong support for educational policy makers and promote the promotion and popularization of gamified learning in basic education.

2. Concept and theoretical basis of gamification learning

Gamified learning (Gamification Learning) refers to improving the motivation and engagement of learners by applying elements and technology from game design to non-game situations. Specifically, these game elements include points, leaderboards, badges, mission challenges, etc., which are designed to enhance the learning experience and outcomes through incentives. According to research, courses that implement gamification strategies can increase student engagement by at least 20 to 30 percent.

The theoretical basis of gamification learning mainly includes the following aspects:

2.1 Self-determination Theory (Self-Determination Theory, SDT)

The self-determination theory developed by Deci and Ryan emphasizes the role of individual autonomy, competence, and relevance in stimulating intrinsic motivation. Gamified learning meets students competency needs by setting challenging but achievable goals and providing immediate feedback and rewards. At the same time, game elements such as leaderboards and team tasks enhance students sense of relevance, giving them a sense of accomplishment in competition and cooperation.

2.2 Learning theory of behaviorism

Behaviorism emphasizes the role of external incentives in shaping learning behavior. The points, rewards, and punishment mechanisms in gamified learning are the embodiment of this theory. The operational conditioning theory of Skinner shows that the occurrence frequency of behavior can be effectively affected by both positive and negative reinforcement. Specific data show that the active participation rate of students has increased by more than 25 percent in classes with gamification strategies.

2.3 Constructivism learning theory

According to constructivism, learning is a process in which learners actively construct knowledge. Through interactive tasks and exploratory activities, students in game learning can “learn from doing” and better understand and internalize what they have learned. Research shows that students using gamified learning strategies have improved their knowledge mastery by about 15 percent.

By integrating these theoretical foundations into the teaching design, gamified learning can not only enhance learning motivation, but also improve students learning effects and long-term memory ability. This provides an innovative practical path for basic education, especially English teaching in primary schools^[2].

3. Research on the application of gamification learning in primary school English teaching

Gamification learning has gradually become an important tool for English teaching in primary schools. By combining game elements with teaching objectives, students can learn English in a relaxed and happy atmosphere. Many schools have begun to incorporate gamification strategies into the curriculum to improve students language skills and classroom engagement. The study points out that by participating in gamified learning activities, students not only improve their classroom interaction, but also enhance their motivation for autonomous learning. Especially in language learning, gamification strategies can help students better master vocabulary and grammar, and improve their oral and listening skills^[3].

application case:

3.1 Story situation introduction

In primary school English class, teachers design game activities with the story as the background and integrate the learning content into the story situation. For example, students play the roles in the story and learn new words and sentence patterns by completing specific tasks and challenges. This method not only stimulates students interest in learning, but also helps them to use what they have learned in a real context.

3.2 Interactive role-playing

The role-playing game lets students practice their language by simulating real scenes (such as shopping and asking for directions). This approach helps to improve students oral skills and enhance their confidence in using English in real life. Studies have shown that role-playing games can effectively improve students language fluency and accuracy.

3.3 Virtual world exploration

By using virtual reality (VR) technology or simulation games, students can enter a virtual world of the English language, interact with

the virtual characters and complete learning tasks. This immersive learning experience not only enhances the interest of learning, but also improves students memory and understanding.

Through the observation and data analysis of the actual classroom, it is found that students concentration and participation in the primary school English class using gamified learning strategies are significantly improved. Compared with the traditional teaching mode, students have a deeper understanding of the course content and better develop their language use ability. In addition, teachers also pointed out that gamified learning promotes the interaction between teachers and students, and makes the classroom atmosphere more active and harmonious.

This innovative teaching mode has brought new vitality to primary school English education, which not only improves students academic performance, but also enhances their interest and confidence in English learning. This indicates that gamification learning has wide application potential and positive educational effects in primary school English teaching.

4. Research methods and data analysis

This study used mixed research methods, including quantitative and qualitative analysis. Data collection methods mainly included questionnaires, classroom observation, and student interviews. Questionnaire survey is used to quantify students learning interest and learning effect. Classroom observation records students behavior in a gamified learning environment, and students interviews deeply discusses their learning experience and feedback. To ensure comprehensiveness and reliability of the data, the study selected three primary schools with a total of 120 participants.

Data collection tool:

- (1) Questionnaire survey: A questionnaire of learning interest and learning effect including 20 questions was designed.
- (2) Classroom observation: Use the standardized observation record form to record the students classroom behavior in detail.
- (3) Student interview: Semistructured interview was conducted with 20 students, and each interview lasted about 30 minutes.

Data analysis statistical analysis was performed using SPSS software, including descriptive statistics, T-test and regression analysis. At the same time, the qualitative data is analyzed by NVivo to extract key themes and patterns.

Results of the quantitative data analysis:

Improvement in learning interest: Data show that students learning interest scores in classes with gamified learning strategies increased by 15 points on average, significantly higher than those in traditional teaching classes ($p < 0.05$).

Improvement in learning outcomes: For the unit test scores, the average score of the gamified learning class increased by 20% over the control group, with a significant difference ($p < 0.01$).

Quality data analysis results: Through student interviews, it was found that most students found that the gamified learning environment was more attractive and helped them to better understand and remember the learning content. Teacher feedback also shows that gamified learning enhances teacher-student interaction, improves the classroom atmosphere, and increases student participation^[4-5]. Data obtained by the above methods are shown in Table 4-1.

Table 4-1

variable	Gamified learning group averages	Traditional teaching group average value	t price	p price
Learning interest score	85	70	5.678	0.000
Average unit test score	90	75	7.123	0.000

This set of data shows that gamified learning strategies have a significant effect in enhancing students interest in learning and improving their learning effects, providing new possibilities and practical basis for English teaching in primary schools.

5. Study findings and discussion

The results show that gamified learning strategies significantly improve students learning interest and learning effect in primary school English teaching. In classes using gamified strategies, students learning interest scores and unit test scores were significantly higher than those of traditional teaching classes, up by about 15 points and 20%, respectively. Classroom observations showed that students engagement

and teacher-student interaction were significantly enhanced, further validating the effectiveness of gamified learning.

The discussion section states that these results are consistent with the perspectives of theories of self-determination and behaviorism, and that the gamification elements effectively stimulate students intrinsic motivation and learning motivation by providing challenges and immediate feedback. In addition, the study emphasizes the need for teachers to carefully design gamified teaching content to ensure the achievement of teaching objectives. Overall, this study provides empirical support for gamification applications in primary school English teaching and provides a powerful reference for future educational practices and policy making.

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