

# A Study on Applying the BOPPPS Teaching Model to Improve English Reading Skills of Junior High School Students in Fujian, China

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**Abstract:** This study investigated the effectiveness of the BOPPPS teaching model in improving English reading skills among junior high school students in Fujian Province, China. Using a quasi-experimental design, 102 ninth-grade students from two classes participated: an experimental group ( $n = 51$ ) taught with BOPPPS for 12 weeks (12 sessions) and a control group ( $n = 51$ ) receiving traditional instruction. The A2 Key for Schools test measured reading ability pre- and post-intervention. Data analysis (independent/paired t-tests, ANCOVA) revealed that students in the BOPPPS group showed significantly greater improvement in English reading ability compared to the control group. The findings indicate the BOPPPS model is well-suited for developing junior high English reading curricula to enhance student proficiency.

**Keywords:** BOPPPS teaching model; Junior high school student; Reading ability

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## 1. Introduction

### 1.1. Research background

In today's globalized world, the importance of English is self-evident. As a global lingua franca, English is indispensable in educational settings. It not only enhances communication but also serves as a tool for driving social progress. Many non-English speaking countries are actively promoting its learning<sup>[1]</sup>. In China, English education has become a crucial component of the national education system. Many believe that mastering English plays a vital role in China's access to the international stage and in building a community with a shared future for mankind. Reading is the primary channel for language input; learning any language is inseparable from extensive reading. English reading is a particularly important way for students to learn English. Through reading, students can acquire language knowledge, develop language proficiency, cultivate cultural awareness, enhance thinking quality, and improve learning ability. Within the educational sphere, English reading not only

constitutes a core part of language mastery but also becomes a key pathway for enhancing students' cross-cultural communication skills and critical thinking abilities.

Chinese junior high school students face several challenges in English reading. First, long-term immersion in a non-English environment limits natural language acquisition, and insufficient cultural knowledge hinders comprehension. Second, limited vocabulary, unclear word meanings, and weak grammar make it hard to understand complex texts, causing frustration, reducing motivation, and affecting exam performance<sup>[2]</sup>. Finally, English reading instruction is heavily exam-oriented, with teachers often relying on lecture-based, text-parsing, and reading-aloud methods. This “spoon-feeding” approach keeps students largely passive in learning<sup>[3]</sup>.

Research in the field of physiology has found distinct differences between males and females in cognitive abilities and learning methods. These differences are reflected in their cognitive development and variations in higher brain functions<sup>[4]</sup>.

In summary, this study aims to investigate the impact of the BOPPPS teaching model on junior high school students' English reading ability. By analyzing the implementation of the BOPPPS model and the influence of background variables such as gender and grade level on English reading ability, it will provide empirical support and suggestions for teaching strategies to enhance junior high school students' English reading proficiency.

## **2. Discussion on the concept of “BOPPPS teaching model” and “English reading ability”**

### **2.1. BOPPPS teaching model**

The BOPPPS teaching model was initially developed by the Canadian Instructional Skills Workshop (ISW) for teacher certification in British Columbia, Canada, primarily for teacher skill training. The BOPPPS model places particular emphasis on teaching interaction and feedback, comprising the following six stages: Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary. The acronym BOPPPS is formed from the initial letters of each stage for ease of memorization.

In the Bridge-in phase, teachers connect new content to students' prior knowledge or future challenges, ensuring relevance. Learning Objectives guide and motivate both teaching and learning, and form the basis for evaluation. Pre-assessment checks students' prior knowledge. Participatory Learning, the core of BOPPPS, promotes active student engagement. Post-assessment determines if objectives are met. Summary consolidates key points, clarifies knowledge, and previews the next lesson.

Previous study contended that the BOPPPS model helps teachers better introduce content to students through clear articulation of learning objectives and pre-assessment, and aids students in better understanding knowledge through summary and post-assessment<sup>[5]</sup>. He stressed that pre-assessment and post-assessment are two main phases that teachers should highly prioritize. There is also a study has described an online Russian teaching method based on the BOPPPS model, applied during the COVID-19 quarantine period, which promoted improvements in the online teaching process and assessment system<sup>[6]</sup>. By applying the BOPPPS model to engineering education, demonstrating through experimentation that it is an effective teaching model for enhancing both teaching quality and student learning capabilities<sup>[7]</sup>.

### **2.2. English reading ability**

Richards and Schmidt view reading ability as the extent to which readers can utilize reading skills during the reading process, essentially how effectively they read. Some Chinese scholars offer different interpretations of English reading ability, placing greater emphasis on English reading comprehension skills<sup>[8]</sup>. The Organization

for Economic Co-operation and Development (OECD) in 2019 states that reading ability includes skills such as language use, problem-solving, and communication <sup>[9]</sup>. It is an important predictor of students' future development, a measure of student development level within educational quality and equity, and is considered by many researchers as a core variable in educational achievement assessment. English reading ability permeates the entire process of junior high school English learning; consequently, improving it is also regarded as one of the tasks of school education.

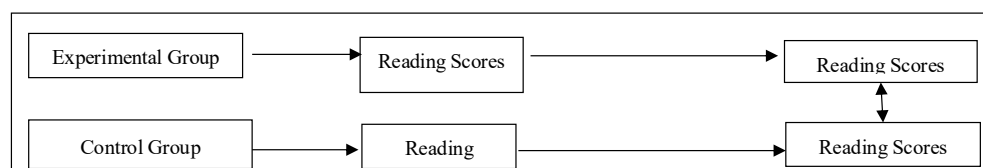
### 2.3. The relationships between “BOPPPS teaching model” and “English reading ability”

There is study that explored the application of the BOPPPS teaching model in college English reading instruction <sup>[10]</sup>. They argued that this model can effectively design university-level English reading courses, promoting students' improvement in language skills, linguistic knowledge, learning strategies, and cultural awareness, thereby enhancing their English reading ability. Zhang et al. took the text “The Voyages of Zheng He” from Unit 1 of the ninth-grade (second semester) Shanghai Edition English textbook as an example <sup>[11]</sup>. They demonstrated how to guide students from extracting information, analyzing and processing it to forming their own understanding and perspectives through specific teaching activity designs, thereby improving students' English reading ability and thinking quality. Throughout the teaching process, teachers emphasized setting clear, specific teaching objectives based on students' actual learning situations and designing interconnected teaching activities to ensure these activities effectively promote the development of students' thinking quality and achieve the teaching goals.

The BOPPPS teaching model has been applied at various educational levels and is closely linked to improving English reading ability. Studies show it effectively enhances reading comprehension, cultural awareness, and linguistic knowledge. Moreover, it shifts students from passive readers to active learners, supporting their long-term language development.

### 3. Theoretical framework of “BOPPPS teaching model and English reading ability”

This study employed a quasi-experimental approach to investigate the effects of the BOPPPS teaching model on Chinese junior high school students' English reading ability. Both the experimental and control groups underwent pre- and post-tests using the 2022 Cambridge English A2 Key for Schools Reading and Writing Sample Test as the research instrument. Purposive sampling was utilized, selecting two intact classes totaling 102 students (Class A: n = 51; Class B: n = 51). One class was designated as the experimental group and received a 12-week instructional intervention comprising 12 English reading lessons (45 minutes per lesson). The post-test was administered immediately after the final session in Week 12. Comparative analysis of pre-test and post-test data from both groups was conducted to examine the impact of implementing the BOPPPS model in junior high English reading instruction. **Figure 1** illustrates the experimental research framework.



**Figure 1.** Experimental research framework.

## 4. Result

### 4.1. Independent sample t-test of EC and CC students

In order to investigate whether there was a difference in English reading ability between the control group and the experimental group before the experiment, an independent samples *t*-test was conducted on the pre-test scores of the two groups. As shown in **Table 1**, the *t*-value for reading ability was -1.201 ( $p > .050$ ), which did not reach a significant level, indicating that there was no statistically significant difference between the two groups. This suggests that, prior to the experiment, the reading abilities of the experimental group and the control group were at the same level. Therefore, it can be concluded that both groups had consistent initial levels before the intervention, making the experiment feasible.

**Table 1.** Pre-test independent samples *t*-test

| Dimension      | Groups | N  | M      | SD    | t      | Sig  |
|----------------|--------|----|--------|-------|--------|------|
| Reading Scores | EC     | 51 | 13.294 | 4.850 | -1.201 | .233 |
|                | CC     | 51 | 14.392 | 4.373 |        |      |

In order to examine whether there was a significant difference in English reading ability between the control group and the experimental group after the experiment, an independent samples *t*-test was conducted on the post-test results of the two groups. As shown in **Table 2**, the comparison of English reading ability yielded a *t*-value of 2.91 ( $p < .050$ ). The experimental group ( $M = 23.569$ ) scored significantly higher in English reading ability than the control group ( $M = 21.490$ ). This indicates that there was a significant difference between the experimental group and the control group after the experiment. Therefore, it can be concluded that the BOPPPS teaching model was more effective in improving junior high school students' English reading ability than the traditional teaching model used in the control group.

**Table 2.** Post-test independent samples *t*-test

| Dimension      | Groups | N  | M      | SD    | t    | Sig  |
|----------------|--------|----|--------|-------|------|------|
| Reading Scores | EC     | 51 | 23.569 | 3.534 | 2.91 | .004 |
|                | CC     | 51 | 21.490 | 3.679 |      |      |

### 4.2. The t-test of paired samples

As shown in **Table 3**, the English reading ability of the experimental group ( $t = -22.040$ ,  $p < .050$ ) increased from a pre-test mean (*M*) of 13.294 to a post-test mean (*M*) of 23.569, with an average improvement of 10.275. This indicates that the use of the BOPPPS teaching model effectively enhanced the English reading ability of the experimental group students. For the control group ( $t = -18.826$ ,  $p < .050$ ), the English reading ability improved from a pre-test mean (*M*) of 14.392 to a post-test mean (*M*) of 21.490, with an average improvement of 7.098. This significant increase suggests that the traditional teaching method also contributed to improving students' English reading ability.

**Table 3.** Paired samples *t*-test for pre- and post-test results of the two groups

| Groups | Stage     | N  | M      | SD    | t       | Sig  |
|--------|-----------|----|--------|-------|---------|------|
| EC     | Pre-test  | 51 | 13.294 | 4.850 | -22.040 | .000 |
|        | Post-test |    | 23.569 | 3.534 |         |      |
| CC     | Pre-test  | 51 | 14.392 | 4.373 | -18.826 | .000 |
|        | Post-test |    | 21.490 | 3.679 |         |      |

### 4.3. Covariance analysis

The test for the interaction between group and pre-test scores yielded an *F*-value of 1.702,  $p = .192$  ( $>.050$ ), which did not reach a significant level. This indicates that the relationship between pre-test and post-test scores did not differ across treatment levels, and the assumption of homogeneity of regression slopes was met, allowing for ANCOVA to be conducted.

The results of the ANCOVA are presented in **Table 4**. The pre-test English reading ability had an *F*-value of 9.283,  $p = .003$  ( $p < .010$ ), indicating that the pre-test had a significant predictive effect on the post-test and could influence the post-test scores. After controlling for the effect of the pre-test, the *F*-value was 134.311,  $p = .000$  ( $p < .001$ ), showing that the post-test scores of the experimental group were significantly higher than those of the control group. In summary, these results demonstrate that the BOPPPS teaching model can effectively improve students' English reading ability.

**Table 4.** Analysis of one-way ANCOVA of English reading ability

| Dimension      | Sources  | SS      | df | MS      | F       | p    |
|----------------|----------|---------|----|---------|---------|------|
| Reading Scores | Pre-test | 742.818 | 1  | 742.818 | 9.283   | .003 |
|                | Group    | 186.862 | 1  | 186.862 | 134.311 | .000 |
|                | Error    | 558.437 | 99 | 5.641   |         |      |

## 5. Retrospect and prospect

Small sample size. The limited number of participants may reduce the objectivity and representativeness of the findings. Future studies should recruit from more schools, ideally on a national scale, to obtain larger and more diverse samples and enhance the reliability and generalizability of results.

Short experimental period. Second language acquisition is a gradual process that requires time. The short duration in this study may have constrained the full effect of the BOPPPS model. Extending the intervention period, together with increasing the sample size, would allow for a better understanding of its impact and provide stronger empirical support.

## Disclosure statement

The authors declare no conflict of interest.

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