



## Innovative Learning Media: Pop-Up Books for Enhancing Reading Comprehension among Junior High School EFL Learners

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### Abstract

*This study investigated the effectiveness of pop-up books in enhancing reading comprehension among junior high school students. Reading is a fundamental skill that serves as the foundation for academic achievement, yet many students struggle with comprehension due to unengaging learning materials. A quantitative experimental design was employed, involving 15 seventh-grade students as participants. The study utilized pre-test and post-test instruments to measure students' reading comprehension before and after using pop-up books. The findings revealed a significant increase in students' reading comprehension scores after using pop-up books, with an average increase of 19 points between the pre-test and post-test scores. Statistical analysis using a paired sample t-test confirmed the effectiveness of pop-up books, with t-count (7.84) exceeding the critical value of t-table (2.145) at a significance level of 0.05. These findings suggest that pop-up books are an effective medium for improving reading comprehension and fostering a positive reading experience.*

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## 1. INTRODUCTION

Reading is a fundamental skill that serves as the foundation for children's cognitive development and academic success. It plays a vital role in shaping their intellectual growth, allowing them to gain knowledge, develop critical thinking abilities, and communicate effectively. Research by Rahmawati et al. (2018) indicates that reading proficiency not only aids students in completing academic tasks but also boosts their overall intellectual capacity, which is crucial for lifelong learning. The reading process starts with recognizing and pronouncing letters of the alphabet, laying the groundwork for more advanced comprehension skills (Arisandi & Rafi, 2019). Mastering this initial stage is essential, as it leads to fluency, vocabulary growth, and the ability to critically interpret texts.

Developing reading skills is important, as it impacts various areas of education and life. Reading goes beyond just decoding words; it also encompasses understanding, analyzing, and applying information. Children with strong reading skills often excel in all academic subjects, since reading comprehension is key to success in areas like science, mathematics, and social studies. As Wahyuni and Wulandari (2022) pointed out, students with better reading abilities are more likely to thrive in other subjects, including language learning. Additionally, proficient readers tend to develop greater self-confidence, improved communication skills, and a stronger ability to engage with the world around them.

Despite its significance, reading instruction frequently relies on traditional methods that may not fully captivate students. Conventional reading materials, such as textbooks and printed storybooks, can sometimes feel dull, failing to ignite children's curiosity and imagination. This lack of engagement can impede reading progress, especially for reluctant readers. Incorporating innovative media, like pop-up books, can greatly enhance students' motivation and comprehension. Supriani et al. (2024) discovered that pop-up books offer a more interactive learning experience, effectively sparking children's interest in reading. By integrating visual and tactile elements, these books turn the reading process into an engaging and enjoyable activity.

Pop-up books showcase three-dimensional illustrations that create vibrant visual impressions. Febrianto (2014) noted that these books assist learners in visualizing story content more clearly, which boosts their understanding and retention of information. The interactive aspect of pop-up books encourages children to engage actively with the material, enhancing their ability to remember key story elements and draw inferences. Furthermore, pop-up books can accommodate various learning styles, especially for visual and kinesthetic learners. However, creating pop-up books demands specific skills, time, and additional costs, which can limit their widespread use in classrooms. Despite these obstacles, educators can partner with publishers or involve students in developing simple pop-up book projects as part of their learning activities.

While previous studies have emphasized the benefits of pop-up books in early childhood education, there is limited research regarding their effectiveness for EFL learners. This study aims to address that gap by investigating how pop-up books can improve reading comprehension among junior high school students. The findings from this research are expected to contribute to the current literature on innovative learning tools and provide practical recommendations for educators seeking to enhance reading instruction through interactive materials



## 2. LITERATURE REVIEW

In recent years, educators have increasingly explored innovative learning media to enhance reading comprehension among junior high school English as a Foreign Language (EFL) learners. One such medium is the pop-up book, which incorporates three-dimensional elements to create an interactive reading experience. This literature review examines current research on the effectiveness of pop-up books in improving reading comprehension among junior high school EFL students.

Pop-up books have been recognized for their potential to engage readers through tactile and visual stimuli, making reading a more immersive activity. According to a study by Sunarti et al. (2023), the use of pop-up book media in teaching reading skills to second-grade elementary students resulted in significant improvements in comprehension and retention. While this study focused on younger learners, the findings suggest that the interactive nature of pop-up books can facilitate better understanding of textual content.

In the context of EFL learners, Pratiwi (2021) investigated the impact of pop-up books on students' reading interest and comprehension. The study revealed that incorporating pop-up books into the curriculum not only increased students' motivation to read but also enhanced their ability to grasp complex language structures. This is particularly relevant for junior high school students who are transitioning to more advanced levels of language proficiency.

Furthermore, Rahmawati and Susilowati (2022) explored the effectiveness of pop-up-based animated books in improving reading comprehension skills among elementary students in underdeveloped regions. Their research indicated that the multisensory engagement provided by pop-up books helped bridge the gap in learning resources, leading to improved comprehension outcomes. Although the study targeted younger learners, the implications for junior high school EFL students are noteworthy, as the need for engaging and effective learning materials persists across age groups.

Additionally, the Total Physical Response Storytelling (TPRS) method, which integrates physical movement with storytelling, has been adapted to include pop-up books as a means to enhance language acquisition. This approach aligns with the principles of comprehensible input and active learner engagement, both of which are crucial for effective language learning. The use of pop-up books in TPRS encourages learners to physically interact with the material, fostering kinesthetic learning and maintaining attention. This multisensory involvement not only makes learning more enjoyable but also reinforces memory retention and understanding. By manipulating the book's interactive features, learners become active participants in the storytelling process, enhancing their connection to the language content.

All in all, the existing literature underscores the potential of pop-up books as innovative learning media to enhance reading comprehension among junior high school EFL learners. The interactive and multisensory features of pop-up books cater to diverse learning styles, making them a valuable tool in language education. However, further empirical studies focusing specifically on junior high school EFL contexts are necessary to fully understand and optimize their impact.

### 3. METHODS

This research was quantitative in nature with experimental design. According to Creswell (2014) and Sugiyono (2018), quantitative research is a systematic approach to collecting and analyzing numerical data to uncover patterns, relationships, or phenomena. This method emphasizes objective measurement and statistical analysis, often utilizing tools such as surveys, experiments, or existing datasets to gather quantifiable information.

The population for this study consisted of all junior high school students in grade VII who had completed elementary education. These students possess foundational knowledge, experience, and a basic vocabulary, making them suitable for the research. The sample included 15 students, a subset who demonstrated a particular interest in reading.

The instruments used to collect data in this study were pre-tests and post-tests, designed to assess the effectiveness of enhancing children's reading comprehension. According to Arikunto (2010), a pre-test is administered before providing the research subject with treatment or instruction. This test aims to measure the child's prior knowledge or skills before receiving new material. A post-test, on the other hand, is an evaluation tool conducted after the learning process or intervention to measure changes in knowledge, skills, or attitudes. Bloom (1971) asserted that post-tests help assess students' cognitive achievements after instruction, enabling educators to determine whether learning objectives have been met. In this research, the passing grade was set at a minimum 51% and a maximum 100%, meaning that students needed to be able to retell at least 51% of what they had read to pass. Understanding the scoring system and passing threshold is critical for students to achieve satisfactory outcomes in developing their reading comprehension.

Prior to conducting the study, the researchers provided instructions to the students regarding the procedures to be applied. Two books with the same title, "*The Rabbit and the Tortoise*," were given to the students. One was a regular storybook with simple illustrations (used for the pre-test) while the other was a Pop-Up Book featuring the same story but with 3D images (used for the post-test).

At the beginning of the experiment, the researchers provided the regular storybook for the students to read within a 15-minute time frame, then a pre-test was given. After that, the researchers asked the students to read Pop-Up Books with the same title for 15 minutes, and a posttest was carried out to evaluate the students' level of reading comprehension by assessing how well they understood and interpreted the content of the Pop-Up Book. This comparison allowed the researchers to measure the extent of improvement in the students' reading comprehension based on the two different types of learning media. The pretest and posttest scores were then analyzed statistically using paired sample t-test.



The hypotheses for this study were formulated to determine whether the use of Pop-Up Books significantly improves students' reading comprehension. The hypotheses were as follows:

- **Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the pretest and posttest scores of students before and after using Pop-Up Books as a learning medium for reading comprehension.
- **Alternative Hypothesis (H<sub>a</sub>):** There is a significant difference between the pretest and posttest scores of students before and after using Pop-Up Books as a learning medium for reading comprehension.

#### 4. RESULTS AND DISCUSSION

The results of 15 students' pretest and posttest scores before and after reading using Pop-up books are presented in the following table:

**Table 1.** Results of Pretest and Posttest Scores of the Students Before and After Reading Using Pop-Up Books.

No.	Students	Pretest Scores (with regular story books)	Post-test Scores (with Pop-up books)
1.	Student A	55	70
2.	Student B	40	65
3.	Student C	45	65
4.	Student D	30	55
5.	Student E	50	80
6.	Student F	65	90
7.	Student G	45	50
8.	Student H	60	75
9.	Student I	40	55
10.	Student J	40	50
11.	Student K	40	55
12.	Student L	55	65
13.	Student M	50	70

14.	Student N	50	70
15.	Student O	45	70

The data in Table 1 presents the pretest and posttest scores of 15 students before and after reading using Pop-Up Books as a learning medium. A statistical analysis was conducted to determine whether there is a significant difference between the pretest and posttest scores. The paired sample t-test was applied to compare the mean scores of both tests.

The pretest scores show that students' initial reading comprehension ability varied. With regular story books, the lowest score achieved was 30 while the highest score was 65. After using Pop-Up Books, the posttest scores indicate a significant improvement, with the lowest score increasing to 50 and the highest reaching 90. The mean pretest score is approximately 46.67, while the mean posttest score is around 65.67, showing an increase of 19 points on average.

To further analyze the significance of this improvement, the paired sample t-test was calculated. The paired sample t-test was conducted to determine whether the improvement in students' reading comprehension scores before and after the intervention using pop-up books was statistically significant. This statistical test is commonly used in educational research to compare two related samples, such as pretest and posttest scores from the same group of participants, in order to assess the effectiveness of a particular treatment or intervention (Creswell, 2014).

The result of the t-test yielded a t-count of 7.84 with a degree of freedom (df) = 14, indicating that there were 15 participants in the study (df = N-1). To interpret this result, the obtained t-count was compared to the critical value of the t-table at a 0.05 significance level ( $\alpha = 0.05$ ) with 14 degrees of freedom, which is 2.145. The critical value serves as a threshold to determine whether the observed difference between the pretest and posttest scores is statistically significant.

The comparison shows that the t-count (7.84) is far greater than the t-table value (2.145). Since the t-count exceeds the critical value, the null hypothesis ( $H_0$ ) — which states that there is no significant difference between pretest and posttest scores — is rejected. This rejection means that the observed improvement in reading comprehension scores is unlikely to have occurred by chance alone.

Consequently, the alternative hypothesis ( $H_a$ ), which states that there is a significant difference between pretest and posttest scores, is accepted. This finding confirms that the use of pop-up books had a significant positive impact on students' reading comprehension. The large margin between the t-count and the critical value further suggests that the intervention produced a meaningful effect, supporting the hypothesis that interactive and multisensory learning media like pop-up books can enhance language acquisition and reading comprehension. The considerable improvement in posttest scores highlights the potential of interactive media such as Pop-Up Books to foster greater interest and understanding in reading activities.

This outcome is similar to previous research conducted by Canggih Devi Djijar (2015), titled *"Efektifitas Media Pop Up Book dalam Meningkatkan Kemampuan Membaca Cerita Mata Pelajaran Bahasa Indonesia Kelas 1 Sekolah Dasar Brawijaya Smart School Malang Tahun Pelajaran 2014/2015"* in which Pop-Up Books were found to be effective in improving students' reading proficiency. The similarity



between Djijar's study and this research lies in the use of Pop-Up Books as a medium to improve students' reading skills. However, the difference is that Djijar's study focused on improving story reading skills in first-grade elementary school students, while this research focuses on increasing reading comprehension using Pop-Up Book among junior high school students.

Our finding is also consistent with the findings of Pratiwi (2021) and Sunarti et al. (2023) that Pop-up Books are effective in facilitating students' understanding of reading content. The result is also in accordance with the study result of Rahmawati and Susilowati (2022) in the 3T region of Sawojajar, Magetan, Indonesia, in which the experimental group exhibited a 6.13% higher effectiveness in reading comprehension compared to the control group after Pop-up Book intervention. The t-test results ( $T_{\text{count}} = 2.6667 > T_{\text{table}} = 2.00$ ) confirmed the statistical significance of this improvement, highlighting the efficacy of pop-up books in enhancing reading comprehension. Collectively, these studies provide robust quantitative evidence supporting the use of pop-up books as effective tools for increasing children's reading interest and comprehension abilities.

## 5. CONCLUSION

This study shows that pop-up books can significantly improve reading comprehension for junior high school students. The significant increase in post-test scores indicates that interactive learning tools can boost students' motivation and understanding. The blend of visual and tactile features in pop-up books offers a more engaging reading experience, helping students to better visualize and remember the story content. Additionally, the interactive aspect of these books encourages active participation, making reading more enjoyable, especially for those who are less enthusiastic about it.

Nonetheless, the study has limitations due to its small sample size and brief duration, which may not fully reflect the wider effects of pop-up books on different student groups. Furthermore, the expense and time needed to create pop-up books could pose challenges for broader implementation. Future research should aim to include larger groups across various educational levels and investigate the long-term effects of pop-up books on reading abilities. Exploring the cost-effectiveness, sustainability, and adaptability of pop-up books in different classroom environments would offer valuable insights for educators and policymakers. Additionally, looking into digital versions of pop-up books or integrating them with other interactive media could enhance accessibility and engagement.

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