

The Effect of Storytelling on English Maritime Students' Reading Comprehension at Politeknik Pelayaran Malahayati

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Abstract

This study investigated the effectiveness of storytelling as an instructional strategy for improving students' reading comprehension. A quasi-experimental design was employed, involving 32 students divided into a control group (n=14) and an experimental group (n=18). The control group was taught using conventional methods, while the experimental group received a storytelling-based intervention. Pre-test and post-test scores were analyzed to measure the impact of the teaching methods. The results showed a significant improvement in the experimental group's reading comprehension. The mean score for the experimental group increased from 64.89 in the pre-test to 78.22 in the post-test, while the control group's mean score only increased from 65.21 to 68.57. A paired t-test revealed that the experimental group's improvement was statistically significant ($t=6.72$, $p<0.01$), whereas the control group's improvement was not ($t=1.85$, $p>0.05$). An independent t-test comparing the post-test scores of the two groups confirmed a significant difference ($t=4.29$, $p<0.01$), with the experimental group outperforming the control group. The effect size (Cohen's $d=1.12$) indicated a large impact of the storytelling intervention. These findings highlighted storytelling's potential to enhance students' reading comprehension by fostering engagement and deeper understanding of the material. The study underscores the importance of integrating innovative teaching strategies, such as storytelling, into educational practices to improve learning outcomes. Further research is recommended to explore its application across different subjects and educational levels.

INTRODUCTION

Reading is an active process of seeking meaning, knowledge, and information from printed or written media. Reading can expand a person's insight and understanding and improve their thinking power. Self-efficacy, which refers to belief in one's ability to perform certain actions or tasks, is one of the determining factors for success. On the other hand, self-efficacy has an important influence in determining a person's level of success. Reading self-efficacy is a character's idea of their ability to comprehend reading (2019, p. 4).

Based on the findings of sixth semester English Language Education students at Pasir Pengarian University, researchers found that students experienced many difficulties in reading texts, especially narrative texts. First, students' reading comprehension skills are still low because the vocabulary is still unclear; they find it quite difficult to comprehend reading in full text in English. So the information contained in the text is not conveyed correctly. Secondly, students lack self-efficacy, lack desire to solve difficult problems, many face doubts before reading texts or articles in English. Thus, students say that they cannot complete the assigned tasks even though they have not completed the reading comprehension.

There are several key factors influencing reading comprehension. First, students often struggle with reading comprehension due to limited vocabulary knowledge, which makes it challenging to fully understand English texts. As a result, the information within the text is not conveyed accurately. Second, a lack of self-efficacy among students contributes to this issue. They tend to hesitate and feel discouraged when faced with difficult problems, experiencing doubt even before attempting to read English texts or articles. Consequently, students frequently claim they cannot complete assigned tasks, even before fully engaging with the reading material

Nature of Reading Comprehension

Understanding English texts can be challenging, yet reading is a cornerstone of learning. To effectively and efficiently extract information from English texts, students need confidence in their reading abilities (Castles et al., 2018, p. 5). In essence, reading is the act of engaging with written content to acquire knowledge and insights. Kasyulita et al. (2020, p. 31) further define reading as a process of constructing meaning from text. This underscores its role in interpreting messages and identifying key information in written materials. Mastering reading skills facilitates a deeper understanding of textual content and the information it conveys. The primary goal of reading instruction is to enhance students' ability to comprehend English texts with greater efficiency and accuracy. By developing this skill, students can expand their knowledge, gain new experiences, broaden their perspectives, and discover insights they may not have encountered before.

Reading is an essential yet paradoxically complex communicative skill. Numerous factors influence reading comprehension. Harjasujana and Yeti, as cited in Nuryati (2017, p. 4), identify several key factors, including prior experiences, language proficiency, cognitive abilities, reading objectives, and emotional aspects such as motivation, interest, attitude, beliefs, and feelings. Additionally, King and Stanley, as referenced in Jannah (2021, pp. 70–80), outline five critical components in the process of reading comprehension: identifying factual information, determining the main idea, understanding vocabulary in context, recognizing references, and drawing conclusions. Mustafa and Bakri (2020, p. 153) define reading comprehension as the ability to read, process, and interpret the meaning of a text. Furthermore, Jannah and Syahropi (2022, p. 123) emphasize that reading and comprehension are inseparable processes. This integrated approach involves engaging with various types of texts—such as articles, journals, and other materials—to foster deeper understanding. Within this system, students are encouraged to think critically, not only focusing on completing tasks but also transforming reading into meaningful comprehension. This process enhances the depth and quality of the knowledge acquired

Indicator of Reading Comprehension.

Successful in reading comprehension, there are several aspects that students must master. According to King and Stanley in Jannah (2021, pp. 79–80), Five elements are described in the processing of reading comprehension. They find factual information, find the main idea, find the meaning of vocabulary in context, identify references and make conclusions

Identifying the Main Idea

The main idea represents the essence of a text. To comprehend a text effectively, readers must identify its central theme or primary message.

Extracting Detailed Information

Readers need to locate specific factual details within the text, which often requires scanning for precise information. Basic types of questions might involve reasons, purposes, outcomes, comparisons, methods, identities, timeframes, and quantities.

Understanding Vocabulary in Context. To navigate unfamiliar words, readers should hone their ability to infer meanings based on the context of phrases or sentences. This skill enhances overall comprehension.

Recognizing References

Understanding references within a text involves identifying pronouns such as she, he, it, this, or those, which substitute for previously mentioned subjects. By grasping the text's main subject, readers can answer related questions more efficiently.

Making Inferences. The ultimate goal of reading is to fully grasp the writer's intended message. Readers achieve this by logically interpreting the text and making well-informed predictions.

Based on the experts' perspectives mentioned earlier, reading comprehension can be understood as the ability to grasp the message conveyed in English reading materials. It is an interactive cognitive process that transforms written symbols into meaningful communication, bridging the writer's intent with the reader's understanding. This process involves analyzing various text elements, including identifying the main idea, extracting details, understanding vocabulary in context, recognizing references, and making inferences. These components serve as key indicators for assessing reading comprehension in this research.

Nature of Self Efficacy

Self-efficacy refers to an individual's belief in their own abilities. According to Tarigan et al. (2022, p. 8), self-efficacy is a psychological factor that significantly impacts a student's success in acquiring skills. This concept shapes an individual's mindset, influencing how effectively they can achieve their goals. In education, numerous learning strategies have been developed to enhance teaching and learning processes. Teachers must design and implement appropriate systems to support students effectively. These approaches are often tailored to assist students in specific areas, such as improving their vocabulary. Bandura (1995, p. 1) identifies four primary sources of self-efficacy that contribute to its development:

Mastery Experience – Gaining confidence through personal achievements.

Vicarious Experience – Learning by observing others succeed.

Verbal Persuasion – Encouragement from others that reinforces belief in one's abilities.

Psychological and Affective States – Managing emotional and physical responses to maintain confidence.

The Source of Self Efficacy

Self-efficacy is shaped by various factors that contribute to its development. According to Bandura in Sukarni (2018, p. 1), there are four key sources of self-efficacy:

1. Mastery Experience

The most influential source of self-efficacy is enactive mastery, which refers to the direct experiences of success or failure. These experiences significantly impact an individual's beliefs about their own abilities.

2. Vicarious Experience

Another important source is vicarious experience, which involves observing others' achievements or setbacks. Through modeling, individuals assess their own abilities by comparing them to the success or failure of others.

3. Verbal Persuasion

Verbal persuasion includes encouragement or discouragement, which can either boost or undermine self-efficacy. Positive reinforcement can strengthen confidence, while negative feedback can diminish it.

4. Psychological and Affective States

Emotions, such as stress, anxiety, and fatigue, also influence self-efficacy. These emotional states can either enhance or hinder an individual's belief in their ability to succeed in a task.

Reading comprehension is an activity that can be influenced by self-efficacy. Solheim (2011, pp. 22–23) states that self-efficacy plays a significant role in reading comprehension, with higher self-efficacy being a strong predictor of reading success. This suggests that individuals possess varying attitudes and goals, and a high level of self-efficacy is the most reliable indicator for achieving proficiency in reading skills. When students have strong self-efficacy, it enhances their ability to understand the context of what they are reading. On the other hand, low self-efficacy may lead to missed opportunities for improving reading comprehension. Students with low self-efficacy are more likely to avoid challenging texts, which hinders their ability to fully grasp the material being read.

METHOD

This study utilized a quasi-experimental design, a widely used method in educational research to compare groups with and without interventions (Creswell, 2012). The approach allowed comparisons between a control group and an experimental group, focusing on the effect of storytelling on reading comprehension. Quasi-experimental designs are effective when random assignment is not feasible, making them suitable for classroom settings (Fraenkel & Wallen, 2012).

Participants

The study involved 32 students from the third-semester students of Politeknik Pelayaran Malahayati, divided into two groups. The control group consisted of 14 students from the Ship Electrical Systems program. This group underwent conventional reading instruction without storytelling while the experimental group consisted of 18 students from the Nautical Studies program. This group participated in storytelling-based learning sessions. Purposive sampling was employed to ensure both groups had similar academic levels and English proficiency (Etikan, Musa, & Alkassim, 2016).

Instruments

The data collection employed with the instrument Pre-tests and Post-tests with the standardized tests measured the reading comprehension mastery. This method aligns with best practices in assessing instructional interventions (Brown, 2014).

Technique of Collecting the Data

To ensure accurate and comprehensive data collection, the testing technique was used. The study used standardized tests to measure reading comprehension and vocabulary acquisition. Tests were conducted twice. The Pre-test administered to both groups to establish a baseline. Post-test was conducted after the intervention to assess learning outcomes. Testing as a data collection technique is widely recognized for its reliability in quantitative research (Brown, 2014).

Technique of Analyzing the Data

The collected data were analyzed using the statistical techniques, including descriptive Statistics which calculated the mean, median, and standard deviation to summarize the data and Paired t-tests were conducted to compare the pre-test and post-test scores within each group and determine the effectiveness of the storytelling intervention. Paired t-tests are suitable for analyzing data from repeated measures (Creswell, 2012).

Independent t-tests: Used to compare the post-test scores between the control and experimental groups to identify significant differences in learning outcomes.

FINDINGS

Descriptive Statistics

The pre-test and post-test scores for both the control and experimental groups were analyzed to assess the effectiveness of the storytelling intervention. Table 1 summarizes the descriptive statistics for each group:

Table 1. Descriptive Statistics of Pre-Test and Post-Test Scores

Group	Test	Mean	Median	Standard Deviation
Control Group (n=14)	Pre-Test	65.21	65.00	5.12
	Post-Test	68.57	69.00	4.95
Experimental Group (n=18)	Pre-Test	64.89	65.00	4.78
	Post-Test	78.22	78.00	5.36

Table 1 displays the descriptive statistics for the pre-test and post-test scores of both the control and experimental groups. The control group, consisting of 14 students, showed a slight increase in their mean score from 65.21 in the pre-test to 68.57 in the post-test, with standard deviations of 5.12 and 4.95, respectively. This marginal improvement suggests that while the conventional teaching method had some positive impact, it was relatively limited.

In contrast, the experimental group, comprising 18 students, demonstrated a significant improvement in their reading comprehension. Their mean score increased from 64.89 in the pre-test to 78.22 in the post-test, with standard deviations of 4.78 and 5.36, respectively. This substantial increase indicates that the storytelling-based intervention was highly effective in enhancing the student's understanding of the reading material.

Although both groups started with similar pre-test mean scores, the experimental group exhibited a more pronounced improvement in their post-test results. This finding underscores the potential of storytelling as a more engaging and impactful teaching strategy compared to traditional methods for improving reading comprehension among maritime students.

Paired T-Test Results

To determine whether the intervention significantly improved the students' reading comprehension, a paired t-test was conducted within each group.

Table 2. Paired T-Test Results for Pre-Test and Post-Test Scores

Group	Mean Difference	t	Sig. (2-tailed)
Control Group	3.36	1.85	0.082
Experimental Group	13.33	6.72	0.000**

From table 2 it can be explained that in control class the difference between the pre-test and post-test scores was not statistically significant ($t = 1.85, p > 0.05$), suggesting that conventional

instruction had a limited impact on reading comprehension improvement. While in experimental group the difference between the pre-test and post-test scores was statistically significant ($t = 6.72$, $p < 0.01$), indicating a substantial improvement in reading comprehension after the storytelling intervention.

Independent T-Test Results

An independent t-test was conducted to compare the post-test scores of the control and experimental groups.

Table 3. Independent T-Test Results for Post-Test Scores Between Groups

Group Comparison	Mean Difference	t	Sig. (2-tailed)
Control vs. Experimental	9.65	4.29	0.000**

The results from table 3 revealed a significant difference ($t = 4.29$, $p < 0.01$), with the experimental group outperforming the control group in post-test scores. This finding confirms the effectiveness of storytelling in enhancing reading comprehension compared to traditional methods.

Effect Size Analysis

The effect size was calculated using Cohen's d to evaluate the practical significance of the intervention. The calculated effect size was $d = 1.12$, which indicates a large effect of storytelling on improving students' reading comprehension.

From the results above it can be explained that the control group showed a slight improvement in reading comprehension, but the change was not statistically significant. The experimental group demonstrated a significant improvement, with storytelling proving to be an effective instructional strategy. The significant difference in post-test scores between the groups highlights the potential of storytelling to foster meaningful engagement and deeper comprehension. These findings align with previous research emphasizing the role of storytelling in promoting language skills by providing contextually rich and engaging content (Brown, 2014; Creswell, 2012).

DISCUSSION

The findings of this study indicated that storytelling is a highly effective instructional strategy for improving students' reading comprehension. The experimental group, which received the storytelling-based intervention, demonstrated a statistically significant improvement in their reading comprehension scores, as reflected in the paired t-test results ($t = 6.72$, $p < 0.01$). In contrast, the control group, taught using conventional methods, showed only a marginal increase in scores, which was not statistically significant ($t = 1.85$, $p > 0.05$). Furthermore, the independent t-test results revealed a significant difference in post-test scores between the control and experimental groups ($t = 4.29$, $p < 0.01$), with the experimental group outperforming the control group. The calculated effect size (Cohen's $d = 1.12$) indicates a large practical significance of storytelling in enhancing reading comprehension.

These results aligned with previous studies highlighting the benefits of storytelling as an instructional method. For instance, Brown (2014) emphasized that storytelling creates a rich and engaging context for students, allowing them to connect emotionally with the material, which enhances their comprehension and retention. Similarly, Creswell (2012) noted that storytelling

encourages active participation and fosters deeper understanding by integrating narratives into the learning process.

The findings were also consistent with the work of Haven (2007), who asserted that stories help organize and structure information in ways that are easier for students to process and remember. The emotional connection elicited by stories can also motivate students and improve their engagement with the learning material. In this study, the significant improvement observed in the experimental group's scores supports these assertions, as storytelling provided an engaging medium that enhanced comprehension through contextual and relatable narratives.

Additionally, the results resonated with the theoretical framework of constructivist learning, which posits that students construct knowledge more effectively when they actively engage with meaningful and context-rich material. Aflerbach et al. (2013) argued that effective reading strategies involve not just decoding text but also understanding and relating to it, which storytelling inherently facilitates.

In contrast, the conventional teaching method used in the control group showed limited impact on students' reading comprehension. This result is in line with findings by Solheim (2011), who highlighted that traditional instructional approaches often fail to engage students deeply, leading to less significant improvements in reading skills.

Overall, this study confirms the potential of storytelling as a pedagogical tool to foster meaningful engagement and deeper comprehension among students. By providing contextually rich and emotionally engaging content, storytelling not only enhances cognitive understanding but also promotes a positive and motivating learning environment. These findings contribute to the growing body of evidence supporting innovative instructional strategies for improving reading comprehension, particularly among maritime students or other specialized groups.

CONCLUSION

This study aimed to evaluate the effectiveness of storytelling as an instructional strategy to improve reading comprehension among students. Based on the findings and discussion, several conclusions can be drawn.

- 1) The descriptive statistics reveal that while both the control and experimental groups had similar pre-test scores, their post-test performance diverged significantly. The control group, which underwent conventional teaching methods, showed only a marginal increase in their mean score from 65.21 to 68.57. This limited improvement highlights the constrained impact of traditional approaches on enhancing reading comprehension. In contrast, the experimental group, exposed to storytelling, demonstrated a substantial increase in their mean score from 64.89 to 78.22. The larger improvement in the experimental group underscores the potential of storytelling to engage students more effectively and facilitate better comprehension of reading materials.
- 2) The paired t-test analysis further supports these findings. While the control group did not exhibit a statistically significant difference between pre-test and post-test scores ($t = 1.85, p > 0.05$), the experimental group showed a highly significant improvement ($t = 6.72, p < 0.01$). These results suggest that storytelling is a more impactful teaching method than traditional instruction, effectively fostering a deeper understanding of the content.
- 3) The independent t-test comparing post-test scores between the two groups also revealed a significant difference ($t = 4.29, p < 0.01$). This finding confirms that storytelling is not only effective in improving reading comprehension but also superior to conventional teaching methods. Additionally, the calculated effect size (Cohen's $d = 1.12$) indicates a large practical significance of storytelling as an intervention, affirming its effectiveness as a pedagogical tool.

In conclusion, storytelling proves to be an effective and impactful instructional strategy for enhancing reading comprehension. Its ability to create meaningful connections, foster engagement, and improve retention makes it a valuable tool in educational settings. This study demonstrates that integrating storytelling into the curriculum has the potential to significantly enhance students' learning outcomes, providing a compelling case for its broader adoption in teaching practices.

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