

A Study on Elevating ESL Students' Reading Comprehension in English Using Inference Reading Strategy in Higher Education

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Abstract: *Reading in English is one of the crucial aspects that need to be attained by ESL students in higher education. The students in higher education not only have to read in English reading text but also to decipher the meaning in the text. Since most academic materials are in English, it is essential for ESL students to accurately grasp the main ideas the authors are conveying. Therefore, they must apply appropriate reading strategies to comprehend the author's intended meaning effectively. This study seeks to explore ESL undergraduate students who faced difficulties in comprehending reading text. A quantitative approach was used in this study involving 123 ESL students. Of these, 123 students were taught using a specialized reading comprehension module focused on the inferencing strategy. The teaching duration was conducted for 9 weeks. Two tests with the same difficulty level were provided to students to gauge their understanding of reading texts after the intervention. The results revealed that there was an improvement in reading comprehension after the students employed the inference reading strategy. They were able to comprehend the reading text using inference strategy after the intervention. This study concludes the importance of integrating the inference strategy in enhancing reading comprehension instruction for higher education students and encourages further research in this area.*

Keywords: Inference, Reading Strategy, Reading Comprehension, Higher Education

1. Introduction

In higher education, reading comprehension is a crucial skill to form the foundation of academic success across disciplines. Reading comprehension can be described as a complex and complicated process in which the reader engages with a text to comprehend the meaning (Yap, Graaff & Bergh, 2021). Students are often required to digest and comprehend lots of diverse and complex texts in their learning. Effective reading comprehension goes beyond comprehending the surface meaning of texts and it requires the ability to make inferences—reading between the lines to grasp implied ideas, analyze and synthesize information that they read. Therefore, the students need to master the reading comprehension and reading strategies in order to complete their tasks and to comprehend new concepts. Nevertheless, reading comprehension seems to be a difficult task and challenging for ESL students in higher education due to language limitations. Non-native English-speaking students often face specific challenges in this regard which can inhibit comprehension (Alptekin, 2006).

Recent educational research has focused on enhancing reading comprehension skills by providing strategic intervention with inference reading as highly effective approach. Students who are already experiencing a high cognitive load from language processing will struggle to retain and interpret implicit ideas in reading text. Hamza & Nur Salina (2018) emphasized that students' fluency in language enables them to have more in-depth understanding of text.

Inference is one of the reading strategies which involves deducing implicit meanings from a text, plays a significant role in elevating students' ability to comprehend complex academic texts. While making inference, the students must have the ability to read between the lines and predicting the outcomes from the materials that they read. Respectively, students' reading strategies familiarity will help them more frequently and thereby understand mostly the text (El Malihi & Brigui Hind, 2024).

Furthermore, inference strategy assists students in bridging the gap between clear statements and implied meanings, a skill crucial for academic achievement (Grabe & Stoller, 2019). By incorporating the inference strategy, the students engage effectively in deciphering the reading text. As such, this study seeks to investigate the effectiveness of using inference strategy in enhancing students' reading comprehension.

2. Literature Review

2.1 Inference Reading Strategy

Inference is defined as the ability to interpret information that is not explicitly stated in the text, relying on context clues, background knowledge, and reasoning (Kintsch, 2018). This cognitive process is central to advanced reading comprehension because it involves integrating prior knowledge with new information. As readers encounter complex texts, they often need to make inferences to fully understand the author's message (Cain & Oakhill, 2014).

Numerous studies have demonstrated the effectiveness of inference strategies in developing reading comprehension skills. For instance, Grabe and Stoller (2019) emphasized that proficient readers routinely infer meaning to grasp nuances in academic texts. ESL learners, however, face additional challenges in making inferences due to limited vocabulary and cultural knowledge, making the teaching of inference strategies even more crucial in ESL instruction.

2.2 The Role of Inference in ESL Reading Comprehension

Reading comprehension, particularly for ESL students, involves the interaction between multiple language skills: decoding words, understanding syntax, and using contextual knowledge to make inferences. ESL learners often struggle with inferential comprehension because they may lack both the linguistic proficiency and cultural background that support effective inference-making (Nation, 2020). In addition, Chawwang (2008) in his research found out that most of the Thai students faced difficulties in understanding English texts.

Research by Day and Park (2021) shows that ESL students' ability to infer meaning is closely tied to their level of language proficiency and their familiarity with the subject matter. For example, students may understand the explicit content of a passage but fail to infer the author's intention, tone, or underlying message. This gap in understanding is particularly evident in higher education contexts, where academic texts tend to include more abstract, implicit meanings that challenge even proficient readers.

Studies have suggested several strategies to improve inferential reading skills in ESL learners. According to Zwiers (2018), teachers can enhance inferential comprehension by scaffolding the reading process. This includes activating students' prior knowledge, teaching them to look for context clues, and encouraging them to ask questions while reading. Grabe and Stoller (2019) recommend incorporating diverse reading materials that include both explicit and implicit information, thereby allowing students to practice making inferences in various contexts.

2.3 ESL Reading Comprehension Challenges

ESL students often face numerous challenges in reading comprehension, such as limited vocabulary, unfamiliarity with academic writing conventions, and difficulties in understanding implicit meanings in texts (Nation, 2020). According to Zwiers (2018), ESL learners frequently struggle to interpret the underlying meanings in academic texts due to these language gaps. Moreover, Day and Park (2021) argue that students from different linguistic and cultural backgrounds may miss essential context clues, further impeding their ability to make inferences.

3. Research Methodology

3.1 Research Design

This study employed a quantitative approach collecting data through pre-test and post-test scores to assess the effectiveness of integrating inference strategy in reading. A test consisted of 15 questions to reading comprehension difficulties was designed to test the students' prior to the intervention given. The post-test entailed of 15 questions with same difficulty level as pre-test was designed to be given after the intervention. The students received the inference strategy intervention over a period of nine weeks.

3.2 Participants

The participants of this study were full-time undergraduate students who agreed to take part in the research. A total of 123 students participated, comprising second- and third-year undergraduates from various technical disciplines. The students' age are ranged from 18 to 20, with an average of 18.5 years.

3.3 Instructional Method

One instructor was selected and participated in the study. She had more than eight years teaching experience in higher education. During the instructional phase, students received explicit instruction on inference techniques for reading comprehension. The lessons included exercises in identifying context clues, inferring main idea, and predicting text outcomes. Additionally, students were given the practices with technical texts to help them apply inference strategy to the technical reading materials.

3.4 Data Collection

Pre-test and post-test were administered to the students to evaluate the effectiveness of the inference strategy instruction. Pre-test was given prior to the treatment and post-test was given after over 9 weeks of treatment. These tests included reading texts with both explicit and implicit information, followed by comprehension questions designed to measure the students' ability to make inferences.

4. Results

Table 1: Pre-test and Post-test scores in the use of inferencing strategy

Item	Description	N	Mean Rank	Sum of Ranks
Inferencing marks (Post-test)	Negative ranks	20 ^a	24.40	244.00
Inferencing marks (Pre-test)	Positive ranks	96 ^b	30.56	1467.00
	Ties	7 ^c		
	Total	123		

The results of pre-test and post-test were analyzed and indicated that out of 123 students, positive ranks revealed that 96 students performed better in their post- test score, negative ranks revealed 20 students did not perform better in their post-test and 7 students did not show any improvement at all.

Table 2: Wilcoxon signed-rank Test Statistics

Item	Inferencing marks (Post-test) – Inferencing marks (Pre-test)
Z	- 4.749 ^a
Asymp. Sig. (2-tailed)	.000

A Wilcoxon signed-rank test showed that there was a significant different in pre-test and post-test scores for inferencing strategy ($Z = - 4.749^a$). The findings indicated the effectiveness of using inference strategy for the students after received the treatment for nine weeks. Most of the students have shown their improvement in understanding the reading text by applying the inference strategy.

5. Discussion

The results of this study corroborate previous research on the effectiveness of inference strategies in enhancing reading comprehension (Cain & Oakhill, 2014; Grabe & Stoller, 2019). The significant improvement in post-test score highlights the importance of teaching ESL students how to make inferences, particularly when dealing with complex academic texts. Thus, the inferencing strategies have a great impact in enhancing the students' comprehension in reading the text. Nalli veetil (2014) also supported by stating that inference strategy encouraged the students to think actively and make the students comprehend the meaning of the sentences which comprised the familiar and unfamiliar word.

In addition, the study also underscores the need for educators to explicitly teach inference strategies, rather than assuming that students will naturally develop these skills. ESL students, in particular, benefit from guided practice in making inferences, as this helps them navigate the linguistic and cultural complexities of academic texts (Nation, 2020).

6. Conclusion

This study utilized the specific tests to investigate the effectiveness of using inference strategy in elevating students' reading comprehension in English. It demonstrated that inference reading strategy can significantly enhance ESL students' reading comprehension at the higher education level. The improvement in post-test scores, suggests the effectiveness of this pedagogical approach. Further research is recommended to explore how inference strategies can be integrated into broader ESL curricula and how they can be adapted to meet the needs of learners at different proficiency levels.

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