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Comprehension Skills: What is the Best Way to Absorb Meaning?

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Abstract: *The study aims to determine if reading a sample TOEFL exam three times improves comprehension compared to intensively reading the same material. Two groups of students were tested on the reading section of a sample TOEFL exam, with one group (n=18) that read the literature three times while the other group (n=13) read it once. An independent t-test compared the exam scores and did not show any significant difference. The scores for those who read the material three times were virtually the same compared to the group that read the same material once intensively. Another independent t-test was also conducted comparing the scores of the first group that read the literature three times versus the same group that read it once. The results were significant but had the opposite result of the expected outcome. In other words, scores were higher after reading the material once which goes against long established academic literature.*

Keywords: Intensive Reading; reading comprehension; reading proficiency

Introduction

Students at a university in northern Japan are required to receive a minimum TOEFL score of 550 on the paper-based test as they are required to study abroad for one year to graduate. Those who fail to score 550 will not get the opportunity to study abroad and will have to either improve their score or get left behind. Some students will try time and time again to reach that mark, but if they continue to fall short, they would have no choice but to drop out of the program. In Reading, students often peruse the literature by slowing this process. It is often called intensive Reading, although it is more about maintaining a high focus. Even first language learners of English slow their Reading to understand the material better. It feels natural to read in this manner. However, Anderson (1985) claims it is better to read the material three times rather than to read it once intensively.

Much of this thinking is based on the idea of decoding words – that students would tap into their background knowledge and eventually understand the rules they learned to unravel the meaning. This research aims to put that theory to the test by comparing two groups of students who read two sets of a sample TOEFL exam. The first group read the literature

three times, while the second group read it once. They then switched roles as the second group read different reading material three times while the first group read the literature once.

Literature Review

The ability to read is truly magical. Reading helps to build vocabulary and vocabulary in context. Reading is a model for writing. Reading helps the learner see correctly structured English. Reading is also a model for correctly spoken English.

Mimicking the script system, recognizing how words construct meaning, and identifying texts and sentences may be something we overlook but are remarkable skills we gain. Laboy (2009) says Reading is one of the most important life skills. It is also possibly the most essential life skill a child can acquire (Siwaltaski, 2012).

Reading strategies began about half a century ago, and teaching a variety of language strategies to second language learners of English in large numbers started a decade later. In the 1980s, think-aloud procedures were popular. The idea being a successful reader kept the meaning of the passage in mind while reading and skipping less important or inconsequential words (Hoselfeld, 1977). Jackson's (2016) study tried to determine if think-aloud strategies would improve science comprehension of elementary school children. By applying Anderson's schema theory, children would essentially create a mental filing cabinet that allows the individual to continue to learn by retrieving previous information, categorizing that information and applying it to new information that is learned. The study improved student learning and was useful in helping teachers and administrators improve students' comprehension by applying the think-aloud strategy.

One-hundred sixty-eight university students participated in a three-step program (Tarchi, 2021). They were first administered an exam measuring everything from prior topic beliefs, to topic interest, to topic knowledge. They were then given six documents to read and were assigned to either the think-aloud condition or silent Reading. Based on the trustworthiness of the six documents, there was no significant difference among those who read during silent Reading. However, the participants' trustworthiness judgments influenced the students who participated in the think-aloud strategies (Tarchi, 2021). A Read-Aloud/Think-Aloud strategy was also used to help students in a Biology class at the college level. The students were asked to respond to their experiences in a think-aloud class. Students at the university responded positively by saying they read more text, understood the material better, found the instructor's teachings helpful, and in general, learned to read challenging texts more efficiently (Pergams, et al., 2018). Perhaps more importantly, participants state their thoughts and behaviors, a popular means of studying to improve comprehension.

In Extensive Reading, students self-select reading material minimizing accountability. Mason and Krashen (1997) researched the effectiveness of Extensive Reading on so-called "bad students" in Osaka, Japan. The students were required to read 50 books in one semester. That turned out to be too ambitious. Some had read up to 40 books, and the average book

read was 30. Diaries kept during the semester showed the "bad students" were surprised to witness drastic improvements and showed an eagerness to read, while others appeared to understand the stories according to the diaries checked by their teacher during the semester. Another Extensive Reading program was established for elementary school kids in Yemen. The results had a positive impact, including enhancing language competence, improving vocabulary, and even facilitating the development of prediction skills (Bell, 1994).

In other words, readers could predict a text's content based on the pre-existing schema. While reading, the schema was activated, which helped the reader decode and interpret the message beyond the written words (Nunan, 1991, pp. 65-66). Another study involved a meta-analysis of extensive Reading. Nakanishi's study (2015) attempted to determine how effective extensive reading programs are in terms of outcomes such as reading speed, reading comprehension and vocabulary acquisition. His research suggests that extensive Reading improves reading proficiency and should be a part of language learning curricula. Another Extensive Reading study investigated outcomes for 51 Thai students. They took the Test of English for International Communication (TOEIC) before and after the study. The results showed a significant reading improvement, and that extensive Reading is an effective way to improve reading comprehension (Singkum and Chinwonnob, 2021).

Eye movements during Reading, also known as saccade, show the cognitive process, ideal for examining developmental changes (Blythe, 2014). Using eye-tracking technology, the correlation between eye movement behavior and reading proficiency was such that decoding the information was slower amongst poor readers and much more proficient amongst good readers (Kim, et al., 2019). One study used the King-Devick test (saccade eye movements), the PAF test (auditory perception), the PFC reading speed test (phonemic awareness), the PROLEC-R (lexical process), the Canals reading speed test, and the ACL-1 (reading comprehension). Fifty-two first-year primary school children were the subjects. The results show that all of the factors above correlate with Reading. In addition, children with saccade eye movements and auditory perception issues score lower in Reading. Children with lexical problems also obtain a lower level of phonemic awareness (Megino-Elvira, et al., 2016). Another study showed that orthographic familiarity, not parafoveal or lexical familiarity was the reason for improved saccade (White, 2008). However, Liu's (2015) study on Chinese readers focuses on parafoveal processing.

The study determined that saccade is directed at the default target, which in Chinese is at the logographic script's center. Another study looked at the eye movements of Chinese subjects who read literature both horizontally and vertically. Despite equivalent reading speed in both directions, more fine-grained analyses determined better fixation locations in vertical Reading. The study determined that Chinese readers can generate saccades more effectively in vertical Reading compared to horizontal (Yan, et al., 2019).

Anderson defines reading as the task of making meaning from written texts (Anderson, 1985). Not to be confused with reading comprehension, the process of making meaning through interaction and involvement with written language (Rand, 2002). Anderson (1985)

claims most teachers are good at teaching top-down strategies, but very few are good at teaching bottom-up strategies. He proposes a third interactive method that combines bottom-up and top-down models. He theorizes that by reading the text three times, students would better understand the material instead of reading the material intensively once. This research hypothesizes that those who take Anderson's approach would test better than those who do not.

Methodology

In spring 2022, a total of 31 samples participated in this research, 18 on April 19 and the remaining 13 on April 20. The students took two TOEFL practice reading exams. The first is called The *Creators of Grammar*, and the second is named *Robert Cappa*. The first group was asked to read *The Creators of Grammar* three times and take the exam. The second group read the material intensively one time, followed by the exam. Both tests consisted of 10 questions. The second group was then asked to read *Robert Cappa* three times, take the exam, read *The Creators of Grammar*, and answer the ten questions. The students were given 20-minutes to read each material and finish the exams. The results of the two groups were analyzed using the independent *t-test* via Statistic Package for the Social Sciences (SPSS).

Results

An independent *t-test* was used to compare one group of students (n=18) who read *The Creators of Grammar* three times versus another group (n=13) that read the same material one time intensively. With equal variances assumed, the first group had a mean score of 53.88 versus the second group with a mean score of 53.84. The results showed no significant difference with a p-value of .995 in table 1.

Table 1 Group Statistics

IC	N	Mean	Std. Deviation	Std. Error Mean
1	18	53.88	18.51	4.36
2	13	53.84	20.22	5.60

Table 2 Independent Samples Test

	Levene's Test for Equality of Variances			t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	F	Sig.							Lower	Upper
Equal variances assumed	.191	.665		.006	24.571	.995	.04274	7.10666	-14.60	14.69

An independent *t-test* was also used to compare the first group of students (n=18) who read *The Creators of Grammar* versus the second group (n=13) that read *Robert Cappa*. Both groups read the material three times. *The Creators of Grammar* group (n=18) whose mean score was 53.88, was not as good as the second group (n=13), which had a mean score of 68.46. With equal variances assumed, the difference was significant with a p-value of .034.

Table 3 Group Statistics

IC	N	Mean	Std. Deviation	Std. Error Mean
1	18	53.88	18.51	4.36
2	13	68.46	17.24	4.78

Table 4 Independent Samples Test

	Levene's test for Equality of Variances		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
	F	Sig.						Lower	Upper
Equal Variances Assumed	.023	.880	-2.224	29	.034	-14.57265	6.55192	-27.97	-1.17

A final comparison was made by analyzing the test scores of the first group that read both *The Creators of Grammar* (n=18) and *Robert Cappa*. *The Creators of Grammar* was read three times, while *Robert Cappa* was read once intensively. That group had a mean score of 53.88 on *The Creators of Grammar* but a mean score of 82.22 on *Robert Cappa*. With equal variances assumed, the results were significant with a p-value of .000014.

Table 5 Group Statistics

IC	N	Mean	Std. Deviation	Std. Error Mean
1	18	53.88	18.51	4.36
2	18	82.22	14.77	3.48

Table 6 Independent Samples Test

	Levene's test for Equality of Variances		t	df	Sig. (2-tailed)	Mean difference	Std. Error Difference	95% Conference Interval of the Difference	
	F	Sig.						Lower	Upper
Equal Variances Assumed	.566	.457	-5.075	34	.000014	-28.33	5.58	-39.67	-16.98

Discussion

Despite claims by Anderson that reading literature three times results in better comprehension versus reading the same material one time intensively, this research shows students might perform even better reading literature intensively just once. As aforementioned, because we naturally tend to slow our Reading when dealing with difficult material to understand, perhaps the idea of reading it intensively improves comprehension. The students who read *Robert Cappa* one time intensively had virtually the same score as those who read *The Creators of Grammar* three times. The two readings were sample TOEFL exams, so it would be safe to assume that one Reading was not significantly more challenging than the other. When the two groups of students read different material three times, the scores favored the second group. The first group (n=18) had a mean score of 53.88, while the second group (n=13) had a mean score of 68.46. When the same group read both materials, with the first material being read three times (The Creators of Grammar) and the second reading one time intensively (Robert Cappa); they had a mean average of 53.88 versus 82.22. Perhaps this means students should be encouraged to read literature in ways most comfortable to maximize comprehension. It might also mean Anderson's reading comprehension theory may not be as reliable as once thought.

Conclusion

The research sought to compare if reading literature three times is better than reading the same material once intensively. The study compared two groups of students in Northern Japan, each reading the two sets of TOEFL sample readings. The first group read the first material three times while the second group read it intensively once, then they switched roles for the second Reading. Both groups subsequently took a sample TOEFL exam – each exam containing 10 questions. Mean scores were analyzed using the independent *t-test*. The results show no significant difference between the two mean scores. When comparing the mean scores of the two readings read three times by the first group and once by the second group, the scores favored the group that read the material just once. This shows the opposite result compared to Anderson's theory that people who read literature three times will have a better understanding than those who read it once intensively.

Limitations

By reading material three times, Anderson claims that students can decode words by being taught the proper rules. For example, they can understand how words get pronounced correctly because they have heard certain words that have been used before (Anderson, 2014). It is a way to tap into the background knowledge of students. By reading three times, the hope is to improve their sight vocabulary. In other words, when learners encounter the same word several times, the word becomes more elemental, moving students toward automaticity (Day and Bamford 1998). That said, if students re-read the same word twice or three times but are unfamiliar with that specific meaning that will not help the student decode

that word. Perhaps many of the students who read the material were unfamiliar with the meaning of words which would not have helped them by reading the same word twice or three times. As a result, this may have contributed to a lower score than reading the material intensively one time.

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