

The Ear or the Eye? Decoding the Better Route to Incidental Vocabulary Growth

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Abstract

Incidental vocabulary acquisition is crucial for improving learners' lexical competence. To facilitate learners' vocabulary acquisition incidentally, it is essential to understand which mode of input is more effective. This research aims to comparatively study the effectiveness of reading and listening input on incidental vocabulary acquisition and determine which modality best supports vocabulary acquisition and retention. This study employed a between-subjects design in which two groups of Grade 9 ESL learners of an international school were exposed to either reading or listening input. The input material consisted of 15 target words, which the learners were allowed to acquire incidentally. A pretest, immediate posttest, and delayed posttest design were employed to collect data. The areas of vocabulary knowledge tested were form and meaning recognition. When analyzing the data, statistical comparisons were made using independent samples t-tests. The results revealed no statistically significant difference between the groups for the acquisition scores. Similarly, the comparison of the retention scores revealed no statistically significant difference. Therefore, this study implies that both input modes produced similar acquisition and retention levels in the respective groups, concluding that both reading and listening are equally effective. The significance of this study lies in its contribution to understanding the effects of input modality in a real-world ESL context. Future research should explore the impact of combining input modalities, examine other aspects of vocabulary knowledge, such as production, and include learners of varying proficiency levels and age groups to allow for broader generalization of the findings.

Keywords: Incidental vocabulary acquisition; Vocabulary retention; Listening input; Reading input

Introduction

After years of neglect, vocabulary learning has become a field of interest among teachers, material developers, and researchers (Huckin & Coady, 1999). For example, Alhamami (2016) recognizes vocabulary as the building block of language, having a significant impact on all four skills. Therefore, it is essential to promote vocabulary acquisition among learners.

According to Huckin and Coady (1999), most scholars agree that apart from learning a few thousand high-frequency words through deliberate acquisition, vocabulary learning predominantly occurs through incidental acquisition. Incidental vocabulary acquisition primarily occurs through reading and listening. Many studies emphasize the effectiveness of extensive reading in acquiring vocabulary incidentally (Horst, 2005; Waring & Takaki, 2003). On the other hand, listening has received limited scholarly attention as a source of vocabulary acquisition. However, its potential is not denied. For example, Nation (2022) recognizes how listening to texts such as songs, radio broadcasts, and conversations can contribute to incidental vocabulary acquisition.

Given the importance of input, language educators are responsible for identifying the most suitable modality for their learners to acquire vocabulary. However, the findings of the existing comparative studies have remained limited and inconsistent. Some studies report that reading leads to greater vocabulary gains and retention than listening (Brown et al., 2008; Xiaoning & Feng, 2017; Chang & Ma, 2018; Mohsen & Almudawis, 2021) while studies such as Vidal (2011) and Hatami (2017) suggest that, regardless of reading facilitates larger immediate vocabulary gains, listening leads to a lower knowledge depletion rate. Further, studies like Feng and Webb (2020) suggest that reading and listening input modalities are equally effective. These conflicting results highlight the need for similar research.

Another notable gap in literature is the participant context. Most existing comparative studies have been conducted with undergraduate ESL learners from countries such as Japan, Spain, China, Iran, and Saudi Arabia, who have primarily encountered English as a subject in school settings (Brown et al., 2008; Vidal, 2011; Hatami, 2017). In contrast, there is limited research involving secondary school students in Sri Lanka, particularly those attending international schools where the medium of instruction is English since kindergarten. Therefore, this study aims to fill these gaps by comparing the effectiveness of reading versus listening input on incidental vocabulary acquisition in Sri Lanka concerning secondary schoolers by investigating the context of grade 9 ESL learners in an international secondary school.

Research Questions

1. How does incidental vocabulary acquisition of word form and meaning differ between learners exposed to reading versus listening input?
2. How does the retention of word form and meaning from incidental vocabulary learning vary between reading and listening input?
3. Which input mode, listening or reading, is more effective for incidental vocabulary acquisition?

Hypotheses

Hypothesis 1 (H₁): Learners exposed to reading input will show significantly higher vocabulary acquisition and retention than learners exposed to listening input.

Hypothesis 2 (H₂): Learners exposed to listening input will show significantly higher vocabulary acquisition and retention than learners exposed to reading input.

Null hypothesis (H₀): There will be no significant difference in vocabulary acquisition and retention between the groups exposed to reading and listening input.

Methodology

This quasi-experimental study employed a between-subjects design to compare the effectiveness of reading versus listening input on incidental vocabulary acquisition among Grade 9 ESL learners. The sample consisted of 30 participants from an international school in Sri Lanka, equally divided into two groups of 15. According to the school's records, the learners' English proficiency ranged from A2 to B1 based on the CEFR, and all had received instruction in English since kindergarten.

Fifteen target vocabulary items were selected and embedded within thematic stories related to crime and law, which were carefully designed to match the learners' proficiency levels. The same vocabulary assessment instrument was used throughout the study, comprising 30 multiple-choice questions, 15 assessing recognition of word forms and 15 assessing recognitions of word meaning.

Initially, all participants completed a pretest to measure their baseline knowledge of the target vocabulary. Following the pretest, one group was exposed to reading thematic stories, while the other group listened to audio recordings of the same stories. The treatment spanned three sessions conducted over one week. Immediately after

the treatment, an immediate posttest was administered to measure incidental vocabulary acquisition. A delayed posttest was then conducted two weeks later to evaluate retention of the learned vocabulary.

Data was analyzed using descriptive statistics (means and standard deviations) to summarize the acquisition and retention scores of both groups. Independent-samples t-tests were conducted to test the hypotheses.

Results

Pre-test

Pretest scores for both form and meaning recognition were compared between the reading and listening groups. For the form recognition test, the mean scores of the Reading and Listening Groups were 0.0 and 0.6, respectively. For the meaning recognition test, the Reading Group's and Listening Group's mean scores were 0.0 and 0.6, respectively.

Immediate Posttest Scores (IPTS)

Following exposure to the respective input modes for incidental vocabulary acquisition, an immediate posttest was administered. The results were then compared using an independent samples t-test, separately for both form and meaning, as summarized below:

Table 1

T-test Comparison of Reading and Listening Groups: Form Recognition Scores (IPTS)

	<i>Reading</i>	<i>Listening</i>
Mean	4.466666667	4.4
Variance	2.838095238	1.257142857
Observations	15	15
Hypothesized Mean Difference	0	
Df	24	
t Stat	0.127589458	
P(T<=t) one-tail	0.449768461	
t Critical one-tailed	1.71088208	
P(T<=t) two-tail	0.899536922	
t Critical two-tail	2.063898562	

Since P(T<=t) two-tailed P value is greater than the Alpha value (0.05), no statistically significant difference was found between the means of the two groups for the acquisition scores of the form recognition test.

Table 2

T-test Comparison of Reading and Listening Groups: Meaning Recognition Scores (IPTS)

	<i>Reading</i>	<i>Listening</i>
Mean	4.2	4.4
Variance	1.028571429	1.685714286
Observations	15	15
Hypothesized Mean Difference	0	
Df	26	
t Stat	-0.470162346	
P(T<=t) one-tailed	0.321079496	
t Critical one-tailed	1.70561792	

P(T<=t) two-tailed	0.642158991
t Critical two-tailed	2.055529439

The two-tailed P value is greater than 0.05, indicating that there is no statistically significant difference between the means of the two groups for the acquisition scores of the meaning recognition test. Delayed Post Test Scores (DPTS)

Two weeks after the immediate post-test, a delayed post-test was administered. The results were then compared using an independent samples t-test, separately for both form and meaning, as summarized below:

Table 3

T-test Comparison of Reading and Listening Groups: Form Recognition Scores (DPTS)

	<i>Reading</i>	<i>Listening</i>
Mean	2.266666667	2.666666667
Variance	1.780952381	0.80952381
Observations	15	15
Hypothesized Mean Difference	0	
Df	25	
t Stat	-0.962533422	
P(T<=t) one-tail	0.172500054	
t Critical one-tail	1.708140761	
P(T<=t) two-tail	0.345000109	
t Critical two-tail	2.059538553	

Since P(T<=t), the two-tailed P value is greater than the Alpha value (0.05), no statistically significant difference was found between the means of the two groups for the retention scores of the form recognition test.

Table 4

T-test Comparison of Reading and Listening Groups: Meaning Recognition Scores (DPTS)

	<i>Reading</i>	<i>Listening</i>
Mean	2.2	2.666666667
Variance	1.028571429	0.952380952
Observations	15	15
Hypothesized Mean Difference	0	
Df	28	
t Stat	-1.284148925	
P(T<=t) one-tail	0.104807102	
t Critical one-tailed	1.701130934	
P(T<=t) two-tailed	0.209614204	
t Critical two-tailed	2.048407142	

As the Two-tailed P value is greater than the Alpha value, a statistically significant difference between the means of the two groups was not identified for the retention scores of the meaning recognition test.

Discussion

The results of the pretest confirmed that learners in both Reading and Listening Groups had minimal prior knowledge of the target vocabulary. This indicates that the vocabulary gains demonstrated in the subsequent tests can be attributed to the input provided during the treatment. Upon exposure to the input, both groups showed notable improvement in vocabulary acquisition, demonstrating the effectiveness of both reading and listening in promoting incidental vocabulary acquisition. These findings are consistent with previous research, which has shown that vocabulary can be acquired incidentally (Brown et al., 2008; Vidal, 2011; Hatami, 2017; Xiaoning & Feng, 2017; Chang & Ma, 2018; Feng & Webb, 2020; Mohsen & Almudawis, 2021). Therefore, the pretest and posttest results validate the acquisition through both input modes.

The immediate posttest results revealed only a marginal difference in the mean scores between Reading and Listening Groups, and this difference was not statistically significant for either form or meaning recognition. This suggests that both reading and listening were equally effective in helping learners acquire new vocabulary items. Moreover, it also shows that neither mode is more effective than the other. The findings support the conclusions of Feng and Webb (2020), who also found no significant difference between input modalities. In summary, the data suggests that reading and listening are equally effective for incidental vocabulary learning in terms of recognizing both word forms and meanings.

A similar trend was observed in the delayed posttest results. Accordingly, both groups showed no statistically significant differences in the means for form and meaning retention. The findings continue to support the observations of Feng and Webb (2020), who concluded that reading and listening input produce equally effective vocabulary retention. The scores, however, were lower than those of the immediate posttest, demonstrating that there had been a decline in acquired vocabulary knowledge. This finding both confirms and contrasts the conclusions of Vidal (2011). The observation of declining vocabulary knowledge aligns with Vidal (2011), who argued that a lack of repeated exposure can lead to a depletion of vocabulary knowledge. However, a similar decline in the mean scores of both groups challenges Vidal's (2011) claim that listeners have a lower vocabulary depletion rate than readers. Consequently, it can be inferred that reading and listening are equally effective for promoting the retention of incidentally acquired vocabulary over extended periods of exposure.

However, the findings of the present study challenge much of the existing comparative research studies, which suggest one input mode is superior to the other. Previous studies, such as those by Brown et al. (2008), Vidal (2011), Hatami (2017), Xiaoning & Feng (2017), Chang and Ma (2018), Feng and Webb (2020), Mohsen and Almudawis (2021), reported that reading input is more effective than listening input. Similarly, Vidal (2011) and Hatami (2017) suggested that learners tend to retain vocabulary better through listening. The deviation of the current study from most of these findings may be attributed to the unique characteristics of the participants. The sample consists of international school learners who are equally familiar with both modalities of input from an early age. This balanced exposure may have led to a minimal difference in perceived effectiveness of the two modes. Therefore, the uniqueness of the learner cohort may have impacted the deviation of the findings from previous studies.

In conclusion, the findings of the study indicate that both reading and listening input modes equally contribute to incidental vocabulary acquisition and retention among ESL learners in international secondary schools. The lack of significant differences between the groups in both posttests suggests that learners benefit similarly from both modalities in terms of acquisition and retention. Although the outcomes align with a recent study, they contradict several previous studies. The unique educational background of international school students may contribute to these findings. These insights support the integration of both reading and listening input to promote incidental vocabulary acquisition.

Limitations and Future Research

The primary limitation of this study is the unique learner cohort and the small sample size. Future research could investigate university students, government school students and different age groups of varying proficiency levels. Another significant limitation is that the study only examines form and meaning recognition due to time constraints. This means that only passive vocabulary was tested, rather than active vocabulary. A longitudinal study over an extended period could investigate the effectiveness of vocabulary use.

Conclusion

The study investigated the effectiveness of reading and listening inputs on incidental vocabulary acquisition and retention among grade 9 ESL learners in a Sri Lankan international school. The pretest results confirmed that the learners initially had only limited knowledge of the target vocabulary. The vocabulary gains in the posttest demonstrated vocabulary acquisition through both modalities. While the posttest and delayed posttest showed a slight difference in mean scores for acquisition and retention, no statistically significant differences were observed.

These findings suggest that both reading and listening are equally effective in incidental vocabulary acquisition and retention. The results challenge the previous studies that favored one input mode over the other, indicating that the learner context may play a significant role in vocabulary gains. Thus, it leads to the rejection of H_1 and H_2 and the acceptance of H_0 . In this case, the balanced exposure to English through both reading and listening from pre-primary education may have contributed to the comparable effectiveness through both input modalities.

The study highlights the value of incorporating both reading and listening tasks into ESL vocabulary instruction. Teachers working with learners who are regularly exposed to English through multiple modes can be confident that either mode of input, or a combination of both, can lead to vocabulary development. However, repeated exposure may play a crucial role in retaining the acquired vocabulary knowledge.

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