

# Vocabulary learning through listening and vocabulary learning through reading

## Some similarities and differences

リスニングによる語彙学習とリーディングによる語彙学習  
いくつかの類似点と相違点

Lee H. Alexander

アレクサンダー リーハービー

Growth in vocabulary is closely linked to reading proficiency, and to general academic attainment. These correlations make both vocabulary learning through listening and vocabulary learning through reading important areas of research. This article discusses the similarities and differences between these types of vocabulary learning. I summarize two past studies, one on vocabulary learning through listening and the other on vocabulary learning through reading. I draw on these and other studies to review some of the similarities and differences between the two modes of vocabulary learning. I conclude that while vocabulary learning through listening and vocabulary learning through reading differ, evidence suggests that for each mode individually, and the modes combined, effects do not significantly differ. In choosing vocabulary teaching strategies, teachers should freely target the mode or modes that they consider best suited to their students' needs.

**Keywords: vocabulary learning, vocabulary acquisition, listening, reading,  
second language acquisition**

語彙の増加は、読解力と一般的な学習能力に密接に関連している。この関係性はリスニングによる語彙学習とリーディングによる語彙学習のどちらも重要な研究分野であることを示している。本稿では、これら2つの語彙学習の類似点と相違点について論じる。リスニング、リーディングによる語彙学習についての過去研究1例ずつを要約する。そしてこれらの研究と他の研究を元に語彙学習の2つの学習法の類似点と相違点を議論する。本稿はリスニングによる語彙学習とリーディングによる語彙学習は、各学習法の効果、および学習法の組み合わせによっては有意に異なることを示唆していると結論付ける。教師は語彙指導において生徒のニーズに最も適していると考えられる学習法を柔軟に選択する必要がある。

キーワード：語彙学習、語彙習得、リスニング、リーディング、第二言語習得

## 1. Introduction

This article begins with an overview of vocabulary learning, also termed vocabulary acquisition. It moves on to vocabulary learning through listening, where I examine Elley's (1989) study of children in New Zealand. After which I turn to vocabulary learning through reading, with a look at Paribakht and Wesche's (1993) study of young adults in Canada. I discuss the similarities and differences between vocabulary learning through listening and vocabulary learning through reading in the following section. I conclude that vocabulary learning through listening and vocabulary learning through reading employ similar cognitive processes but differ in terms of proportion, frequency, and retention.

## 2. Vocabulary learning

Estimates of vocabulary growth for 8-18-year-olds range from 3,000 to 5,000 words a year, or taking the higher estimate, 13 words a day (Miller & Gildea, 1987; Nagy & Herman, 1987). An impressive rate, but perhaps more impressive is how this growth relates to a learner's education more broadly. Growth in vocabulary is closely linked to reading proficiency (Jenkins et al., 1984; Ouellette, 2006; Qian, 1999, 2002), and to general educational attainment (Bornstein & Haynes, 1998; Treffers-Daller & Milton, 2013; D. Walker et al., 1994). These correlations make vocabulary learning an important area of research.

Vocabulary learning is defined as the intake of vocabulary knowledge (van Zeeland & Schmitt, 2013). It can be characterized as the process by which the brain stores and manages words or other chunks of language in the lexicon, the brain's store of words. Yet, if vocabulary learning is building knowledge of words in the brain, what does this knowledge entail? Multiple types of knowledge go into knowing a word (Anderson & Freebody, 1979; Chapelle, 1998; Nation, 1982, 2001; Qian, 1998, 1999). Knowing the sound of a word is not the same as knowing a word's meaning; neither of which are the same as knowing how to fit a word into a sentence. Nation's (2001, p. 27) conceptualization of vocabulary knowledge in Table 1 serves to illustrate the complexity of vocabulary learning:

A distinction has often been made between explicit or deliberate vocabulary learning, such as when a parent points and names an object or a student reads from a vocabulary list, and implicit or incidental vocabulary learning, such as when a child infers the meaning of an overheard word or a reader deduces a word's meaning from context (van Zeeland & Schmitt, 2013; Werner & Kaplan, 1950). This distinction has received criticism, however, because it is difficult to demonstrate that words can be learned without paying attention to them (Gass, 1999).

In testing vocabulary learning, an important distinction is between recognition and recall. Brown, Waring, and Donkaewbua (2008) reported scores on meaning recognition tests far exceeding recall test scores, supporting the view that vocabulary learning is an incremental process with recognition preceding recall. Their results held across the following modes; vocabulary learning through listening, vocabulary learning through reading, and vocabulary learning through reading with concurrent listening. The following

Table 1: *Components of vocabulary knowledge*

What is included in knowing a word	Form	spoken	Receptive
			Productive
		written	Receptive
		Productive	
		word parts	Receptive
			Productive
Meaning	form and meaning	Receptive	
		Productive	
	concept and referents	Receptive	
		Productive	
	associations	Receptive	
		Productive	
Use	grammatical functions	Receptive	
		Productive	
	collocations	Receptive	
		Productive	
	constraints on use ...	Receptive	
		Productive	

sections explore vocabulary learning through listening and vocabulary learning through reading.

### 3. Vocabulary learning through listening

Research demonstrates vocabulary learning through listening (Elley, 1989; Sénéchal & Cornell, 1993; Vidal, 2003, 2011). Multiple factors have been connected with this mode of vocabulary learning. Vidal (2003), for example, found that the predictability of a word's meaning from its form, the word type, the way a word's meaning is elaborated, and the frequency of a word's occurrence together explained a large part of the variance in the chance of a word being learned through listening. Van Zeeland and Schmitt (2013) found that frequency of occurrence strongly affects aspects of vocabulary learning through listening, though remembering a word's meaning stood out as the least affected. To illustrate vocabulary learning through listening, in the following section I examine Elley's (1989) study, a study which contributed to developing our understanding of this mode of vocabulary learning.

#### 3.1 Elley (1989)

Elley (1989) studied incidental vocabulary learning through listening in children in primary education in New Zealand. The researcher investigated the vocabulary learning outcomes of repeated listening to stories that were read aloud in class. Elley also examined the effects on vocabulary learning of explanations of target words by teachers.

*Experiment 1*

Seven teachers and 157 seven-year-old students from seven schools participated in Elley's first experiment. All the students were assigned to one experimental group, with no control group. One story was selected, which the teachers read three times over a week. The story contained 20 target words. A 20-item aural and written multiple-choice test was used to measure vocabulary learning. The test was administered twice, once at the start of the week and once at the end. Elley analysed the test data to establish whether the students' previous vocabulary knowledge affected the observed vocabulary learning.

Elley hypothesized that the following six factors should affect vocabulary learning: 1) the number of times the target words were included in the text, 2) the number of times the target items appeared in the accompanying pictures, 3) the children's familiarity with the target concepts, 4) the relevance of the target words to the storyline, 5) the ease with which the target items could be visualized, and 6) the information in the story that supported inference of target word meanings. The last four of these factors were measured on a six-point scale by the ratings of three independent raters.

Elley found a mean vocabulary gain of 15 per cent, with gains of more than 10 per cent in all but six of the target words. Multiple regression analysis revealed that four of the six factors combined explained 53 per cent of the variance, with three of the factors having a significant positive correlation with vocabulary learning.

*Experiment 2*

Eight teachers and 178 eight-year-old children, making up eight classes, participated in Elley's second experiment. The researcher allocated the participants to three groups; two experimental groups and one control. Two new stories were chosen. One story was read to the first experimental group with the teacher explaining what the target words meant. The same book was read to the second group without teacher explanations. For the other story, the two experimental groups switched. The second group received the explanations and the first did not. The stories were not read to the control group. The control group took the tests, however; the purpose being to control for potential test-induced learning. The groups took pre- and post-tests as in the first experiment, with the addition of a delayed post-test administered three months after the treatment.

The findings of the second experiment supported those of the first. Both experimental groups showed vocabulary gains under both conditions (with and without explanations). Yet, there was a notable difference between the stories in vocabulary gain. In addition, the findings indicated that teacher explanation potentially offers greatly improved vocabulary learning through listening over listening without explanations. The results of a multiple regression analysis showed correlations between vocabulary learning and the six factors that were examined in the first experiment.

### **3.2 Critique**

Elley (1989) builds a broadly persuasive case for vocabulary learning through listening. The second experiment, with use of a delayed post-test and control group, offers a robust design for testing this mode of vocabulary learning. The inclusion of two stories in the second experiment further strengthens the design. However, the quite stark differences in vocabulary gain between the two stories perhaps point to a source of considerable variability in vocabulary learning through listening. Elley only reported the results of a multiple regression analysis for one of the two stories in the second experiment. Inferential analysis was not performed. Neither were effect sizes reported. It is consequently difficult to deduce the validity of the findings. Nevertheless, given the existence of supportive comparable studies (Brett et al., 1996; Penno et al., 2002; Robbins & Ehri, 1994), there is little reason to discount that vocabulary learning through listening occurs.

## **4. Vocabulary learning through reading**

Research suggests that extensive reading leads to improvements in language development generally (Elley, 1991; Hafiz & Tudor, 1990). Incidental vocabulary learning through reading has been the subject of considerable research (Day et al., 1991; Grabe & Stoller, 1997; Paribakht & Wesche, 1993; Pigada & Schmitt, 2006; Pitts et al., 1989; Waring & Takaki, 2003; Zimmerman, 1997). Pigada and Schmitt (2006), for example, investigated not only how the frequency of a word's occurrence relates to knowledge of the word's meaning but also how frequency relates to knowledge of a word's spelling and knowledge of its use in sentences. Paribakht and Wesche's (1993) seminal study is scrutinized in the following section.

### **4.1 Paribakht and Wesche (1993)**

Paribakht and Wesche (1993) studied vocabulary learning through reading in 37 young adult English as a second language learners at the University of Ottawa over one semester. The researchers investigated acquisition of content vocabulary and discourse connectives, as well as grammatical knowledge. Paribakht and Wesche compared two groups of students; 19 students on a thematically-organized reading- and listening-focused course with only incidental grammar instruction, and 18 students on a course organized around the four skills (reading, writing, listening, and speaking) with systematic grammar instruction. Each group received 54 contact hours. Before the start of the study, the researchers administered a reading and listening proficiency test to both groups of participants, finding no significant differences between the groups.

Paribakht and Wesche designed two rational deletion cloze tests, each containing about 35 blanks. The cloze tests used adapted written material from the reading- and listening-focused course. The participants filled in the blanks from a word list that contained the missing words and five added distractors. The researchers also developed a measure of self-reported vocabulary knowledge, based on the same vocabulary as the cloze test. The participants chose from a 5-point scale, ranging from no knowledge of a word (1) to knowing and being able to use the word in a sentence (5). Points 3, 4 and 5 on the measure

required the participants to demonstrate their knowledge of the vocabulary. Paribakht and Wesche adjusted the scoring where participants' demonstrated vocabulary knowledge on point 3 was clearly correct or incorrect, scoring the answers one point above or one point below, respectively. Point 5 was split into two levels based on whether the participants' provided sentences were target-like or non target-like, ultimately creating a six-point scale. In their analysis, the researchers created two categories for the target words, unknown and known, by grouping responses 1-3 and 3-6 respectively.

The participants took the tests at the beginning and the end of the semester. Paribakht and Wesche calculated scores for each participant based on the total number of known words at pre-test and post-test. Inferential analysis was applied to the results. The students on the reading- and listening-focused course showed significant vocabulary learning for both content vocabulary and discourse connectives. The students on the four skills course exhibited significant vocabulary learning in content vocabulary but not discourse connectives.

#### **4.2 Critique**

Paribakht and Wesche (1993) make a credible case for vocabulary learning through reading. Vocabulary learning was found to be significant across measures. Effect sizes were not reported, but apart from greater vocabulary gain in prepositions by the four-skills group, between-group differences did not meet significance. The self-reported vocabulary knowledge measure that the researchers used required participants to demonstrate vocabulary knowledge on higher scale points. Thus, the test can be treated as partially measuring actual vocabulary learning, not just perceived vocabulary learning. Yet, when considered against Nation's (2001) components of vocabulary knowledge, it is apparent that the measure only scratches the surface of the participants' knowledge of words. It is also notable that participants' interpretation of points 3 and 4 on the measure showed high variability, suggesting that they had difficulty distinguishing these two scale points. Nevertheless, the results across scale points, with the addition of the cloze test results, clearly demonstrate vocabulary learning over time.

#### **5. Similarities and differences**

Both listening and reading demonstrably result in vocabulary learning. Research has suggested that vocabulary learning through listening and vocabulary learning through reading share the same underlying cognitive processes (Daneman & Carpenter, 1980; Kintsch & Kozminsky, 1977; L. Walker, 1976). Vidal (2011) compared vocabulary learning through listening with vocabulary learning through reading. The researcher found that the frequency of a word's occurrence affected both modes of vocabulary learning; highlighting another similarity. However, Vidal reports differences between vocabulary learning through listening and vocabulary learning through reading. The findings showed that effects of frequency of word occurrence differed markedly between modes. Vocabulary learning through listening was found to occur with 5-6 repetitions, whereas vocabulary learning through reading occurred with 2-3 repetitions. In addition, the participants were found to retain vocabulary learned through listening better than vocabulary

learned through reading.

Brown et al. (2008) also compared vocabulary learning through listening with vocabulary learning through reading, as well as comparing these with vocabulary learning through concurrent reading and listening. The researchers tested meaning recognition and meaning recall for the three modes of vocabulary learning. The principal finding was that reading was associated with greater vocabulary learning than listening. Their results also supported Vidal's (2011) findings regarding better retention but higher frequency of occurrence required for vocabulary learning through listening.

Pigada and Schmitt's (2006) study supported the findings of Brown et al. and Vidal regarding the comparative importance of reading for vocabulary learning. Yet, Suggate, Lenhard, Neudecker, and Schneider's (2013) study of students in primary education in Germany found the exact opposite; greater vocabulary learning through listening than vocabulary learning through reading. Conflicting results suggest there might be problems with separately measuring these two modes. Laufer (2003) has cautioned that some of the observed vocabulary learning through reading in classroom settings might better be attributed to vocabulary learning through listening as a part of classroom tasks.

## **6. Conclusion**

Both similarities and differences between vocabulary learning through listening and vocabulary learning through reading exist. While fundamentally similar in terms of the way the brain processes words, vocabulary learning through listening can be distinguished from vocabulary learning through reading. The balance of evidence suggests that compared to listening, reading leads to greater vocabulary learning, and requires fewer encounters with a word for vocabulary learning to occur. The evidence indicates that vocabulary learning through listening, on the other hand, supports improved retention compared to vocabulary learning through reading. I conclude that vocabulary learning through listening and vocabulary learning through reading employ similar cognitive processes but differ because a) vocabulary learning through reading is greater than vocabulary learning through listening, b) to develop recognition of a word one does not need to read it as many times as one needs to hear it, and c) the chance of forgetting a word once acquired by listening is lower than the chance of forgetting a word learned through reading. These conclusions appear to suggest that a bimodal combination of reading and listening in pedagogy might help the learner, since it might be reasoned that reading can support faster acquisition and listening can support retention. However, Brown et al. (2008) did not find a significant difference in vocabulary learning between reading and reading with concurrent listening.

Incidental vocabulary learning through reading has been the subject of considerable research. It is apparent that vocabulary learning through listening has not received the same research focus. Work to address the imbalance between studies of vocabulary learning through listening and vocabulary learning through reading offers the potential to make a fuller account of the similarities and differences between these two

modes of vocabulary learning.

### Bibliography

- Anderson, R. C., & Freebody, P. (1979). *Vocabulary knowledge (Tech. Rep. No. 136)*.
- Bornstein, M. H., & Haynes, O. M. (1998). Vocabulary competence in early childhood: Measurement, latent construct, and predictive validity. *Child Development, 69*(3), 654-671. <https://doi.org/10.1111/j.1467-8624.1998.tb06235.x>
- Brett, A., Rothlein, L., & Hurley, M. (1996). Vocabulary acquisition from listening to stories and explanations of target words. *The Elementary School Journal, 96*(4), 415-422. <https://doi.org/10.1086/461836>
- Brown, R., Waring, R., & Donkaewbua, S. (2008). Incidental vocabulary acquisition from reading, reading-while-listening, and listening to stories. *Reading in a Foreign Language, 20*(2), 136-163.
- Chapelle, C. (1998). Construct definition and validity inquiry in SLA research. In L. F. Bachman & A. D. Cohen (Eds.), *Interfaces between second language acquisition and language testing research* (pp. 32-70). Cambridge University Press. <https://doi.org/10.1017/CBO9781139524711.004>
- Daneman, M., & Carpenter, P. A. (1980). Individual differences in working memory and reading. *Journal of Verbal Learning and Verbal Behavior, 19*(4), 450-466. [https://doi.org/10.1016/S0022-5371\(80\)90312-6](https://doi.org/10.1016/S0022-5371(80)90312-6)
- Day, R., Omura, C., & Hiramatsu, M. (1991). Incidental EFL vocabulary learning and reading. *Reading in a Foreign Language, 7*(2), 541-551. <http://nflrc.hawaii.edu/Rfl/PastIssues/rfl72day.pdf>
- Elley, W. B. (1989). Vocabulary acquisition from listening to stories. *Reading Research Quarterly, 24*(2), 174-187. <https://ezproxy.bodleian.ox.ac.uk/login?url=http://www.jstor.org/stable/747863>
- Elley, W. B. (1991). Acquiring literacy in a second language: The effect of book-based programs. *Language Learning, 41*(3), 375-411. <https://doi.org/10.1111/j.1467-1770.1991.tb00611.x>
- Gass, S. (1999). Discussion: Incidental vocabulary learning. *Studies in Second Language Acquisition, 21*(2), 319-333. <https://www.cambridge.org/core/journals/studies-in-second-language-acquisition/article/discussion/EC8DD4C748601D98FC026E9532C2F9FF>
- Grabe, W., & Stoller, F. L. (1997). Reading and vocabulary development in a second language: A case study. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 98-122). Cambridge University Press.
- Hafiz, F. M., & Tudor, I. (1990). Graded readers as an input medium in L2 learning. *System, 18*(1), 31-42. [https://doi.org/10.1016/0346-251X\(90\)90026-2](https://doi.org/10.1016/0346-251X(90)90026-2)
- Jenkins, J. R., Stein, M. L., & Wysocki, K. (1984). Learning vocabulary through reading. *American Educational Research Journal, 21*(4), 767-787. <https://doi.org/10.2307/1163000>
- Kintsch, W., & Kozminsky, E. (1977). Summarizing stories after reading and listening. *Journal of Educational Psychology, 69*(5), 491-499. <https://doi.org/10.1037/0022-0663.69.5.491>
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? Some empirical evidence. *Canadian Modern Language Review, 59*(4), 567-587. <https://doi.org/10.3138/cmlr.59.4.567>

- Vocabulary learning through listening and vocabulary learning through reading Some similarities and differences (Lee H. Alexander)
- Miller, G. A., & Gildea, P. M. (1987). How children learn words. *Scientific American*, 257, 94-99.
- Nagy, W. E., & Herman, P. A. (1987). Depth and breadth of vocabulary knowledge: Implications for acquisition and instruction. In M. G. McKeown & M. E. Curtis (Eds.), *The nature of vocabulary acquisition*. Erlbaum.
- Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research. *RELC Journal*, 13(1), 14-36. <https://doi.org/10.1177/003368828201300102>
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139524759.004>
- Ouellette, G. P. (2006). What's meaning got to do with it: The role of vocabulary in word reading and reading comprehension. *Journal of Educational Psychology*, 98(3), 554-566. <https://doi.org/10.1037/0022-0663.98.3.554>
- Paribakht, T. S., & Wesche, M. B. (1993). Reading comprehension and second language development in a comprehension-based ESL programme. *TESL Canada*, 11, 9-27. <https://doi.org/10.18806/tesl.v11i1.623>
- Penno, J. F., Wilkinson, I. A. G., & Moore, D. W. (2002). Vocabulary acquisition from teacher explanation and repeated listening to stories: Do they overcome the Matthew effect? *Journal of Educational Psychology*, 94(1), 23-33. <https://doi.org/10.1037/0022-0663.94.1.23>
- Pigada, M., & Schmitt, N. (2006). Vocabulary acquisition from extensive reading: A case study. *Reading in a Foreign Language*, 18(1), 1-28. <https://doi.org/10.1613/jair.301>
- Pitts, M., White, H., & Krashen, S. D. (1989). Acquiring second language vocabulary through reading: A replication of the Clockwork Orange study using second language acquirers. *Reading in a Foreign Language*, 5(2), 271-275.
- Qian, D. D. (1998). *Depth of vocabulary knowledge: Assessing its role in adults' reading comprehension in English as a second language (Doctoral dissertation)*. University of Toronto.
- Qian, D. D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension. *Canadian Modern Language Review*, 56(2), 282-308. <https://doi.org/10.3138/cmlr.56.2.282>
- Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language Learning*, 52(3), 513-536. <https://doi.org/10.1111/1467-9922.00193>
- Robbins, C., & Ehri, L. C. (1994). Reading storybooks to kindergartners helps them learn new vocabulary words. *Journal of Educational Psychology*, 86(1), 54-64.
- Sénéchal, M., & Cornell, E. H. (1993). Vocabulary acquisition through shared reading experiences. *Reading Research Quarterly*, 28(4), 360-374.
- Suggate, S. P., Lenhard, W., Neudecker, E., & Schneider, W. (2013). Incidental vocabulary acquisition from stories: Second and fourth graders learn more from listening than reading. *First Language*, 33(6), 551-571. <https://doi.org/10.1177/0142723713503144>
- Treffers-Daller, J., & Milton, J. (2013). Vocabulary size revisited: The link between vocabulary size

- and academic achievement. *Applied Linguistics Review*, 4(3), 151-172. <https://doi.org/10.1515/applirev-2013-0007>
- van Zeeland, H., & Schmitt, N. (2013). Incidental vocabulary acquisition through L2 listening: A dimensions approach. *System*, 41(3), 609-624. <https://doi.org/10.1016/j.system.2013.07.012>
- Vidal, K. (2003). Academic listening: A source of vocabulary acquisition? *Applied Linguistics*, 24(1), 56-89. <https://doi.org/10.1093/applin/24.1.56>
- Vidal, K. (2011). A comparison of the effects of reading and listening on incidental vocabulary acquisition. *Language Learning*, 61(1), 219-258. <https://doi.org/10.1111/j.1467-9922.2010.00593.x>
- Walker, D., Greenwood, C., Hart, B., & Carta, J. (1994). Prediction of school outcomes based on early language production and socioeconomic factors. *Child Development*, 65(2), 606-621. <https://doi.org/10.1111/j.1467-8624.1994.tb00771.x>
- Walker, L. (1976). Comprehending writing and spontaneous speech. *Reading Research Quarterly*, 11, 144-167.
- Waring, R., & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, 15, 130-163. <http://nflrc.hawaii.edu/rfl/October2003/waring/waring.html>
- Werner, H., & Kaplan, E. (1950). The acquisition of word meanings: A developmental study. *Monographs of the Society for Research in Child Development*, 15(1), 3-12. <https://doi.org/10.2307/1165550>
- Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? An empirical study. *TESOL Quarterly*, 31(1), 121. <https://doi.org/10.2307/3587978>