การศึกษาระดับปัจเจกชนกับผลกระทบของความรู้ด้านคำศัพท์ที่ยังไม่ได้รับการเรียนรู้อย่างสมบูรณ์ก่อนการเรียนรู้คำศัพท์จากการฟัง

Case Study of the Effects of Previous Partial Word Knowledge on Vocabulary Learning through Listening

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บทความนี้รายงานการศึกษาระดับปัจเจกชนกับผลกระทบของความรู้ด้านคำศัพท์ที่ยังไม่ได้รับการเรียนรู้อย่างสมบูรณ์ก่อนการเรียนรู้คำศัพท์จากการฟัง การฟังช่วยให้ผู้เรียนภาษาเพิ่มศักยภาพในความรู้ด้านคำศัพท์ของตน หากแต่มีงานวิจัยเพื่อศึกษาการเรียนรู้คำศัพท์จากการฟังอย่างไร และเรียนรู้ได้ดีเพียงใดน้อยมาก งานวิจัยชิ้นนี้มุ่งมั่นที่จะศึกษาในประเด็นดังกล่าว โดยเน้นศึกษาการเรียนรู้ในระดับปัจเจกชนด้วยการใช้แบบทดสอบที่ไวต่อการเปลี่ยนแปลงของระดับความรู้ด้านคำศัพท์ แบบทดสอบนี้ได้รับการออกแบบเพื่อติดตามการเปลี่ยนแปลงของระดับความรู้ด้านคำศัพท์แม้จะเป็นเพียงในปริมาณที่เล็กน้อยก็ตาม การที่ต้องใช้แบบทดสอบนี้เนื่องจากงานวิจัยที่ผ่านมาได้แสดงให้เห็นว่าการเรียนรู้คำศัพท์แบบผลข้างเคียงจากการอ่านมีน้อย เพราะฉะนั้นการเรียนรู้คำศัพท์จากการฟังน่าที่จะมีปริมาณที่น้อยกว่าเนื่องจากธรรมชาติของสื่อการฟังไม่สามารถนำเสนอย้อนหลังได้โดยธรรมชาติ แบบทดสอบนี้ประกอบด้วยแบบทดสอบย่อยอื่นๆ อีกหลายแบบทดสอบ เนื่องจากแบบทดสอบแต่ละแบบติดตามการเปลี่ยนแปลงของความรู้ด้านคำศัพท์ได้ต่างกัน ด้วยการนำคะแนนของแต่ละแบบทดสอบมารวมกันทำให้สามารถวัดผลได้ว่าเกิดการเรียนรู้ได้ดีเพียงใดโดยดูความสัมพันธ์กับคะแนนของคำอื่นๆ จากผลการวิจัยทำให้เห็นว่าการวัดผลความรู้ด้านคำศัพท์ที่ยังไม่สมบูรณ์ด้วยการทดสอบประเภทนี้เป็นไปได้

คำสำคัญ : การฟัง แบบทดสอบที่ไวต่อการเปลี่ยนแปลงของระดับความรู้ด้านคำศัพท์ คำศัพท์ที่ยังไม่ได้รับการเรียนรู้อย่างสมบูรณ์ก่อนการเรียนรู้คำศัพท์

ABSTRACT

This article presents a case study effect of previous partial word knowledge of vocabulary learning through listening. Listening certainly assists language learners to increase their vocabulary. Not much research has been conducted to indicate how vocabulary is learnt through listening and how well it is learnt. This study sought to observe individual progress through the use of minor variation tests. The minor variation tests are designed to follow up the changes to small amounts of word knowledge. The reasons for using the minor variation tests was a result of previous research which indicated incidental

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gains less in vocabulary from reading. Thus, vocabulary learning through listening is likely to be even smaller due to the transitory nature of listening input. Several minor variation tests were used in a variety of ways because different tests had demonstrated different strengths of knowledge. By adding the scores together, it was possible to measure how well a vocabulary was known in relation to other vocabulary. It was found that it was possible to measure partial word knowledge through the use of minor variation tests.

Keywords : listening, minor variation tests, previous partial word knowledge

Introduction

The present study will look at vocabulary learning from listening to a story while examining the effects of previous partial word knowledge on vocabulary learning. Although vocabulary gains from listening are likely to be small, they can include the initial learning of new words as well as the accumulating growth of partially known words. Partial understanding of a word has the potential for developing into precise understanding of that same word (Haastrup and Henriksen, 1998). This study will try to examine both of these kinds of growth. Because the gains of vocabulary knowledge from listening are likely to be small, very sensitive test formats that can detect small vocabulary gains will need to be used. In order to measure as thoroughly as possible any small increment of knowledge that may occur, a series of sensitive tests will be used. These tests will be tried out first in a number of pilot studies to ensure that a good range of effective test formats will eventually be chosen for the main study.

1. What is partial word knowledge?

Twaddell (1973) suggests that we may know a very large number of words but with various degrees of knowledge, ranging from words which are in the darkness of being entirely unknown, to 'the twilight zone,' to the brightness of being completely known. Henriksen and Haastrup (1998) also believe that there are phases in the acquisition of precise knowledge of a word. This means that for each aspect of knowledge of a word, there are different strengths of knowledge. For example, the written form of a word may be known only receptively and may be easily confused with words of a similar form. On the other hand, the written form may be known very well both receptively and productively. Similarly, knowledge of the concept or meaning of a word may be located at one of many points on a scale of knowledge.Nagy, Herman and Anderson (1985) showed that by using tests that give credit for partial knowledge when test takers get some of the meaning of the word correct, higher rates of vocabulary learning would be shown. This suggests that most words are not learnt all at once when they are met in context, knowledge of them grows in small increments. Since vocabulary learning is a cumulative process where a language learner strengthens an increasing amount of knowledge through repeated word encounters over a period of time (Waring and Nation, 2004), there are several stages where some aspects of knowledge are not strongly established or where a word can neither be classified as precisely known or completely unknown. This is called *partial word*

knowledge. For example, the learner knows something of the word form but does not know the meaning. In another case, the learner knows the form and meaning but does not know how to use the word. Studies attempting to give credit for degrees of word knowledge which fall between these states of known and unknown acknowledge the fact that these small amounts of knowledge have the potential to develop into a precise understanding of the word (Meara, 1990; Nation 1990; Richards, 1976; Shore and Durso, 1990; Wesche and Paribakht 1993).

2. How can partial word knowledge be measured?

Since Nagy, Herman and Anderson's (1985) study, there has been a growth in studies measuring a single aspect of vocabulary knowledge with multiple tests to account for the strength of how well that aspect is known. Among the studies that have shown that multiple tests of a single aspect of word knowledge can discriminate between learners with partial knowledge and those with more precise knowledge, Paribakht and Wesche (1993, 1996 and 1999) and Joe's study (1998) are of particular importance. Paribakht and Wesche (1993, 1996 and 1999) used a sensitive test to tap small increments of vocabulary knowledge. They devised the self-report Vocabulary Knowledge Scale (VKS) which required evidence of word knowledge at various levels. The basic idea of the scale is to measure progress of word knowledge through different degrees of strength. The scale measures only receptive knowledge but provides a scale on which the strength of receptive knowledge of meaning is measured.Joe (1994 and 1998) also used sensitive tests. In addition to a self-report interview adapted from the VKS, Joe used two versions of multiple choice tests, a sensitive version and a difficult version based on Nagy, Herman and Anderson (1985). Joe added the results of the three tests together to get a strength measure for each word for each individual learner. The combining of the scores thus allowed this relationship to be shown. Thus, an important strategy in measuring partial knowledge is the use of several tests of the same word. Adding the results of these tests allows researchers to distinguish different strengths of knowledge.

3. Measuring partial knowledge in the present study

In the present study, we will look at two aspects of word knowledge in order to measure the growth of vocabulary learning through listening. These two aspects are (1) recognizing the spoken form and (2) attaching a meaning to the spoken form.We will look only at the formats used to measure receptive knowledge. To be able to measure such learning, a series of sensitive tests was created to measure partial word knowledge gained from listening. Eight tests were piloted for this study. They had to represent a range of levels of difficulty and had to focus on the learning of the forms of the tested words and the meanings of the words. The eight different test formats from the easiest to the most difficult were as follows; 1. Recognition test, 2. Forced choice: Formal similarity test, 3. Forced choice: Semantic similarity test, 4. Forced choice: Sentence selection test, 5. Interview based on the VKS, 6. Multiple choice: Sensitive version, 7. Multiple choice: Difficult version and 8. Translation with context test.

4. What are sensitive tests and why are sensitive tests needed?

Sensitive tests are tests designed to capture small amounts of word knowledge. The sensitive tests are often part of a series of tests because different tests capture different strengths of knowledge. Measurement of incidental vocabulary learning can be undermined by the difficulty of the tests used to assess word knowledge. Unfortunately, researchers often choose to test in such a way that requires a full level of knowledge in order to answer correctly. Such an approach inevitably underestimates the amount of learning. The amount of knowledge from learning may be small but if appropriate tests are used, this knowledge can be shown. Studies of incidental vocabulary learning thus need to use a series of tests of different levels of difficulty to present a more accurate description of gain. There is no one best test. The tests need to be viewed interdependently to reveal as much information as possible.

Research methodology

1. Overview

In this research, sixty-six words were selected from the graded reading text, *Rain Man*. There is a tape that accompanies the text. According to the Penguin Readers, the text is at level 3: Pre-Intermediate (1200 words). Only the first two chapters of the story which consist of 1811 running words, and take 15 minutes of tape running time were used as these provided enough material for the number of words needed. There is a 6.7% coverage rate of the 1811 running words (tokens), leaving 1745 words that are presumably known to the participants taking part in this study. This gives a 93.3% coverage rate. Logically, as the participants listened to the tape, the repeated running words including the test items would be recognized and learned as they listened. This makes the coverage rate higher as they progress through the listening intervention. Furthermore, some of the items would be partially known, making the actual coverage rate even higher from the coverage figure. Having 66 test items ensured that there would be a reasonably large amount of data to work with and would also allow for some learners already knowing some of the words. The participants took the Vocabulary Levels Test (Schmitt, Schmitt and Clapham, 2001), the pre-tests, listened to the tape and were tested on their recall of the words with immediate post-tests and one-month-delayed-tests. The pre-tests, immediate post-tests and one-month-delayed-tests were all the same tests. There were three tests used in each administration, which were the recognition test, the forced choice test and the interview test for the single-person studies.

2. Pilot studies

Essentially, the pilot studies involved measuring vocabulary knowledge before and after the listening intervention in order to find out about the gains in knowledge of the target words. Each word was measured with several tests. The scores on those tests were summed to provide a scale of how well a word is known. Scores from different tests can be added up as long as they combine a single unit, which in this study, is the unit of word knowledge (Ackroyd and Hughes, 1992). The pilot studies were conducted also to see how smoothly the processwent in terms of how long each test

and the whole series took, the clarity of the instructions, and whether the scoring system would work in practice. With this information, adjustments could be made to make sure the main study would go smoothly. The first pilot study used as many testing formats as possible in order to find a range of formats with different degrees of sensitivity in measuring partial knowledge of a word. The order of the tests listed below is the order in which the tests were given. This order prevented previous tests from giving away answers to the rest of the tests in the series. All the pilot studies have a similar design and build upon the findings of the previous pilot studies.

3. Single-person studies

Six second language learners were the participants in this part of the research. All the participants volunteered to take part. Their individual information is presented in Table 2.

The following three tests were used in the single-person studies. In this series of sensitive tests, the tests were given in the following order. It was decided to weight the scoring according to the difficulty of the tests as shown below. This weighted scoring system gives more credit for more substantial knowledge.

1. Recognition test x 1 (full score is 66)
2. Forced choice: Sentence selection test x 2 (full score is 132)
3. Interview based on VKS x 3 (full score is 198) Total 396

The pre- and post-tests were exactly the same tests so it is possible to measure gain scores by taking the pre-test scores away from the post-test scores. It took two hours per participant to sit the tests and listen to the text.

Table 1: The summary of all three pilotings

Pilot 1: 1 Chinese participant in New Zealand: listen 3 times: 66 words: 4 hours	
Four pre-tests	Seven post-tests
1. Interview based on VKS	1. Recognition test
2. Translation with context test	2. Forced choice: Formal similarity test
3. Multiple choice: Sensitive version	3. Forced choice: Semantic similarity test
4. Multiple choice: Difficult version	4. Interview based on VKS
	5. Translation with context test
	6. Multiple choice: Sensitive version
	7. Multiple choice: Difficult version
Pilot 2: 1 Thai participant in Thailand: listen 3 times: 50 words: 2.30 hours	
Four pre-tests	Four post-tests
1. Recognition test (Recognition + Formal similarity + Semantic similarity)	1. Recognition test (Recognition + Formal similarity + Semantic similarity)
2. Interview based on VKS	2. Interview based on VKS
3. Translation with context test	3. Translation with context test
4. Multiple choice: Sensitive version	4. Multiple choice: Sensitive version

Pilot 3: 1 Thai participant in Thailand: listen 2 times: 50 words: 2 hours	
Two pre-tests	Four post-tests
1. Interview based on VKS	1. Recognition test
2. Translation with context test	(Recognition + Formal similarity)
	2. Forced choice: Sentence selection test
	3. Interview based on VKS
	4. Translation with context test

Table 2: Background information on the six participants

Name	**Gender**	**Age**	**Nationality**	**Education Background**	**Test conducted in:**
Rachi	female	11	Cambodian	High school	New Zealand
Xeo	female	20	Malaysian	Undergraduate	New Zealand
Rosy	female	18	Pilipino	Undergraduate	New Zealand
Sou	female	35	Korean	Postgraduate	New Zealand
Cia	female	24	Chinese	Undergraduate	New Zealand
Non	male	22	Thai	Undergraduate	Thailand

Note: These are pseudonyms.

The results and implications of the results

Using the results of the pre-tests, it is possible to classify the target words into those that were initially well known, partially known or unknown for each individual learner. The unknown words are those that which were given a zero score in the pre-tests. The unweighted gains from unknown words can be of several sizes, namely from 0 to 1, 0 to 2, and 0 to 3. Using the results of the pre-tests, it is also possible to classify the target words into those that were partially known for each individual learner. The partially known vocabulary is that which was given a score of one or two out of three in the pre-tests. The gains from partially known vocabulary can be of three sizes, namely from 1 to 2, 1 to 3, and 2 to 3. The detailed knowledge movement for the unknown and partially known vocabulary of the pre-test and the post-test gains for the single-person studies is presented in Table 3.

Pre-test to post-test increases can occur in six possible combinations and these are listed in column 1 of Table 3. The increases in the right-hand columns of Table 3 are counted by tallying how many words were enhanced by the listening intervention in order to find out if it had an effect on vocabulary knowledge. In the single-person studies from Table 3, it was found that greater learning occurred for partially known words than for previously unknown words. It can be said that previously partially known words have a lot of potential of developing in terms of learning vocabulary from listening. The implications of these results are discussed in more detail in the following section.

1. Did baseline vocabulary knowledge (as measured by the Levels Test) affect vocabulary gains through listening?

The question of whether there is a relationship between prior vocabulary knowledge and the ability to learn new vocabulary has been investigated partly in the hope of predicting the outcome of learning, in terms of both new vocabulary and comprehension. Studies such as Chall, 1987; Laufer, 1989; Laufer, 1992; Laufer and Sim, 1985; Stahl, 1990; among others, found that learners with a larger vocabulary will learn new words faster or will learn more of the words they meet than learners with smaller vocabulary knowledge. Zahar, Cobb and Spada (2001) found that learners with a larger vocabulary seem to be able to acquire new words through fewer encounters than learners with a smaller vocabulary. Table 4 presents the six single-person study learners listed in rank order from first to sixth according to their scores on the Vocabulary Levels Test. Their gain scores are presented ranked from first to sixth, allowing for comparison of the vocabulary knowledge ranking (from the Vocabulary Levels Test) with the learning gains ranking. As the table shows, there is no apparent relationship between the ranking on the Vocabulary Levels Test and the ranking of the gain scores. A lack of correspondence is seen across the six learners in that a higher proficiency did not make a measurable difference in capacity to learn from the listening intervention. This may be because the six learners all did reasonably well on the Vocabulary Levels Test and a greater range of proficiency may be needed to show a learning difference.

Table 3: The comparison of the total increases for previously unknown words and previous partially known words for the single-person study group

Increase for unknown words	Rachi	Xeo	Rosy	Sou	Cia	Non	TOTAL
pre ---> post							
0 ---> 1	2	0	0	0	0	0	2
0 ---> 2	0	6	0	2	0	1	9
0 ---> 3	2	1	0	0	0	0	3
TOTAL	4	7	0	2	0	1	14
Increase for partially known words							
pre ---> post							
1 ---> 2	2	1	1	3	1	1	9
1 ---> 3	1	0	0	0	0	0	1
2 ---> 3	4	2	6	2	2	5	21
TOTAL	7	3	7	5	3	6	31

n=6

Table 4: The ranking and (the raw scores) for the six single-person studies

Aspects of analysis	Xeo	Cia	Sou	Rosy	Rachi	Non
The Levels Test (out of 90)	1st (83)	2nd (81)	3rd (77)	4th (75)	5th (63)	6th (50)
The combined scores of the three tests:						
- Pre-test overall score (out of 396)	(309)	(333)	(305)	(325)	(311)	(334)
- Post-test overall score (out of 396)	(345)	(352)	(341)	(358)	(348)	(357)
Gain scores (post-test gains out of 396)	2nd = (36)	6th (19)	2nd = (36)	4th (33)	1st (37)	5th (23)

n = 6

2. Unknown and partially known words

Because of the cumulative nature of vocabulary learning, there is much more opportunity to make gains with partially known words. This is because almost every word will have to be met several times before it is likely to be well-known, whereas unknown words are likely to require only one or two meetings before they become partially known. Thus, partially known words are a crucial difficult step in learning a word and thus deserve more attention than the gradual strengthening of the form-meaning connection and other aspects of knowing a word. This study has shown that there can be small amounts of vocabulary learning from listening. This learning is enhanced if the text is repeated, but even with this repetition, there need to be meetings with the words again reasonably soon if the small gains are to remain and possibly be strengthened. Gains can occur with the previously unknown words and the words that are already partially known. If appropriate texts are chosen for input, it is likely that most gains will occur for words already partially known because these are likely to outnumber completely unknown words. It is clear from the study, that studies that look only at gains on completely unknown words are underestimating the vocabulary learning that can occur from listening. A much richer picture of learning from input is gained if studies look at both previously unknown and previously partially known words. In order to measure the small gains from listening, it is essential to use tests that give credit for partial knowledge, because for most words the gains will be small. It is not easy to isolate the conditions that affect vocabulary learning in context because each word can differ on a wide range of factors. These include features of the word itself (its form, its similarity to L1 words, its pronunceability), the context in which it occurs in the input (availability of clues, salience in the text, repetition and nature of the repetition within the text), and learner factors (level of proficiency, motivation).

Conclusion

What this study shows is that it is possible to design studies to measure gains on both previously unknown and previously partially known words in listening. This requires careful checking of both the text and participants vocabulary knowledge. More studies are needed which examine developing these kinds of knowledge in both spoken and written texts.

Vocabulary learning from listening has to be seen in the wider context of a well-balanced course. Listening input is just one form of input. Reading is another. There also needs to be opportunity for high-frequency words learned from input to be enriched from use in spoken and written output and in activities that focus on fluency development (Nation, 2007). Deliberate teaching and learning is also part of this bigger picture. It is hoped that this study has made a contribution to this bigger picture.

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