Effective vocabulary learning tasks: Involvement Load Hypothesis versus Technique Feature Analysis

Hsueh-chao Marcella Hu a, *, Hossein Nassaji 1

a Department of Applied English, The Overseas Chinese University, 100 Chiao Kwang Road, Taichung 407, Taiwan, ROC
b Department of Linguistics, University of Victoria, PO Box 1700, Victoria, BC V8W 2Y2, Canada

ARTICLE INFO
Article history:
Received 5 March 2015
Received in revised form 5 November 2015
Accepted 9 November 2015
Available online 17 December 2015

Keywords:
Involvement Load Hypothesis
Technique Feature Analysis
Depth of processing
Elaboration
Vocabulary learning
Task-based learning
Predictive power

ABSTRACT
L2 vocabulary learning is a complex process involving not only understanding the meanings of words but also being able to retain, retrieve, and use them in production. To this end, learners need not only to pay deliberate attention to the target words but also have to deeply process the various aspects of the words to learn them effectively. This has been referred to as “elaborate processing.” Two frameworks have been proposed to operationalize the construct of elaborate processing for L2 vocabulary learning: Involvement Load Hypothesis (ILH) and Technique Feature Analysis (TFA). However, the two frameworks vary in the ways they conceptualize elaborate learning and also in terms of their attentional components. The present study was designed to empirically compare these two frameworks and their predictability for effective L2 vocabulary learning tasks. Ninety-six adult EFL learners were divided into four groups, and were required to learn the meanings of 14 unknown words. Each group performed one of four vocabulary tasks ranked differently by the two frameworks. The results showed that the TFA had a better explanatory power in predicting vocabulary learning gains than the ILH. The implications of the findings for designing effective L2 vocabulary tasks will be discussed.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

The importance of vocabulary for L2 acquisition cannot be disputed. Many studies have shown that vocabulary is an important predictor of both reading comprehension and L2 development (Nation, 2001; Pulido, 2007, 2009). However, how vocabulary is learned or what processes are involved has been the focus of much theoretical discussion (Laufer & Hulstijn, 2001; Nation & Webb, 2011). One debate has been regarding the distinction between incidental versus intentional learning. Incidental vocabulary learning is often defined as learning vocabulary with no deliberate intention or when learners’ attention is on learning something else whereas intentional vocabulary learning refers to learning with conscious intention and awareness (Laufer, 2001). L1 learners acquire most of their vocabulary incidentally (Nagy, Anderson, & Herman, 1987; Nagy, Herman, & Anderson, 1985; Nagy & Herman, 1987; Sternberg, 1987). However, there have been uncertainties about the extent to which incidental learning contributes to L2 acquisition. L1 learners encounter words frequently in a variety of contexts and this extensive exposure helps them acquire the words effectively. Such exposure opportunities do not exist for...
L2 learners. L2 learners, in particular those with low to intermediate levels, may be unable to benefit from incidental learning in the same way as L1 learners do (Hu & Nassaji, 2012; Hulstijn & Laufer, 2001; Laufer, 2005; Nassaji, 2003, 2004; Nassaji & Hu, 2012; Schmidt, 2001), and as a result they need opportunities for both incidental and intentional learning. In this respect, a number of L2 researchers have also argued that L2 learners need not only to pay deliberate attention to the target word but also deeply process its different aspects in order to learn them effectively (Hu & Nassaji, 2012; Hulstijn & Laufer, 2001; Laufer, 2005; Nassaji, 2003, 2004; Nassaji & Hu, 2012; Schmidt, 2001). This is what has been referred to as “elaborate processing”, and has been emphasized to be essential for L2 vocabulary learning (Ellis, 1994; Hulstijn & Laufer, 2001; Laufer, 2005, 2006; Laufer & Hulstijn, 2001; Pulido, 2009; Schmidt, 2001).

The concept of elaborate processing was originally introduced by Craik and Lockhart (1972, 1975) in their “depth of processing” model. The depth of processing model suggests that the degree to which new information is retained and stored in long-term memory depends on how the information is processed. In this model, elaboration is the key to learning and retention of vocabulary. In their revised version, Lockhart and Craik (1990) further expanded those ideas by highlighting at least two stages for effective learning: an input analysis stage whereby sensory features, such as orthographic and phonological features of word forms, are analyzed, and a retrieval stage in which semantic and conceptual features are retrieved with deeper analysis (Eckerth & Tavakoli, 2012). In this model, not only initial attention, noticing and processing of words are essential, but also their subsequent retrieval and consolidation of the semantic encoding of the word features in memory is also critical for learning.

The present study was designed to examine and compare the predictions yielded by two frameworks that have attempted to operationalize the construct of elaborate processing for L2 vocabulary learning: Involvement Load Hypothesis (Laufer & Hulstijn, 2001) and Technique Feature Analysis (Nation & Webb, 2011). The aim was to find out which of the two frameworks provided a greater explanatory power in predicting the effectiveness of different vocabulary learning tasks.

2. Literature review

A number of studies on L2 vocabulary acquisition have highlighted the importance of lexical elaboration (Pulido, 2007, 2009; Rott, 2007; Schmidt, 2001). However, an important issue has been how to operationalize depth of processing. As just noted, in the context of L2 vocabulary learning, there are currently two theoretical frameworks that have attempted to operationalize and measure depth of processing: The Involvement Load Hypothesis and the Technique Feature Analysis. These two frameworks differ in the way they conceptualize depth of processing and in the parameters they propose for elaborate learning. These differences lead to varying weights given to different attentional components, resulting in variations in prediction about what vocabulary tasks or activities are more effective in L2 learning (Nation & Webb, 2011). In what follows, we will describe the two frameworks.

2.1. The Involvement Load Hypothesis

The Involvement Load Hypothesis (ILH) conceptualizes depth of processing and elaborate learning in terms of three major task components: need, search, and evaluation (Laufer & Hulstijn, 2001). Each of the three components is suggested to vary in terms of its strength. ‘Need’, for example, is hypothesized to be either moderate or strong. Need is considered to be moderate if it is externally imposed by the teacher (e.g., The teacher wants the learner to find the meaning of a word). However, need is strong when it is intrinsically motivated or self-imposed by the learners (e.g., the need to look up the meaning of a word in a dictionary when reading a text). There is no need for search if the meanings are provided in the margins. Search can be either moderate or strong depending on whether it is receptive retrieval or productive retrieval (Nation & Webb, 2011). Search is moderate if the learner has to look for or retrieve the meaning of a word, and it is strong if the learner needs to find the word form. As for evaluation, it is moderate if the learner needs to compare the specific meaning of a word with other meanings. Evaluation is strong if there is a need to assess whether a word meaning fits a specific linguistic context. The ILH suggests that the degree to which a vocabulary task helps L2 learners acquire new target words depends on how much the task promotes each of the above involvement load components. It predicts that the greater the involvement load in a given task, the better vocabulary learning and retention.

Laufer and Hulstijn (2001) provided the following examples of two tasks and how they differ in terms of their involvement load. One task is when the learner is required to create sentences with a series of new words whose meanings are given by the teacher. They argued that this task induces no search because the meanings are provided. However, it induces a moderate need and a strong evaluation because the learner needs to evaluate the suitability of the words in context. In terms of the overall involvement load, they hypothesized that the task has an involvement index of 3 \( [1 \times \text{need} + 1 \times \text{search} + 2 \times \text{evaluation}] \). The second task is when the learner is required to read a text and answer comprehension questions with the meaning of the words being provided in the margins. Here the task involves neither evaluation nor search but a moderate need because the learner needs to look at the glosses. This task, they argued, has an overall involvement index of 1 \( [0 \times \text{search} + 1 \times \text{need} + 0 \times \text{evaluation}] \). According to the researchers, Task One would be more effective for vocabulary learning than Task Two.

A number of recent studies have examined the efficacy of ILH and have found some evidence for its predictive power (Hulstijn & Laufer, 2001; Keating, 2008; Kim, 2008; Nassaji & Hu, 2012; Peters, Hulstijn, Sercu, & Lutjeharms, 2009; Rott, 2007). One of the initial studies is by Hulstijn and Laufer (2001), which examined the effects of involvement load on the retention of ten English words by young adult ESL learners. To this end, they designed an experimental study with three tasks