Understanding the Use of Low Frequency Words through Animated Videos in Working Memory: *Cloudy with a Chance of Meatballs*

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In this study, the main aim is to explore the use of low frequency words in five selected animations to find out their roles in learning and teaching vocabulary. The preliminary hypothesis is that less frequent words might be rather difficult for second language learners. To produce and analyze corpus-based data, an NLP (Natural Language Processing) tool was used throughout the study. This study suggests that in each animation, there are a great number of recommended words for second language learners among low frequency words, especially for primary and secondary students. This means that according to different thematic roles in the context, both high frequency words and low frequency words are mixed and used regardless of the difficulty level of the words. Therefore, it is not desirable only to focus on high frequency words in teaching and learning words. In addition, it seems that those less frequent words appear to be repeated and practiced based on the conception of a working memory, proceeding unknown words by using visual-sketch pad and audio support from the animations. It is possible to notice that by enhancing the visual and phonological effects of movies, learners are able to be familiar with those less frequent words.

I. INTRODUCTION

It can be said that learning a second language is being familiar with more frequently used words used in various contexts. Understanding how a variety of words are actually selected and used can be one of the most important factors in mastering a language. In fact, native speakers have a tendency to utilize more frequent words rather than selecting technical words in their speech. In addition, it would be beneficial for learners to be
aware of the system on how lexical items are applied in both written and spoken form. For this reason, bringing corpus into teaching and learning vocabulary has become common, especially in word frequency based teaching, focusing on the distinction between more frequent and less frequent words in contexts (Schmitt, 2000).

However, according to Gardner (2008), frequency is not the only factor to be considered in terms of selecting words for teaching and learning vocabulary. Frequency can only be used within a specific theme or a particular genre. In this sense, considering other factors might be advisable in terms of selecting words to teach and learn in various contexts. They could be the careful evaluation of less frequent words, paying more attention to technical words, and other lexical items; collocations and other lexical patterns (Fan, 2009; Schmitt, 2000).

With regard to the use of multimedia such as movies, in learning vocabulary, several studies have shown a positive impact of expanding learners’ vocabulary competence by linking visual images to sound and text-based context, translation of unfamiliar words from the subtitles, and using visual pictures (Al-Seghayer, 2001; Laufer & Hill, 2000; Laufer & Kimmel, 1997). By being exposed to a combination of visual and audio images from authentic materials, learners become familiar with the target language more effectively and successfully and with a higher motivation by having second-hand experiences of real life situations (Berardo, 2006; Nuttall, 1996). Therefore, understanding the process of learning might be useful to maximize learners’ language competence by utilizing learners’ new input and previous relevant background information through visual and audio stimuli with more critical thinking (Pincas, 1996).

The current study seeks to find the following two research questions:
1) What are the general frequency patterns of words in five selected animations? What are the noticeable features of less frequent words?
2) What are the ways to be familiar with less frequent words in using the working memory?

II. THEORETICAL BACKGROUNDS

1. Corpus-based Vocabulary Learning through Movies

With the development of computer technology, corpus-based language teaching and learning has been widely adopted since the 1990s to make it possible to see a collection of lexical items or texts from the corpus data (Kaplan & Grabe, 2002). Also, a list of the most frequently used words can be recognized from either spoken or written formats of text. By understanding the usage of vocabulary, we can notice the rules or patterns of