THE PATTERNS OF SEMANTIC MAPPING DEVELOPMENT OF ENGLISH VERBS ACQUIRED BY INDONESIAN EFL LEARNERS

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by

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LIST OF ABBREVIATION

121   : The nominal score 1 is converted to 1 or inaccurate semantic mapping with high level of mapping confidence

221   : The nominal score 2 is converted to 1 or inaccurate semantic mapping with low level of mapping confidence

3201   : The nominal scores 3 and 0 are converted to 1 or no knowledge of the tested set of semantic features

421   : The nominal score 4 is converted to 1 or accurate semantic mapping with low level of mapping confidence

521   : The nominal score 5 is converted to 1 or accurate semantic mapping with high level of mapping confidence

AG   : Advanced group of Indonesian EFL learners

FTRM   : Forward Translation Recognition Matrix

HG   : High intermediate group of Indonesian EFL learners

LG   : Low intermediate group of Indonesian EFL learners

OSMA   : Overall semantic mapping accuracy

SLEP   : Secondary Level English Proficiency

POLA PERKEMBANGAN PEMETAAN MAKNA KATA KERJA BAHASA INGGERIS DALAM PEMEROLEHAN BAHASA INGGERIS SEBAGAI BAHASA ASING PELAJAR INDONESIA

ABSTRAK

Kajian ini menyiasat pola perkembangan pemetaan makna kata kerja bahasa Inggeris yang diperoleh oleh pelajar bahasa Inggeris di Indonesia. Pelajar itu terdiri daripada tiga kumpulan dengan tahap kecekapan yang berbeza. Secara khusus, kajian ini bertujuan untuk: (1) mengetahui sama ada terdapat perbezaan yang signifikan atau tidak dalam ketepatan pemetaan makna kata antara tiga kumpulan tersebut, dan (2) menemukan pola perkembangan pemetaan makna kata kerja bahasa Inggeris yang diperoleh oleh pelajar Indonesia tersebut.

Kajian ini menggunakan reka bentuk keratan lintang. Kajian ini melibatkan seratus dua puluh orang pelajar universiti sebagai subjek. Subjek tersebut dibahagikan secara sama rata kepada tiga kumpulan, iaitu kumpulan dengan tahap kecekapan pertengahan rendah, kumpulan dengan tahap kecekapan pertengahan tinggi, dan kumpulan dengan tahap kecekapan maju. Data pemetaan makna kata diperoleh dengan menggunakan "matriks pengenalan terjemahan ke hadapan" yang direka bentuk khas untuk kajian ini.

Jawapan pelajar didasarkan kepada dua variabel, iaitu ketepatan pemetaan makna dan aras keyakinan pemetaan.

Kajian ini menggunakan beberapa teori sebagai asas bagi reka bentuk kajian dan dalam menjelaskan hasil-hasil kajian. Teori-teori tersebut ialah teori psikolinguistik tentang gambaran, perkembangan, dan pemrosesan leksikal, teori analisis komponen, teori analisis kontrastif, dan teori prototaip.

Hasil daripada analisis data menunjukkan bahawa: (1) dalam pemetaan makna kata didapati perbezaan yang signifikan antara ketiga-tiga kumpulan tersebut. Jumlah perbezaan yang didapati berbeza antara satu perkataan dengan perkataan yang lain dan antara satu kategori dengan kategori yang lain; (2) dengan meningkatnya tahap kecekapan, subjek mengetahui lebih banyak ciri makna. Sebahagian besar ciri makna tersebut dipetakan dengan betul manakala sebahagian yang lain dipetakan secara tidak tepat. Sebahagian ciri makna yang baharu sahaja diketahui dipetakan dengan tahap keyakinan pemetaan yang tinggi manakala sebahagian yang lain dipetakan dengan tahap keyakinan pemetaan yang rendah. Selain itu, sebahagian ciri makna yang telah dipetakan ternyata dipetakan semula. Proses pengstrukturan semula makna kata tersebut didapati meningkatkan secara signifikan mutu penjelasan makna kata di dalam leksikon pelajar.

Dapatan kajian tersebut menunjukkan bahawa: (1) proses pemerolehan perbendaharaan kata bahasa kedua atau asing melibatkan proses pengstrukturan semula makna secara berterusan; (2) keamatan proses

pengstrukturan semula makna berbeza antara satu perkataan dengan perkataan lain dan antara satu kategori pemetaan dengan kategori yang lain; (3) proses pengstrukturan semula makna cenderung menghasilkan kandungan dan batasan makna kata, tetapi proses peningkatan yang lebih terperinci kandungan makna kata adalah lambat; (4) walaupun ada proses pengstrukturan semula makna, makna kata bahasa kedua atau bahasa asing dijelaskan secara berkurang atau berlebih. Malah hal ini berlaku juga di kalangan pelajar dengan tahap kecekapan maju; dan (5) penjelasan makna yang berkurang atau berlebih itu berpunca daripada beberapa sebab yang berlainan. Berdasarkan hasil dapatan tersebut, suatu model gambaran makna kata bahasa kedua atau bahas asing dan laluan-laluan kemungkinan pengstrukturan semula makna kata dicadangkan.

Akhir sekali, kajian lebih lanjut dicadangkan untuk memperolehi kefahaman yang lebih menyeluruh tentang pola-pola perkembangan pemetaan makna. Juga dicadangkan supaya dihasilkan suatu panduan dalam merancang aktiviti pengajaran-pembelajaran yang dapat membantu pelajar-pelajar memperoleh lebih banyak kata dan meminimumkan penjelasan makna kata yang berkurang atau berlebih.

THE PATTERNS OF SEMANTIC MAPPING DEVELOPMENT OF ENGLISH VERBS ACQUIRED BY INDONESIAN EFL LEARNERS

ABSTRACT

This study investigated the patterns of semantic development of English verbs acquired by Indonesian EFL learners of three different proficiency levels. Specifically, the study aimed: (1) to find out whether there were significant differences in the semantic mapping accuracy of English verbs between the three proficiency groups; and (2) to discover the patterns of semantic mapping development of the English verbs acquired by the three proficiency groups.

The study adopted the cross-sectional design. It involved 120 subjects divided evenly among three different proficiency levels: low intermediate, high intermediate, and advanced. The data on semantic mapping were elicited using a forward translation recognition matrix designed particularly for this purpose. The subjects' responses were based on two variables: the accuracy of the semantic mapping and the level of mapping confidence.

A number of theories were adopted as the basis for research design and for explaining the results of the study. They include the psycholinguistic theory of lexical representation, development, and processing, componential analysis, contrastive analysis and prototype theory.

The results of the data analysis reveal that: (1) there were significant differences between the three different proficiency levels in the semantic mapping accuracy of English verbs and the number of significant differences varied from word to word and from category to category; (2) as proficiency level increased, L2 learners knew significantly more semantic features. The majority of the newly known features were mapped accurately, while the rest were inaccurately mapped. Some of the newly known features were mapped with high level of mapping confidence while some others were mapped with low level of mapping confidence. In addition, some of the already mapped features were further remapped. This process of semantic restructuring resulted in a significantly better representation of L2 word meanings in the learners' L2 lexicon.

The findings suggest that: (1) L2 vocabulary acquisition involves a continuous process of semantic restructuring; (2) the intensity of the restructuring process varies from word to word and from one semantic mapping category to another; (3) the restructuring process tends to result in more refined semantic contents and semantic boundaries of L2 words, but the refinement of the semantic content tends to be slow; (4) despite the semantic restructuring process, L2 word meanings are both under-represented and over-represented even at the advanced level; and (5) the under-representation and over-representation of word meanings result from a number different sources. Based on the results of the study, a model of representation of L2 word meaning and the paths of possible semantic restructuring is proposed.

Finally, further research is suggested to reach a more comprehensive understanding of the patterns of semantic mapping development and a guideline for developing learning-teaching activities which help learners acquire more words and minimize under-representation as well as over-representation of word meanings is suggested.

CHAPTER 1

INTRODUCTION

1.0   Introduction

The current study investigated the patterns of semantic mapping of English verbs acquired by Indonesian EFL learners of different proficiency levels. It is essentially a study in the acquisition of English word meanings by EFL learners.

The chapter discusses the place of the current study in the context of second or foreign language vocabulary acquisition research, the nature of vocabulary knowledge and the need to conduct a study in the acquisition of verb meanings by learners in a foreign language learning context. Given the background to the study, two main research questions are formulated and stated. The scope and significance of the current study are then presented.

1.1   The Place of the Current Study in the Context of Vocabulary Acquisition Research

The acquisition of a second or foreign language words has been studied from three different perspectives or using three different approaches: (1) the binary approach, (2) the developmental approach, and (3) the dimensional approach (Laufer and Paribakht, 1998; Schmitt, 1998; Read, 1997).

The first approach is the binary approach. In the binary approach, as the name suggests, vocabulary knowledge is viewed as an all or nothing phenomenon: a word is either known or unknown. In the second vocabulary acquisition research that adopts this approach, measures are used to assess whether a word is known or unknown, acquired or not acquired (Schmitt, 1998). Wesche and Paribakht (1996) as well as Laufer and Paribakht (1998) argue that the problem with this binary approach is the criteria or the border lines which separate known from unknown words. The criteria used in the measures of vocabulary size may differ considerably. For example, to measure vocabulary size, different studies may use different instruments such as the check list and the Vocabulary Levels Test. In the study using a checklist as its instrument, the subjects' task is to indicate whether given words are known or unknown. Unless the criteria for knowing a word is explicitly described in the test directions, the subjects may have different interpretations of what knowing a word means. Some of them may consider a word as known because they know it exists in the target language without necessarily knowing the meaning of the word. Some others may consider a word as known when they know the meaning. Meanwhile, in a study that uses the Vocabulary Levels Test, the subjects have to match the tested words with their definitions. In this case, a word is known if the subjects correctly identify the meaning of the word (Read, 2000). This example illustrates the criteria used in the binary approach of L2 vocabulary acquisition research may differ from one study to another study.

Studies adopting this binary perspective of vocabulary acquisition are large in number. They may concern, among others, the size or growth of second language (L2) lexicons (Laufer, 1998; Laufer and Paribakht, 1998), the number of words non-native speakers need to know to function properly in certain contexts (Hazenberg and Hulstijn, 1996), and the number of words learned by using different types of exercises, techniques and strategies (Luppescu and Day, 1993; Lawson and Hogben, 1996; Watanabbe, 1997; Joe, 1998; Laufer and Hulstijn, 2001). Most research on L2 vocabulary acquisition

to date has focused on estimates of vocabulary size or 'breadth' measures rather than on the "depth" of vocabulary knowledge of specific words or the degree of such knowledge (Wesche and Paribakht, 1996).

The second approach to vocabulary acquisition research is the developmental approach. This approach views the acquisition of vocabulary as incremental in nature (Laufer and Paribakht, 1998; Schmitt, 1998). Studies on the incremental or developmental acquisition of words concern the depth of the knowledge of individual words rather than the breadth or size of vocabulary knowledge.

In terms of its development, vocabulary knowledge may range from fake familiarity with word forms or recognition of potential words to the ability to use the words correctly in production (Faerch, Haastrup and Phillipson, 1984; Palmberg, 1987; Laufer, 1998). Paribakht and Wesche (1993) propose five levels or stages in the development of the acquisition of individual words as reflected in their Vocabulary Knowledge Scales (VKS). "The VKS is a generic instrument" (Read, 2000: 132), in the sense that it can be used to measure the initial development of the core knowledge of any set of given words. It combines self-report and performance items to elicit the self-perceived and demonstrated knowledge of specific words in written form. It consists of two types of scales: one for tapping learners' perceived knowledge of given words and the other for scoring the responses. The VKS elicitation scale and the VKS scoring categories are presented below.

Self-report categories
I.   I don't remember having seen this word before.
II.   I have seen this word before, but I don't know what it means.
III.   I have seen this word before, and I <u>think</u> it means _____. (synonym or translation)
IV.   I <u>know</u> this word. It means _____. (synonym or translation)
V.   I can use the word in a sentence: _____   *(If you do this, please also do section IV.)*

Figure 1.1: VKS elicitation scale.
Source: Paribakht and Wesche (1997: 180).

In the assessment of learners' vocabulary knowledge, the learners are presented with VKS elicitation scale in Figure 1.1 together with a list of words. For each word on the list, the learners are asked to decide which category best represents how well they know the word. Category I, for example, means that they cannot recognize the word. Meanwhile, the distinction between category III and IV is central to the present study. "The distinction between Categories III and IV also involves an element of judgment by the test-takers as to how sure they are of what the word means" (Read, 2000: 132). The learners as test-takers, however, have to demonstrate their knowledge by providing a synonym or a translation. Meanwhile, Category V requires the learners to demonstrate the use of the tested word in a sentence. How a test-taker's responses are scored is presented below.

Self-report Categories	Possible scores	Meaning of scores
I.	1	The word is not familiar at all.
II.	2	The word is familiar but its meaning is not known.
III.	3	A correct synonym or translation is given.
IV.	4	The word is used with semantic appropriateness in a sentence.
V.	5	The word is used with semantic appropriateness and grammatical accuracy in a sentence.

Figure 1.2: VKS scoring categories - Meaning of scores.
Source: Paribakht and Wesche (1997: 180).

Figure 1.2 is used to translate the responses provided by a test-taker. A score 1 is given if the word is not familiar at all. A score 2 is given if the meaning is not known or the meaning of the word provided by the test-taker is incorrect although he or she claims that his or her knowledge of the word is at a higher category. A score of 3 is given if a correct synonym or translation is provided by the test-taker. Even if the test-taker claims of knowing the word at a higher category, say 5, but if the word is used in a semantically and grammatically inappropriate way, a lower score is given. A score of 4 is given if the word is used in a semantically appropriate way but grammatically inaccurate, as in "Rooney <u>score</u> 4 goals in Euro 2004." A score of 5, the highest score, is given if the test-taker provides a correct synonym or translation and uses the word in a semantically and grammatically appropriate way.

The third approach to vocabulary acquisition research is the dimension approach. There has been a growing evidence and consensus that L2 vocabulary knowledge is no longer viewed as a single dimension but as a multidimensional construct (Richards, 1976; Nation, 1990; Wesche and Paribakht, 1996; Schmitt, 1998; Read, 2000; Qian and Schedi, 2004). Nation (1990), for instance, suggests the following dimensions of

vocabulary knowledge: form, position, function, and meaning. Meanwhile, Henriksen (1999) proposes three dimensions of vocabulary knowledge. The nature of vocabulary knowledge is reviewed in section 1.2.

The research adopting the dimension approach uses measures to assess the depth or degree of knowledge of certain components of vocabulary knowledge. Ijaz (1986) uses sentence completion test to assess the depth of meaning aspect of English prepositions acquired by advanced learners of English as a second language with various language backgrounds. Meanwhile, Schmitt (1998) uses various assessment instruments –written test and interview– to assess the possible increments in different word knowledge aspects, i.e. spelling, association, grammatical information, and meaning.

The current study set out to assess the acquisition of English word meanings by Indonesian EFL learners. More specifically, the study was designed to find out the patterns of the semantic mapping development of English verbs acquired by Indonesian EFL learners.

The term *semantic mapping* in the current study refers to the identification of whether or not a conceptual or semantic feature is a part of the meaning of a word. The degrees of the semantic mapping accuracy of the twelve verbs were charted to find out the patterns of the semantic mapping development from the low intermediate to the high intermediate and advanced levels. The patterns of semantic mapping development will also allow the identification of the problems in the semantic mapping of the EFL words by Indonesian EFL learners. The study, therefore, adopts both the dimension and the developmental approach. It adopts the dimension approach because it investigates the meaning aspect of word knowledge. It also adopts the developmental approach because it investigates the patterns of development in the semantic mapping of individual words

as well as the general patterns of semantic mapping development in the acquisition of a second or foreign language. In terms of level, the study concerns the micro-level of the lexicon as it concerns the knowledge of individual words in depth. Such study is deemed necessary as the number such study is relatively much smaller than that of the macro-level studies of the L2 lexicon (Verhallen and Schoonen, 1993).

1.2 The Nature of Vocabulary Knowledge

The three different approaches in the L2 vocabulary acquisition research, i.e. the binary approach, the developmental approach, and the dimension approach, adopt different assumptions of the nature of vocabulary knowledge. The binary approach in the L2 vocabulary research adopts the assumption that an L2 word is either known or unknown by an L2 learner. However, the criteria for determining whether or not an L2 word is known might differ from one study to another.

The developmental approach assumes that vocabulary knowledge is partial and incremental in nature and may consist of several levels. Faerch, Haastrup and Phillipson (1984) suggest that word knowledge ranges from fake familiarity with word form to the ability to use a word correctly in free production. Similarly, Palmberg (1987) suggests that vocabulary knowledge ranges from the ability to recognize potential vocabulary to the ability to use it, or from passive to active vocabulary. Henriksen (1996) postulates that developmental nature of vocabulary knowledge may be seen from three distinct perspectives: partial–precise knowledge, depth of knowledge, and receptive–productive continua. Based on the partial–precise knowledge continuum, the levels of vocabulary knowledge correspond with the levels of word comprehension. The depth of knowledge continuum refers to the degree of knowledge of words' syntagmatic and paradigmatic relations with other words. Receptive and productive continuum refers to how well an L2 learner can access and use the words. Given the partial–precise knowledge and the

depth of knowledge continua, the mapping of L2 word forms and meanings may or may not be accurate. For example, an L2 learner may know that the verbs *assassinate* and *kill* are paradigmatically and syntagmatically related, but the extent of the overlap in meanings of the two words may not be known yet. They may know that the word *assassinate* in "Who *assassinated* President Kennedy." may be substituted by the verb *kill*, but they may not know that verb *kill* in "The bullets *killed* President Kennedy." cannot be substituted by the verb *assassinate* due to certain syntagmatic constrains projected by the semantic features that differentiate the two words.

The dimension approach to the study of vocabulary acquisition views the vocabulary knowledge as consisting of a number of dimensions or components. Several attempts to make an exhaustive list of components that make up vocabulary knowledge have been made. Cronbach (1942), cited in Bogaards (2000) and Wesche & Paribakht (1996), distinguished five aspects or criteria of word knowledge: (1) generalization (knowing the definition), (2) application (knowledge about use), (3) breadth of meanings (knowing different senses of a word), (4) precision of meaning (knowing how to use the word in many different situations), and (5) availability (being able to use the word productively).

Richards (1976), three decades later, proposed several aspects or assumptions of vocabulary knowledge in a seminal paper entitled "The role of vocabulary teaching". According to Richards, knowing a word means (1) knowing its relative frequency and its collocation, (2) knowing the limitation imposed on its use, (3) knowing its syntactic behavior, (4) knowing its basic forms and derivations, (5) knowing its association with other words, (6) knowing its semantic value, and (7) knowing many of the different meanings associated with the word. For evaluation or review of the Richards' assumptions, see Meara (1999).

Nation (1990) adopts Richards's assumptions of word knowledge, adds the receptive & productive knowledge and several other components and reorganizes them. He categorizes the components of lexical knowledge into form (spoken and written), position (grammar and collocation), function (frequency and appropriateness) and meaning (concept and associative). In addition, Nation also incorporates the receptive and productive dimensions to the components of lexical knowledge. The components of word knowledge according to Nation are presented in Table 1.1 below.

Table 1.1: Components of word knowledge

Form		
Spoken form	R	What does the word sound like?
	P	How is the word pronounced?
Written form	R	What does the word look like?
	P	How is the word written and spelled?
Position		
Grammatical position	R	In what patterns does the word occur?
	P	In what patterns must we use the word?
Collocation	R	What words and types of words can we express before and after the word?
	P	What words or types of words must we use with this word?
Function		
Frequency	R	How common is the word?
	P	How often should the word be used?
Appropriateness	R	Where would we expect to find this word?
	P	Where can this word be used?
Meaning		
Concept	R	What does the word mean?
	P	What word should be used to express this meaning?
Association	R	What other words does this word make us think of?
	P	What other words could we use instead of this one?

Source: Nation (1990: 31).

Bogaards (2000) postulates that L2 learners may learn the following dimensions: form (spoken & written), meaning (acquired in an incremental fashion), morphology (conditions on derivation and compounding), syntax (applying the right rules to the right word or lexical unit, particularly in the learning of verbs, i.e. the argument structure and

types of arguments required, and adjectives), collocates (what word may go with what words), and discourse (such as style, register, appropriateness of particular senses of a word).

Vocabulary knowledge is, therefore, complex in nature. There are various aspects or dimensions of word knowledge that L2 learners have to acquire and there are also various tasks that they have to perform in the acquisition process of L2 lexicon. Considering the various tasks and dimensions in vocabulary learning, Nation reiterates that "knowing a word as it is described applies to only a small proportion of the total vocabulary of a native speaker" (Nation, 1990:32). Learning even one L2 word or a lexical item is a complex task. Naturally, learners' knowledge of a word is not binary in nature, nor is it an all or nothing phenomenon. The consensus is that vocabulary acquisition is incremental and that the acquisition of certain word knowledge dimensions occurs concurrently (Schmitt, 1998). It ranges from false familiarity with word forms to the ability to use a word correctly in free production (Faerch, Haastrup & Phillipson, 1984), or as Palmberg (1987) puts it, from recognition of potential vocabulary to the ability to use it.

The complexity of vocabulary knowledge poses a challenging problem for researchers wishing to assess the depth of learners' L2 vocabulary knowledge and to track the development of the acquisition of given words. Schmitt (1998: 282) observes that although there has been virtual explosion of vocabulary studies, "at the moment we have only the broadest idea of how acquisition might occur. We certainly have no knowledge of the acquisition stages that particular words might move through".

It can be summarized from the foregoing discussion that (1) FL or L2 lexical knowledge is partial in nature, (2) correct or false meaning may be ascribed to an L2 word, and (3) the level of confidence in the meaning dimension of the lexical knowledge may vary from word to word. The first point, i.e. that L2 lexical knowledge is partial in

nature, suggests that not all the meaning features of an L2 word are known by an L2 learner. The second point suggests that a L2 word meaning may contain both correct and false meaning attributes. The third point suggests that a learner may have different levels of confidence with respect to the meaning of a word.

Based on these three assumptions, the meaning dimension of EFL or L2 learners' lexical knowledge in the current study is divided into five categories: (1) accurate semantic mapping with high level of mapping confidence, (2) accurate semantic mapping with low level of mapping confidence, (3) no knowledge of given semantic features, (4) inaccurate semantic mapping with low level of mapping confidence, and (5) inaccurate semantic mapping with high level of mapping confidence. Table 1.2 presents the five categories.

Table 1.2: Categories of the Meaning dimension of L2 vocabulary knowledge

	Mapping Accuracy	Mapping Confidence
Category 1	Accurate	High
Category 2	Accurate	Low
Category 3	Not Applicable	Not Applicable
Category 4	Inaccurate	Low
Category 5	Inaccurate	High

1. Category 1: accurate semantic mapping with high level of mapping confidence. This category is represented by category IV in the VKS elicitation scale, "I <u>know</u> this word." In this category, the EFL learner is confident that he or she knows the meaning (features) of a word and his knowledge is accurate.

2. Category 2: accurate semantic mapping with low level of mapping confidence. This category is similar to category III in the VKS elicitation scale which reads, "I have seen this word before, and I <u>think</u> it means _____." In this category, the EFL

learner's mapping of the meaning (features) is accurate but the level of mapping confidence is low.

3. Category 3: No knowledge of the tested semantic features. This category is similar to Category I and II in the VKS elicitation and scoring scale. In this category, the EFL learner claims he or she does not know the meaning of the word. In other words, he or she does not know whether or not a semantic feature is part of the meaning of the word.

4. Category 4: inaccurate semantic mapping with low level of mapping confidence. In the VKS elicitation scale, this is similar to category III. In this category, however, the learner's mapping of the semantic feature(s) is inaccurate and his or her level of mapping confidence is low. In other words, the word meaning is inaccurate.

5. Category 5: inaccurate semantic mapping with high level of mapping confidence. This category is represented by category IV in the VKS elicitation scale. In this category, the learner is sure or confident that he or she knows the meaning of a given word, but his or her knowledge is inaccurate. In other words, the learner feel sure that he or she knows whether or not the given semantic features are within the semantic boundary of a word. However, his or her mapping of the semantic feature is wrong or inaccurate and the level of his or her mapping confidence is high.

As stated above, one of the variables in the division of lexical knowledge into the five categories is the different levels of mapping confidence: high and low. However, the interval between the high and the low level of mapping confidence is not always the same as the level of mapping confidence is continuum in nature. They reflect ranks rather than intervals and are, therefore, differentially weighted. The different weighting of the levels of mapping confidence allow the computation of the overall semantic mapping

accuracy. The overall semantic mapping accuracy represents the overall knowledge of the meaning a word. How the overall semantic mapping accuracy is derived is presented in the methodology chapter.

1.3   Statement of the Problem

Two of the most essential tasks of vocabulary acquisition in a second or foreign language are (1) the mapping of lexical forms to meaning (Jiang, 2002; Henriksen, 1999), and (2) "continuous refining of meaning and readjustment of boundaries between lexical items that have already been acquired and subsequent items that are encountered that are semantically related to the acquired ones" (Sonaiya, 1991: 274).

The tasks in the acquisition of L2 word meanings are neither simple nor trivial. Evidence abounds. L2 learners are often unaware of the differences in meaning of two semantically-related words in the L2 they already acquired (Sonnaiya, 1991). For example, Indonesian learners often confuse the use of *number* and *amount*, *accept* and *receive*, as well as *take* and *bring*. In another study, Lennon (1991) observes that advanced learners' errors are concentrated in lexical choice error categories. Of the 745 errors in his corpus, he observes that 23% were lexical choice errors and 22% are preposition and adverbial particle choice errors. In addition, Ijaz (1986) observes that the mapping of the English spatial preposition by advanced ESL learners differ significantly from that of the native speakers' model. The mapping of the English spatial preposition is influenced by the conceptual components salient in the native languages of the ESL learners. The semantic organization of ESL learners has also been shown to differ considerably between different proficiency groups of ESL learners and between the ESL learners and the English native speakers (Zhang, 1995).

The acquisition of word meanings of English by Indonesian EFL learners also deserves a place in the vocabulary acquisition research. English is a foreign language in Indonesia. As a foreign language, English is not the *lingua franca* used for education and government but is taught in schools at the secondary and tertiary levels. In an EFL learning context, learners learn English in their own cultural context with few immediate opportunities to use the language (Brown, 1986). Similarly, Martin (1984: 131-132) asserts, "The luxury of multiple exposures to words over time and in a variety of meaningful contexts is denied to second and foreign language students". Therefore, exposure to English is limited in terms of both quality and quantity for Indonesian EFL learners.

In addition to the poverty of input in terms quality and quantity, EFL learners are also constrained by the presence of their established L1 conceptual and lexical system (Ijaz, 1986; Jiang, 2000). It is difficult to deny that L1 has a considerable influence on how FL or L2 is learned (and used). Perdue (1993), quoted by Swan (1997), asserts that

> … each native language has trained its speakers to pay different kinds of attention to events and experiences when talking about them. This kind of training is carried out in childhood and is exceptionally resistant to restructuring in ALA (adult language acquisition) (Swan 1997: 160).

It is well-documented in the literature that L1 is one important determinant in FL or L2 vocabulary learning: the FL or L2 learners' "real world" has already been shaped by their mother tongue. Whorf asserts "We dissect nature along lines laid down by our native languages. … We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way …." Whorf further reiterates that "all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated" (Wardhaugh, 1992:219). Consider how English and Indonesian ascribe significances in the semantic field CARRY differently.

People may carry things using different parts of the body and in different directions. The ways or manners of carrying things are significant conceptual features in Indonesian but not in English. Indonesians use different words to express how people carry things, for examples *jinjing* (to carry something light with fingers, no instrument needed) and *pikul* (to carry heavy objects on one's shoulder by putting them on both ends a pole) (Poedjosoedarmo, 1989). English, on the other hand, ascribes significance to the conceptual feature [**+direction**] in the act of carrying. English lexicalizes this significance in the verb *carry* [**general, no specific direction]**, *bring* [**toward the speaker**], and *take* [**away from the speaker**].

The example above shows that when the conceptual and lexical systems of two different languages are mapped onto each other, they may not completely overlap. In the case of semantically-related words, rarely do they completely overlap. There are usually common meaning shared by the words in both languages but there are also conceptual or semantic features that are covered by one lexical and conceptual system but not by the other. Corresponding words in English and Indonesian may share certain common meaning but they may have different semantic boundaries as certain semantic features are salient and significant in one language but not in the other as illustrated above. Such differences may cause problems in the semantic mapping of the English word meanings and result in inaccurate knowledge of the English vocabulary items. With limited exposure, it is difficult for foreign language learners to sort out a complex system of similarities and distinctions among semantically-related words. Verbs such as *carry*, *take*, and *bring* may even be considered synonyms and used interchangeably disregarding the stylistic, syntactic, collocational, and semantic dissonances (Martin, 1984). It indicates that L2 or FL lexical knowledge is very likely partial in nature, i.e. some of the word's properties are known or mastered but the others are not (Laufer, 1997). Meara (1984) suggests that the L2 lexicon is not only partial but also contaminated. In terms of the meaning dimension, some of the semantic features may

have been accurately acquired or mapped, some others incorrectly acquired or mapped, and some others unknown. As illustrated in the example above, Indonesian EFL learners may have acquired the common meaning shared by the verbs *carry*, *bring*, and *take*, but they may have not acquired the distinctive semantic feature [**+direction**] contained within the three verbs.

It has also been documented in the literature that the certain grammatical categories are more difficult to learn than others. The acquisition of adverbs is found to be the most difficult, while that of nouns is the easiest. The acquisition of verbs and adjectives is less difficult than that of adverbs but more difficult than that of nouns (Laufer, 1997). Verbs are difficult to learn probably because of the heavy conceptual load or complex information they contain, particularly their syntactic behaviour (e.g. the number and types of arguments they subcategorize, and their patterns of collocations) and their complex morphological information.

The current study on vocabulary was also motivated by the lack of study on the acquisition of the depth of meaning dimension of L2 or EFL vocabulary in the research literature in Indonesia as well as in other countries. As has been mentioned in the previous section, the existing studies has concerned more on the effectiveness of certain techniques in teaching vocabulary, e.g. Purba (1990), Crow and Quigly (1985), vocabulary size (Laufer, 1998), and the number of meanings of target words acquired by learners over a period of time (Schmitt, 1998).

In view of (1) the complicated tasks Indonesian EFL learners face in the acquisition of English word meanings, particularly the meanings of verbs, (2) the research findings in the acquisition of word meanings, and (3) the nature of learners' L2 or FL lexical knowledge which is partial in nature, the present study proposes to empirically investigate the semantic mapping accuracy of the twelve English verbs

acquired by three proficiency groups of Indonesian EFL learners. Specifically, the current study aims to find out:

1. whether there are any significant differences in the semantic mapping accuracy of English verbs between Indonesian EFL learners of different proficiency levels,

2. the patterns of the semantic mapping development of English verbs acquired by Indonesian EFL learners of different proficiency levels.

1.4   Research Questions

Given the aims of the present studies above, the current study sets out to address the following research questions:

1. Are there any significant differences in the semantic mapping accuracy of English verbs between Indonesian EFL learners of different proficiency levels?

2. What are the patterns of semantic mapping development of English verbs acquired by the Indonesian EFL learners of different proficiency levels?

Research question 1 concerns the significant differences between the three proficiency groups of Indonesian EFL learners in the semantic mapping accuracy of the English verbs. The semantic mapping accuracy is categorized into five semantic mapping categories and the overall semantic mapping accuracy.

Research question 2 concerns the patterns of the semantic mapping development of the target verbs acquired by the three proficiency groups. The patterns of semantic mapping development will also be based on the semantic mapping categories. In addition, given that knowing the meaning of a word implies knowing whether or not a meaning or semantic feature is part of the meaning of a word, the patterns of semantic mapping development will also be based on the semantic mapping

accuracy of the semantic features inside and outside the meaning boundaries of the target verbs. Therefore, there are two types of patterns:

1. the patterns of the semantic mapping development based on the five semantic mapping categories and the overall semantic mapping accuracy,

2. the patterns of development in the semantic mapping of the tested sets of semantic features inside and outside the meaning boundaries of the English verbs.

1.5 Scope and Limitation of the Study

Vocabulary knowledge, as reviewed in section 1.2, is complex in nature as it covers various aspects or dimensions of vocabulary knowledge. Naturally, there are various aspects or dimensions of word knowledge that L2 learners have to acquire and there are also various tasks that they have to perform in the acquisition process of L2 lexicon. One of the most important tasks that L2 learners need to do is the mapping of word forms to meanings (Jiang, 2002; Henriksen, 1999). The form-meaning mapping in the L2 vocabulary acquisition entails continuous refinement and readjustment of the semantic or meaning boundaries, particularly between the semantically-related lexical items within the same semantic fields.

The central issue of the current study is limited to the patterns of semantic mapping development of selected English verbs within two semantic areas acquired by three proficiency groups of Indonesian EFL learners. As the current study investigates the patterns of development in the acquisition of the depth of meaning dimension of vocabulary knowledge, the results of the current study should be interpreted in relation to the scope and limitation of the study.

1. As the current study concerns the acquisition of the depth of meaning dimension of vocabulary knowledge, the number of words under study is necessarily small and is limited to twelve words which belong to two different semantic fields, i.e. KILL (five

verbs) and BREAK (seven verbs). They are *assassinate, execute, kill, murder* and *slaughter* (all within the semantic field KILL) and *break, burst, crack, fracture, shatter, smash*, and *snap* (all within the semantic field of BREAK). There are several things to consider. First, the number of words under study is relatively small because the current study concerns the acquisition of the "depth" of the meaning dimension of English verbs. As a result, the sampled words may not represent a wide range of word types (Laufer, Elder, Hill, and Congdon, 2004). Second, words within a semantic field are semantically-related. Therefore, the results of the present study are expected to reflect the acquisition of L2 word meanings of semantically-related words in particular. However, the study is also expected to reveal the patterns of the acquisition of word meaning of individual words in general as it concerns the acquisition of the depth of meaning dimension of individual verbs. Third, only one meaning of each verb is tested, i.e. the meaning commonly shared by member verbs of a semantic field.

2. Ideally, the study on the developmental patterns in the acquisition of L2 word meanings should adopt longitudinal studies which involve the same individual learners over a long period of time, but there have been very few of these. Most researchers prefer to conduct cross-sectional studies (Ellis, 1994). The current study also uses a cross-sectional design which involves three different proficiency groups of Indonesian EFL learners and is not longitudinal in nature. The limitations of the current study are (1) it is not possible to track the development of individual learners as different learners were involved, and (2) it allows macro level analysis instead of microanalysis. Despite its limitations, the cross-sectional design has been used in a number of studies in the L2 acquisition such as Zhang (1995) and Meara (1984).

3. The sample used in the study was selected from a certain target population, i.e. the students of the English Education Department, Sanata Dharma University, which is situated in Yogyakarta, Central Java. Although the subjects came from different linguistic and cultural background, the majority were Javanese.

4. The instrument used in the current study is the Forward Translation Recognition Matrix which was designed to assess the depth of word meaning knowledge (see section 3.2). Naturally, a recognition test measures only receptive vocabulary knowledge. It does not assess the productive aspect of vocabulary knowledge.

1.6   Significance of the Study

Most of second language vocabulary studies have focused on the breadth of vocabulary knowledge, i.e. the size and growth of the second language lexicons. Since not much has been done on the acquisition of the depth of second language vocabulary knowledge, the current study tries to probe in depth into new territory in the lexical semantics development of ESL or EFL learners.

The study is expected to have both theoretical and pedagogical contribution. Theoretically, the study is expected to contribute to the better understanding of (1) the acquisition of the depth of the meaning dimension of individual L2 words as well as the patterns of the semantic mapping development in the acquisition of second and foreign language vocabulary and (2) the problems EFL learners may face in the form – meaning mapping in the acquisition of FL or L2 lexical items.

The results of the study are also expected to confirm or refute existing research findings or hypotheses in the acquisition of meaning in the second or foreign language and to contribute to the better understanding of the acquisition of the depth of vocabulary knowledge.

The pedagogical contribution of the study is that the understanding of the acquisition of the depth of the meaning dimension of vocabulary knowledge will help improve practices in the second language learning in general and the teaching and

learning L2 vocabulary in particular. More detailed account of the pedagogical contribution is presented in the pedagogical implications in the last chapter.

1.7   Definition of Key Terms

1. Semantic Mapping.

   The term *semantic mapping* has been used to refer to several notions, one of which is the building up of "diagrammatic maps showing the relationship between vocabulary suggested by the teacher, suggested by the learners and found in a reading text" (Nation, 1990: 129). In the current study, however, the term *semantic mapping* refers to the identification of whether given semantic features are mapped inside or outside a word meaning boundary. A survey of the literature suggests that several other terms have been used, such as *form–meaning mapping* (Jiang, 2002; Kroll and de Groot, 1997), *lexicosemantic organization* (De Groot and Comijs, 1995), and *semantization* (Henriksen, 1999). The term *semantic mapping*, however, is preferred because it better reflects one of the key constructs in the current study, i.e. whether given semantic features are mapped inside or outside a word meaning boundary by L2 learners. A more detailed description of the term is presented in section 2.1.1.

2. Patterns of Development.

   There are two key words here but they should eventually be understood as one construct. According to Longman Dictionary of Contemporary English (1995), one of the meanings of the word *pattern* is "a regular way in which something happens, develop, or is done" (p.1038). Meanwhile, the word *develop* also has several meaning senses, one of which is *grow*, i.e. "to grow or gradually change into a larger, stronger, or advanced state" (p. 374). The term *development* is defined as "the

gradual growth of something so that it becomes bigger or more advanced". The same term is defined in BBC English Dictionary (1992) as "the growth or formation of something over a period of time" (p.310). The term *Developmental patterns* has also been used in the literature of L2 acquisition. Ellis (1994: 73) uses the term as "a cover term for the general regularities evident in language acquisition". It is used to show the stages L2 learners pass through in their L2 development or acquisition. The term *patterns of development* may therefore be defined as regular ways in which something "grows" or changes over a period of time.

3. Patterns of Semantic Mapping Development.

The key term *patterns of semantic mapping development*, based on the definition of terms above, is defined as the regular ways in which the semantic mapping of English words in general and English verbs in particular "grows" or changes over a period of time. The patterns reveal the changes in the accuracy of the semantic mapping, i.e. identification and the assigning of the meaning attributes or the semantic features within and outside the word meaning boundaries, from the lower proficiency level to the higher proficiency level. The patterns of semantic mapping development depict (1) the patterns of semantic mapping development based on the semantic mapping accuracy and mapping confidence at both the word level and above the word level, i.e. semantic field level and above, and (2) patterns of semantic mapping development of the features inside and outside the word meaning boundaries.

CHAPTER 2

LITERATURE REVIEW

2.0   Introduction

This chapter aims to examine the key constructs relevant to the study, i.e. semantic mapping or form–meaning mapping development, conceptual restructuring in semantic mapping development, componential analysis and translation, and the conceptual framework for the present research.

The review will take the following order. First, the construct of semantic mapping development, the development in the mapping of meaning to word form, will be reviewed from the psycholinguistic perspective by discussing how words are represented in the mind. Given that the study concerns semantic mapping development, not only lexical representation but also lexical development and conceptual restructuring will be reviewed. Next, as the study on EFL learners' semantic mapping development of the English verbs requires the use of componential analysis in order to find out the semantic features of the words under investigation, the componential analysis of word meaning will be reviewed. Third, a review on the lexical processes in translation recognition follows as translation recognition is used to tract the EFL learners' semantic mapping development of the target English verbs. The reviews of lexical representation and development, componential analysis, translation recognition and related studies will be used to explain the results of the research.

2.1   Semantic Mapping

Given that the study concerns the semantic mapping of individual L2 verbs, it is necessary define what semantic mapping is and to review the literature on how individual words are represented in the mind.

2.1.1   The Concept of Semantic Mapping

In language learning, the term semantic mapping is usually used to refer to "brainstorming associations which a word has and then diagramming the results" (Sökmen, 1997:250). The concept of semantic mapping in this study, however, differs from this definition. It refers to the identification of whether given semantic features are inside or outside the semantic boundary of a word.

Various terms have been used in the literature to refer to the term *semantic mapping*. A very common term used in psycholinguistics is *form–meaning mapping* (Jiang, 2002; Kroll and de Groot, 1997). De Groot and Comijs (1995) use the term *lexicosemantic organization*, Henriksen (1999) uses the term *semantization*, while Zhang (1995) uses the term *mental organization*. But, what is semantic mapping?

A map, according to the Cambridge International Dictionary of English (1995 863), means "a drawing of (part of) the earth's surface showing the shape and position of different countries, political borders, natural features such as rivers and mountains, and artificial features such as roads and buildings." The Oxford Advanced Learners' Dictionary (1996) uses the expression "representation on paper" for the term "drawing" in the Cambridge definition. There is some parallelism between the concept of "map" given in the above definition and the concept of semantic mapping, in that both share

the components "representation", "features" and "boundaries". A word is like a geographical area. A geographical area has a name and a boundary and within its boundary there are natural and artificial features. The state of Penang, for example, has its boundary and there are natural and artificial features which are specific to the state of Penang. Outside the boundary, there are also geographical features, but they are not part of the state of Penang. Similarly, a word has a form and meaning boundary and inside the meaning boundary there are semantic components or features which constitute the meaning of the word. Outside the word meaning boundary, there are also semantic components, but they make up the meanings of other words within the respective language. The primary task in vocabulary acquisition is seen as involving the identification of the boundaries between lexical items, the identification of the meaning or conceptual features particularly those within the boundaries and the adjustment of the boundaries as more words that are semantically related are encountered and learned (Sonaiya, 1991; Jiang, 2002; Ijaz, 1986) This is what is referred to as *semantic mapping*: the identification of semantic or conceptual features and the assignment of these features to within or outside the meaning boundary of a word. For instance, in the semantic mapping of the word *assassinate* learners need to identify the core meaning of the word, i.e. cause someone to become dead, and the semantic features that distinguish it from other words. The most typical features are that the patient subcategorized by the verb *assassinate* must be [**+animate]**, [**+human]**, [**+politically important]**. A less typical but not less important feature is that it requires a [**+animate], [+human]** agent.