Studies in Linguistics and Literature
ISSN 2573-6434 (Print) ISSN 2573-6426 (Online)
Vol. 5, No. 1, 2021
www.scholink.org/ojs/index.php/sll

Original Paper

Composite Abstract Lexical Structure in Interlanguage Production

Xuexin Liu[1*] & Longxing Wei[2]

[1] Department of World Languages and Cultures, Spelman College, Georgia, USA

[2] Department of Linguistics, Montclair State University, New Jersey, USA

[*] Xuexin Liu, Department of World Languages and Cultures, Spelman College, Georgia, USA

Received: February 15, 2021 Accepted: February 22, 2021 Online Published: March 1, 2021

doi:10.22158/sll.v5n1p81 URL: http://dx.doi.org/10.22158/sll.v5n1p81

Abstract

Most previous studies of difficulties in learning a second/foreign language focused on sources of learner errors caused by cross-linguistic differences in various levels of linguistic structure, but most of such studies remain at a rather superficial level of description. This study explores sources of learning difficulties at an abstract level by studying the nature and activity of the bilingual mental lexicon during interlanguage production. The bilingual mental lexicon is defined as the mental lexicon containing abstract entries called cross-linguistic "lemmas" underlying particular lexeme. This study claims that it is language-specific lemma which drives interlanguage production at three levels of abstract lexical structure: lexical-conceptual structure, predicate-argument structure, and morphological realization patterns. It further claims that it is cross-linguistic lemma variations in abstract lexical-conceptual structure which result in not only inappropriate lexical choices but also errors in interlanguage production of target language predicate-argument structure and morphological realization. Naturally occurring interlanguage production date for the study include several native and target language pairs: Japanese-English, Chinese-English, and English-Japanese. Some typical instances of language transfer involving other language pairs are also cited in support of the argument that the lexical-conceptual approach to interlanguage production is fundamental in any study of the nature of learner errors in interlanguage development.

Keywords

Interlanguage, bilingual, mental lexicon, lemma, lexical-conceptual, cross-linguistic influence, leaner errors

1. Introduction

There have been various theories and models proposed to account for the sources of learner errors or language transfer in second/foreign language learning. Four specific theories stand out as being prominent. The first theory is that second language (L2) learners tend to utilize their first language (L1) knowledge and other languages known to them (i.e., cross-linguistic influence) in their production of the target language (TL) items (Lado, 1957). The second theory is that L2 learners always test they hypotheses formed on the basis of the available L2 data, that is, L2 learners always try to use whatever L2 knowledge as acquired at a particular moment of learning (Dulay, Burt, & Krashen, 1982). The third theory is that at least three linguistic systems are involved in second language acquisition (SLA): learners' native language (NL) or L1, their target language (TL), and their interlanguage (IL) (Selinker, 1972; Eubank, Selinker, & Sharwood Smith, 1995; Wei 2015). According to this theory, each of the three linguistic systems plays its role in IL production and the interaction of these linguistic systems is the source of learner errors. The fourth theory is that the nature and activity of the bilingual mental lexicon are the structural sources of IL (Jake, 1998; Fuller, 1999; Myers-Scotton & Jake 2000; Wei, 2000, 2009). Wei (2002, 2003, 2020) proposes the Bilingual Lemma Activation Model (BLAM) to account for the developing nature of IL in relation to sources of learner errors or language transfer at a rather abstract level of observation and exploration.

This study considers some essential questions about the developing nature of IL: As commonly recognized, learners build up and revise the developing or interim linguistic system (i.e., IL) by gradually increasing the complexity of the TL system, but what is the origin of IL itself? How can the TL items be lexically projected and morphosyntactically realized if learners' knowledge of the TL at various linguistic levels is insufficient? May learners fall back on their L1 lexical-conceptual structure and morphosyntactic procedures in different stages of learning and then incrementally move toward the ones as specified in the TL? To answer such questions, this study follows several abstract theoretical assumptions as made in the BLAM about the nature and activity of the bilingual mental lexicon during IL production. This study focuses on some findings and implications of bilingual lexical and conceptual representation in IL production and applies the BLAM to the observation, description and explanation of some IL performance data in particular and to IL studies in general.

2. Implications of Bilingual Lexical-Conceptual Processing and Representation

As commonly recognized, L2 vocabulary learning becomes one of the critical components of SLA. According to Bialystok and Sharwood Smith (1985), learners' L2 lexical knowledge and lexical control in IL production are related but not the same. As implicated, there may be an unavoidable gap between knowledge and control even though "knowledge" must come in the first place. As also commonly observed, learners' L2 lexical knowledge tends to be incomplete, and learners may also fail to put their acquired L2 knowledge into real-time use in IL production. According to Palmberg (1990), foreign

language lexical knowledge becomes a continuum from understanding the meaning of a word to activating the word in real speech production.

Regarding the relationship between lexical knowledge and conceptual knowledge, Jarvis assumes that "a person's knowledge of the form-related properties of a word" and "the person's knowledge of the word's syntactic constraints and semantic associations" are stored separately in the mental lexicon, and the latter "in turn is stored separately from the person's conceptual knowledge" (2009, p. 99). By using the notion of "lemmatic transfer", Jarvis claims that the lexical knowledge and use acquired through L1 can affect L2 learners' mental lexicon. The term "lemmatic transfer" refers to two mental processes in the bilingual mental lexicon as involved in lexical transfer: "learned cross-linguistic associations" and "processing interference" (Jarvis, 2009, pp. 102-103).

Similar to the theoretical assumptions made by Jarvis, the BLAM uses the term "lemma; in its original sense as defined by Levelt (1989). The mental lexicon contains abstract lexical structure at a "deep" level, and this deep level is rather abstract because the mental lexicon does not simply contain lexemes and their semantic content but abstract elements called "lemmas". Lemmas are abstract entries in the mental lexicon that support the surface realization of actual lexemes (Levelt, 1989). In other words, for each lexical item, the mental lexicon contains its lemma information about the word's lexical content (i.e., semantics or lexical-conceptual structure), its pronunciation (i.e., phonology or phonological structure), and its syntactic environment (i.e., morphosyntax or predicate argument structure and morphological realization patterns). For example, the lemmas for the verb "give" requires a subject noun which plays the role of AGENT, a direct object noun which takes the thematic role of THEME, and an indirect object noun which takes the thematic role of RECIPIENT (e.g., *May gave her friend a gift* or *Mary gave a gift to her friend*). Lemmas also contain information about the word's morphosyntax. For example, the lemma for "she" requires the word to be used of a female and that any following present-tense main verb must be inflected with -s (i.e., inflectional morphology for tense marking) for the subject-verb agreement. In addition, lemmas contain information about a word's phonological structure, syllabic composition, and accent structure. Furthermore, lemmas may contain information about a word's register and its pragmatic function. One of the most important claims of the BLAM is that lemmas in the bilingual mental lexicon are language-specific, and language-specific lemmas are in contact in IL production (Myers-Scotton & Jake, 1995; Wei, 2001, 2002, 2015, 2020).

In addition to the abstractness of lemma specifications about particular lexemes, the BLAM further claims that lexical structure is "abstract" in the sense that it contains several discrete but interactive subsystems: lexical-conceptual structure, predicate-argument structure, and morphological realization patterns, each of which is a component of every linguistic system, and each plays its specific role in speech production. Lexical-conceptual structure conflates universally available semantic and pragmatic information; predicate-argument structure specifies the properties of verbs in different subcategories and grammatical encoding of the expressed arguments; morphological realization patterns spell out

surface devices for word order, case assignment, agreement, tense/aspect/voice/mood marking etc. (de Bot & Schreuder, 1993; Myers-Scotton, 2002; Jake, 1994; Wei, 1996a, 1996b, 2002). For example, the verb "eat" requires its subject noun to take the thematic role of AGENT (i.e., the noun being able to perform the act of eating), the object noun to take the thematic role of THEME (i.e., the noun is an object that is edible). Also, the two nouns must be arranged in a particular order (e.g., *Mary eats an apple every day*) and the verb must be inflected as required.

One of the crucial arguments of the BLAM is that IL has different sources of the abstract lexical structure because parts of the abstract lexical structure from learners' L1 lexical entries may influence that abstract lexical structure of incompletely acquired L2 or TL lexical entries. As commonly and frequently observed in SLA research, each of the three subsystems of the abstract lexical structure in IL may contain elements from learners' L1 and/or the TL, resulting in a "composite" IL system. IL system is viewed as being composite in the sense that learners' L1 may contribute different amounts of its abstract lexical structure to the TL along the IL continuum, Due to the composite nature of IL, the complete acquisition of the TL abstract lexical structure becomes crucial in successful SLA.

Following the above lines of thinking, this study views language transfer as transfer of L1 abstract lexical structure as part of the abstract lexical structure in the bilingual mental lexicon. In other words, learner errors or language transfer are understood as outcome of language-specific lemmas in contact in the bilingual mental lexicon during IL production. Such a transfer becomes predictable and necessary in Il development for learners to fill particular gaps in the incompletely acquired TL lexical items and grammatical constructions. However, the contributions of L1 abstract lexical structure to the composite IL system are more constrained than those of the TL. This is because learners always try to construct the IL form from the TL abstract lexical structure to the extent possible (see *the target-language principle*, Jake (1998)).

3. Language Transfer as Lemma Transfer in Interlanguage Production

The BLAM explores sources of language transfer by investigating the nature of the bilingual mental lexicon in general and the activity of the abstract and complex lexical structure of IL in particular. One of the major claims of this study is that lemmas underlying L1 composite abstract lexical structure may be employed to fill gaps at each of the three abstract levels: lexical-conceptual structure, predicate-argument structure, and morphological realization patterns. In other words, language transfer can be viewed as lemma transfer from the composite abstract lexical structure in IL production.

3.1 L1 Lexical-conceptual Structure in IL Production

As studied by many researchers, languages may differ in lexicalizing certain components of a given conceptual structure (Talmy, 1985; Levin & Pinker, 1991; Jackendoff, 1991; Jake, 1994; Fuller, 1999; Jiang, 2000; Wei, 1998, 2003). As commonly observed, the lexical-conceptual structure of some L2 lexical items may contain certain semantic/pragmatic features from learners' L1 counterparts. This is

because learners may have learned certain L2 lexical items which are not fully specified for their semantic/pragmatic feature bundles (Myers-Scotton & Jake, 1995). In other words, learners may have only "partially" acquired certain L2 lexical items before they can be fully accessed for their specific semantic/pragmatic features (i.e., before they can be used appropriately). Thus, when learners' L2 lexical items are only partially acquired, learners may turn to similar or seemingly equivalent items in their L1 in order to convey their intended meanings (Talmy, 1985; Choi & Bowerman, 1991; Wei, 1995; Dewaele, 1998; Jake, 1998). Different from other models or approaches, the BLAM claims that it is language-specific lemmas for particular lexemes which can be activated in IL production. Consequently, learners may produce certain L2 lexical items inappropriately as influenced by their L1 equivalent lexical items. Below are some typical instances of such a lemma transfer of L1 lexical-conceptual structure in IL production.

[1] Yesterday in library I **look** Japanese magazine.
(Japanese L1; Wei, 1996a, p. 423)

[2] When I've cold I **eat** medicine, cold medicine.
[3] In Japan students **do** many tests and exams in class.
(Japanese L1; Wei, 2003, p. 65)

[4] She now **do** meal.
[5] **Open** air condition.
[6] you come to my **house**?
(Chinese L1; Wei, 1995)

[7] I go to the **oven** in the morning to by bread.
[8] My father is a **long** thin man.
(Chinese L1; Jiang, 2000, p. 61)

[9] yoru anta ni denwa o **ageru**.
"(I) will give you a call in the evening."
[10] watashi wa tenisu o **asobu**.
"I play tennis."
[11] kare wa shaken o **toru**.
"He'll take the test."
[12] watashi wa mai nichi juuni ji ni hirugohan ga **aru**.
"I have lunch at 12 o'clock every day."

(English L1; Wei, 2003, p. 65)

In [1], the learner produces “look” instead of “read”, which does not necessarily indicate that the learner has not acquired the verb “read” in English. The learner does so most probably because the lemmas for the Japanese equivalent verb “look” may include “read”, “see”, “look at”, “visit” or “observe”. In [2] the learner produces “eat medicine” rather than “take medicine” probably because the lemma for “eat” include the concept of taking medicine. In this case, Japanese does not possess the same lexical item as English to express the same concept. In [3], the learner produces “do many tests and exams” rather than “take many tests and exams”. It is possible that the learner has not acquired the English expression yet. It is also possible that the learner uses the equivalent verb “do” in Japanese because its lemmas already include the same concept of “take”. In [4], the learner produces “do” as influence by the Chinse lemmas for the equivalent verb in Chinses, which include the concepts such as “cook”, “play”, “work”, “act”, etc. In [5], the learner produces “open” instead of “turn on”. The learner may not have acquired the English expression yet, but the Chinse lemma for “open” allows the leaner to translate the same concept. In [6], the learner produces “house” rather than “home” based on the Chinese lemmas for “house”, which include “home”, “house”, “apartment”, of “building”. In [7], the learner produces “oven” rather than “bakery” probably because the learner has not acquired the English lexical item “bakery” or does not make a conceptual distinction between “oven” and “bakery”. It is also possible that the concept of “oven” and the concept of “bakery” are both relatively new to Chinese. In [8], the learner produces “long” rather than “tall”. This does not necessarily mean that the learner has not acquired “tall”, but it seems probable that the learner is not aware of the lexical-conceptual distinction between the two adjectives in English. In [9], the learner produces “ageru” (give)” rather than “kakeru” as lexical-conceptually required in Japanese. This error may be caused by the English lemma for “give” as in “give you a call”. In [10], the learner produces “asobu (play)” based on the English expression rather than “suru (do)” as used in combination with other relevant nouns to express a particular activity as in Japanese. It seems that the learner employs the English lemma for “play” in expressing the same concept. In [11], the learner produces “toru (take)” rather than “ukeru (receive)” for the equivalent expression “take the test” in English. It is possible that the learner has not acquired the Japanese verb “ukeru” yet, but it is obvious that the English lemma for “take” is employed. In [12], the learner produces “aru (have)” as used in English for “have lunch” rather than the Japanese equivalent verb “taberu (eat)” for the same concept. Again, it is possible that the learner has not acquired “taberu” yet, but it is also obvious that the English lemma for “have” is employed.

The above instances of L1 lexical-conceptual structure in IL production reveal that learners acquire certain simple TL lexical items first which match up possible L1 conflation categories of semantic notions (Pinker, 1989a, 1989b; Jake, 1994; Wei, 1996a, 1996b). They also reveal that the lemmas for certain TL lexical-conceptual structure are not fully available to such learners before they have full

access to the particular TL lexical items. It should be noted that although learners are able to produce the relevant TL lexica items, the selection of those lexical items may be caused by their incomplete knowledge of the TL lexical-conceptual structure of particular lexemes.

3.2 L1 Predicate-argument Structure in IL Production

In addition to L1 lexical-conceptual structure in IL production, Wei (1996a, 1996b, 2009) finds that though learners may produce the right TL verbs, they may use them inappropriately in their IL production. One of the major sources of learner errors lies in the fact that learners' incomplete acquisition of TL verbs may project the number of arguments (i.e., lexical nouns as required by a particular verb to satisfy its particular predicate-argument structure) and assign the thematic roles (i.e., each lexical noun must be assigned a specific role, such as AGENT, PSTIENT, THEME, RECIPIENT, etc.) to each of the relent arguments as their counterparts in learners' L1. If this happens, lemma transfer of L1 predicate-argument structure results in IL production. Learners' incomplete knowledge of TL predicate-argument structure underlying certain verbs becomes sources of learner errors. It is also revealed that certain incomplete TL lexical-conceptual structure may map onto incomplete TL predicate-argument structure, one inducing the other. Below are some typical instances of L1 predicate-argument structure in IL production.

[13] Please **help** me look my child.
[14] You're **listening** music?
(Chinse L1; Wei, 1995)

[15] She **cost** me hundred dollar, … bad tooth.
(Chinse L1; Wei, 1996a, p. 422)

[16] His words in class **laugh** me.
[17] I can **wait** you here.
(Japanese L1; Wei, 1995)

[18] He not **help** my homework.
[19] I first **fill** water in glass.
(Japanese L1; Wei, 1996a, p. 422)

[20] kereno uchi made **noseru o ageta**.
"(I) gave him a ride home."
[21] gozen chuu kare a **yonda**.
"(I) called him in the morning."

[22] densha o **totte** gakkoo e iku.
"(I) take the train to go to school."
(English L1; Wei, 2003, pp. 67-68)

In [13], the object noun "my child" is directly assigned the thematic role of THEME by "look" without the preposition "after" as required in the TL. As in the TL, "look" itself cannot assigned a thematic role because of its intransitivity. This violation of the thematic role assignment seems to be caused by the Chinese counterpart verb "zhaoliao (look)", which does not need a preposition to introduce the THEME, because in Chinese "zhaoliao" is a transitive verb and can take the THEME as its internal argument. Similarly, in [14], "listen" assigns the thematic role of the THEME directly to "music" without the preposition "to" as required in the TL. Again, such a violation is most probably caused by the Chinse counterpart verb "ting (listen0", which does not need a preposition in introduce the THEME, because in Chinese "ting" itself can take the THEME as its internal argument. In [15], "cost" takes the thematic role of AGENT (i.e., the person who spends the money) as its external argument (i.e., the subject), rather than the THEME (i.e., the thing on which the money is spent), but the Chinese lemma for the verb "cost" allows such a predicate-argument structure. In [16], the predicate-argument structure and also its morphological realization patterns are affected by the incorrectly extended causative lexical-conceptual structure in Japanese. In this instance, the cause is "me" (i.e., the PATIENT), which should be "I" (i.e., the AGENT) in the TL, and "his words" is the causer, which should be a prepositional stimulus "at his words" in the TL (e.g., *I laugh at his words in the class.*). In [17], "you" (i.e., the THEME) is directly introduced by "wait" without the preposition "for" as required in the TL predicate-argument structure because of the intransitivity of the verb "wait". This violation seems to be caused by the Japanese counterpart verb "matsu (wait)", which, like any transitive verb, can take its internal argument (i.e., the object). In [18], the preposition "with" as required in the TL to introduce the thematic role of THEME does not appear. Again, this violation seems to be caused by the Japanese counterpart verb "tetsudau (help)", which can assign the thematic role directly to its internal argument (i.e., the object). In [19], "fill" assigns the thematic role of THEME to "water", rather than assigning the thematic role of PATIENT to "glass" and introducing the THEME by the preposition "with", and "glass" is assigned the thematic role of LOCATION by the preposition "in", rather than the PATIENT as required in the TL (e.g., *I first fill the glass with water*.). In [20], the learner translates the English expression "give a ride" into Japanese, violating the Japanese predicate-argument structure. This is because while in English "ride (noseru)" is introduced by the verb "give" as its internal argument (i.e., the object), the THEME, in Japanese the means of transportation must be introduced by a preposition as its internal argument, the INSTRUMENT, rather than the THEME (e.g., *kereno uchi made kuruma de okutte ageta*. (literally, "I sent him to his home by car"). In [21], the learner employs the English predicate-argument structure for the verb "call (yoru/yonda) where the semantic features of

"communicate with by telephone; are conflated in the verb "call". While in English "call" takes the RECIPIENT as its internal argument (i.e., the object), in Japanese the RECIPIENT must be introduced by a preposition and the phone call itself must be introduced as the THEME (i.e., the object) by a specific verb such as "kakeru" or "suru" (e.g., *gozen chuu kere ni denwa o kaketa*. Or *gozen chuu kere ni denwa o shita*.). In [22], the learner employs the English predicate-argument structure for the verb "toru/totte (take)" where the means of transportation "densha (train)" is assigned the thematic role of THEME and introduced as its internal argument (i.e., the object). This is a violation of the Japanese predicate-argument structure where "densha" must be introduced as the LOCATION by the preposition "ni (in)" as part of the verb "noru/note (take)" (e.g., *densha ni note gakkoo e iku*.).

The above instances of L1 predicate-argument structure in IL production reveal that though learners' "target" is always and should be the TL predicate-argument structure, they may turn back on their L1 seemingly equivalent one in IL production, It is in this sense that the IL system is predictably a composite of structures from multiple sources, such as L1 lemmas for certain lexemes, incompletely acquired ones in the TL, and completely acquired ones in the TL.

3.3 L1 Morphological Realization Patterns in IL Production

In addition to L1 lexical-conceptual and L1 predicate-argument structure, L1 morphological realization patterns may also occur in IL production. Morphological realization patterns deal with surface devices for word order, agreement, case assignment, tense/aspect/voice/mood marking, etc. L1 morphological realization patterns in IL production is often observed in early-stage learning. Below are some typical instances of such L1 lemma transfer in TL morphological realization patterns.

[23] In Japan student English junior high school start.
[24] I in Japan my city like.
(Japanese L1; Wei, 1995)
[25] Sorry, Only little English I now.
[26] Tomorrow to New York we'll go with some friends.
(Japanese L1; Wei, 2003, p. 69)

[27] I English not speak.
[28] My husband in USC study.
(Chinese L1; Wei, 1995)

[29] Go swim? No. Parent no go, you no go swim.
[30] You go too? We have three ticket.
(Chinse L1; Wei, 1996b, p. 421)

[31] watashi wa moou kakiowatta watashino repooto.
“I already finished my paper.”
[32] watashitachi wa shigoto ni iku mainichi.
“We go to work every day.”
(English L1; We, 2003, p. 69)

The basic Japanese word order is Subject-Object-Verb (SOV), early-stage Japanese learners of English may transfer such a word order to IL production as observed in [23], [24] and [25], where any constituent is placed before the verb (i.e., the verb always occupies the sentence final position). In [26], the prepositional phrase “to New York” is placed before the predicate verb “go”. In this instance, the prepositional phrase “with some friends” in placed in the sentence final position, but the whole sentence sounds nonnative like because of the misplacement of the prepositional phrase “to Now York”. In [27], the direct object “English” is placed before the verb. In [28], the prepositional phrase “in USC” is placed between the subject and the verb. Although Chinese shares the same basic word order Subject-Verb-Object (SVO) as English, in Chinese any constituent can be moved to the sentence initial position or before the verb for topicalization or emphasis. Also, depending on the speech context, in Chinese any implicit constituent can be left out as understood. In [29], “you”, the subject, does not appear. Furthermore, unlike many other languages, Chinese has few auxiliary verbs and no system morphemes (i.e., grammatical or functional morphemes) of negation as shown in [27] and [29], 3rd person singular as shown in [28], plural marking as shown in [30] or any other grammatical functions. Some English learners of Japanese may also employ their L1 morphological realization patters. In [31], the sentence elements are ordered in the typical English SVO order, where the object follows the predicate verb. In [32], the sentence elements basically follow the Japanese SOV order, but the adverbial of time “mainichi (every day)” is place the sentence final position, which is allowed in English, but not in Japanese.

The above instances of lemma transfer of L1 morphological realization patterns further reveal that sources of language transfer can be better explored at an abstract level, that is, at the lemma level. Learners never transfer anything from nowhere.

4. Conclusion

This study explores language transfer in terms of the nature of the composite abstract lexical structure in IL production by investigating sources of learner errors at a rather abstract level. Following the BLAM, it claims that the bilingual mental lexicon is a composite, and the linguistic systems involved in IL, such as learners’ L1, their TL and their IL, contribute different amounts to the IL production. It focuses on the three subsystems such as lexical-conceptual structure, predicate-argument structure, and morphological realization patterns which are affected by learners’ L1. Based on some commonly

observed instances of language transfer, it further claims that learner errors are caused by the activation of language-specific lemmas in the bilingual mental lexicon during the IL production process. As described in this study, lemmas are abstract entries about particular lexemes, lemmas are language specific, and it is cross-linguistic differences in lemmas which affect IL production. When lemma transfer occurs at the level of lexical-conceptual structure, inappropriate lexical selection results; when lemma transfer occurs at the level of predicate-argument structure, TL thematic role assignment is violated; when lemma transfer occurs at the level of morphological realization patterns, TL surface grammatical requirements are unsatisfied.

This study offers several implications for studying the nature and activity of the bilingual mental lexical in IL development. First is the implication that any language transfer or learner errors need to be studied beyond superficial observation or description. Second is the implication that learners do not transfer anything into their IL production from nowhere, and most learner errors are caused by learners' intentional employment of their L1 at each of the three subsystems. The third is the implication that although the TL is always learners' "target", successful learners need to make their abstract lexical structure less "composite" but more "target like".

References

Lado, R. (1957). *Linguistics across Cultures: Applied Linguistics for Language Teachers*. Ann Arbor, ML: University of Michigan Press.

Bialystok, E., & Sharwood Smith, M. (1985). Interlanguage is not a state of mind: An evaluation of the construct for second language acquisition. *Applied Linguistics, 41*, 23-60. https://doi.org/10.1093/applin/6.2.101

Choi, S., & Bowerman, M. (1991). Learning to express motion events in English and Korean: The influence of language-specific lexicalization patterns. *Cognition, 41*, 83-121. https://doi.org/10.1016/0010-0277(91)90033-Z

de Bot, K., & Schreuder, R. (1993). Word production and the bilingual lexicon. In R. Schreuder, & B. Weltens (Eds.), *The bilingual lexicon* (pp. 191-214). Amsterdam: John Benjamins. https://doi.org/10.1075/sibil.6.10bot

Dewaele, J-M. (1998). Lexical inventions: French interlanguage as L2 versus L3. *Applied Linguistics, 19*, 471-490. https://doi.org/10.1093/applin/19.4.471

Dulay, H. C., Burt, M. K., & Krashen, S. D. (1982). *Language two*. New York: Oxford University Press.

Eubank, L., Selinker, L., & Sharwood Smith, M. (1995). The current state of interlanguage: Introduction. In L. Eubank, L. Selinker, & M. Sharwood Smith (Eds.), *The current state of interlanguage: Studies in honor of William E. Rutherford* (pp. 1-10). Philadelphia: Benjamins. https://doi.org/10.1075/z.73

Fuller, J. M. (1999). The role of English in Pennsylvania German development: Best supporting actress? *American Speech*, *74*(1), 38-55.

Jackendoff, R. (1991). Parts and boundaries. *Cognition*, *41*, 9-45. https://doi.org/10.1016/0010-0277(91)90031-X

Jake, J. L. (1994). Intrasentential codeswitching and pronouns: On the categorical status of functional elements. *Linguistics*, *32*, 271-298. https://doi.org/10.1515/ling.1994.32.2.271

Jake, J. L. (1998). Constructing interlanguage: Building a composite matrix language. *Linguistics*, *36*, 333-382. https://doi.org/10.1515/ling.1998.36.2.333

Jarvis, S. (2009). Lexical transfer. In A. Pavlenko (Ed.), *The bilingual mental lexicon: Interdisciplinary approaches* (pp. 99-124). Bristol: Multilingual Matters. https://doi.org/10.21832/9781847691262-007

Jiang, N. (2000). Lexical representation and development in a second language. *Applied Linguistics*, *21*(1), 47-77. https://doi.org/10.1093/applin/21.1.47

Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. Cambridge, MA: MIT Press.

Levin, B., & Pinker, S. (1991). Introduction to special issue of *Cognition* on lexical and conceptual semantics. *Cognition*, *41*, 1-7. https://doi.org/10.1016/0010-0277(91)90030-8

Myers-Scotton, C. (2002). *Contact linguistics: Bilingual encounters and grammatical outcomes*. New York: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198299530.001.0001

Myers-Scotton, C., & Jake, J. L. (1995). Matching lemmas in a bilingual language competence and production model: Evidence from intrasentential code switching. *Linguistics*, *33*(5), 981-1024. https://doi.org/10.1515/ling.1995.33.5.981

Myers-Scotton, C., & Jake, J. L. (2000). Four types of morpheme: Evidence from aphasia, codeswitching, and second language acquisition. *Linguistics*, *38*(6), 1053-1100. https://doi.org/10.1515/ling.2000.021

Palmberg, R. (1990). Improving foreign language learners' vocabulary skills. *RELC Journal*, *21*(1), 1-10. https://doi.org/10.1177/003368829002100101

Pinker, S. (1989a). *Learnability and cognition*. Cambridge, MA: MIT Press.

Pinker, S. (1989b). Resolving a learnability paradox in the acquisition of the verb lexicon. In M. L. Rice, & R. L. Schiefelbusch (Eds.), *The Teachability of language* (pp. 13-61). Baltimore, MD: Brushwood Graphics.

Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, *10*, 209-230. https://doi.org/10.1515/iral.1972.10.1-4.209

Talmy, L. (1985). Lexicalization patterns: Semantic structure in lexical forms. In T. Shopen (Ed.), *Language typology and syntactic description*, *Vol. 3* (pp. 57-149). Cambridge: Cambridge University Press.

Wei, L. (1995). *Chinese and Japanese learners' interlanguage data* (Unpublished corpus). University of South Carolina, Columbia, SC.

Wei, L. (1996a). Organizing principles behind codeswitching and interlanguage development in early adult second language acquisition. In J. Arnold, R. Blake, B. Davidson, S. Schwenter, & J. Solomon (Eds.), *Sociolinguistic variation: Data, theory, and analysis* (pp. 417-431). Stanford, CA: CSLI Publishers.

Wei, L. (1996b). *Variation in the acquisition of morpheme types in the interlanguage of Chinese and Japanese learners of English as a second language* (Unpublished doctoral dissertation). University of South Carolina, Columbia, SC.

Wei, L. (1998). Complex lexical structure and morpheme acquisition in interlanguage development. In M. C. Gruber, D. Higgins, K. S. Olson, & T. Wysocki (Eds.), *CLS 34, Part 2: The status of constraints, the acquisition of spoken language, acquisition and the lexicon* (pp. 534-545). Chicago Linguistic Society, University of Chicago, IL.

Wei, L. (2000). Unequal election of morphemes in adult second language acquisition. *Applied Linguistics*, *2*, 106-140. https://doi.org/10.1093/applin/21.1.106

Wei, L. (2001). Lemma congruence checking between languages as an organizing principle in intrasentential codeswitching. *International Journal of Bilingualism*, *5*, 153-173. https://doi.org/10.1177/13670069010050020201

Wei, L. (2002). The bilingual mental lexicon and speech production process. *Brain and Language*, *81*, 691-707. https://doi.org/10.1006/brln.2001.2557

Wei, L. (2003). Activation of lemmas in the multilingual mental lexicon and transfer in third language learning. In J. Cenoz, B. Hufeisen, & U. Jessner (Eds.), *The multilingual lexicon* (pp, 57-70). Dordrecht: Kluwer Academic Publishers. https://doi.org/10.1007/978-0-306-48367-7_5

Wei, L. (2009). The composite nature of interlanguage as a developing system. *Research inn Language*, *7*, 5-30. https://doi.org/10.2478/v10015-009-0002-9

Wei, L. (2015). *Interlanguage: The abstract level in language acquisition*. New York: The Edwin Mellen Press.

Wei, L. (2020). *The bilingual mental lexicon*. UK: Cambridge Scholars Publishing.