Effect of exposure to L2 socio-cultural background on the L1-based conceptual system of Korean learners of English

Hyeyeon Kim

University at Albany, State University of New York, 04ahykim@gmail.com

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THE EFFECT OF LEVELS OF EXPOSURE TO L2 SOCIO-CULTURAL BACKGROUND ON THE L1-BASED CONCEPTUAL SYSTEM OF KOREAN LEARNERS OF ENGLISH

By

HyeYeon Kim

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ABSTRACT

This study explores the conceptual system of adult Korean learners of English with three different levels of exposure to a second language (L2) cultural background. Assuming that different exposure to an L2 socio-cultural backgrounds plays a significant role in modifying a learner’s conceptual system that operates both an L1 as well as an L2 channel, this study examines the influence of L2 cultural background knowledge on (previously developed) L1-based conceptual knowledge of lexical items in production. The cross-cultural difference of lexical-conceptual knowledge is characterized by the lexical items (pairs of L1-L2 lexical items) existing in both in their first language (L1) and in L2 language but that differing at the conceptual and the socio-cultural load.

Participants consisted of two baseline groups of subjects monolingual in Korean (N= 29) and United States English (N= 30), and three experimental (i.e. comparison) groups of Korean-English bilingual subjects (N= 85). The latter were organized as follows depending on their level of L2 exposure: Korean learners of English living in the U.S. for at least two years (KESL), Korean learners of English living in Korea (KEFL), and Korean heritage speakers in the U.S. (H).

In the concept-elicitation task, learners’ spontaneous production of conceptual knowledge such as thoughts, images, contexts, and feelings were compared with those of monolingual speakers in order to track their conceptual development, assumed to move along the L1-L2 continuum. As an additional task, they were asked to rewrite an L2 story in L1 to see whether and how L2 learners’ modified conceptual system affect the use of L1 lexical items when switching from L2 to L1. This task reflects the extent to which conceptual knowledge is
modified according to the level of L2 cultural exposure such that L2 learners either make a conceptual switch or lexical switch when they have to move from L2 to L1.

The findings of the study showed that L2 learners with long-term exposure to an L2 sociocultural background differed from learners with less or no exposure quantitatively and qualitatively. For example, KESL learners not only produced more L2-based conceptual knowledge than KEFL learners, but they also shared more L2-based qualitative features. In the L1-L2 conceptual knowledge comparison, both learner groups produced more L1-based than L2-based contexts. Specifically, KESL learners were further than KEFL learners from L1-based qualitative features. Although the heritage group produced mixed results, they showed more proximity to L2-based conceptual knowledge, which distinguished them from learner groups. The statistical results also showed that the heritage group was significantly different from the learner groups in terms of the conceptual knowledge underlying their lexical items. In the task of rewriting an L2 story in the L1, similar results were also observed, indicating the different effects of levels of cultural exposure on the conceptual system, which was reflected in the learners’ conceptual production and L1 lexical use.

Despite long exposure to L2 socio-cultural exposure, certain L1-based concepts were maintained, which means that learners were reluctant to develop L2 conceptual knowledge. In contrast, there were certain L2 concepts that were easily subject to change.
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1. INTRODUCTION

Background: Conceptual Issues

In this study, I hypothesize that language learners’ exposure to target cultural context will significantly impact their first language (L1) conceptual system. Language learners in foreign language (FL) learning contexts lack experience with the socio-cultural context that enables them to fully access the target cultural knowledge attached to the lexical items. According to Kecskes and Papp (2000), FL learners are able to increase their language knowledge, but they cannot acquire the conceptual knowledge because of the existence of and reliance on an L1-based conceptual system. As Kroll (1993) proposed, learners in their early stage of learning tend to relate L1 meanings to L2 meanings by linking the knowledge in L1 to L2 forms. Their growth of lexical knowledge is irrelevant to the conceptual knowledge, however, and hence learning only occurs at the “linguistic level” without integrating the “conceptual level” (Kecskes, 2003, 2008 2010, e.g. cultural meaning, contextual use, appropriateness, and so on that can be acquired through the exposure to L2 culture).

Kroll and Stewart’s (1990, 1994) bilingual development model (i.e. Revised Hierarchical Model) demonstrates the organization of the L1 and L2 lexicons in the minds of bilinguals from a developmental and conceptual perspective. They argued that bilinguals’ development of L2 concept is associated with increased proficiency and constant experience with L2 and/or L2-dominant context. During the initial developmental process (i.e. learning at the linguistic level), learners usually map each L2 lexical item onto dictionary definition, which is the translation equivalent. It means that they bypass the conceptual knowledge of L2 lexical items. As learners’ proficiency increases, the ability to process conceptual knowledge of L2 also increases. That is, the finding of their study emphasizes on the importance of the level of proficiency, as the
proficiency factor has been proven to be determining to predict the development of a link between L2 lexical items and L2 concept.

So far, an increasing number of scholars in the field of Second Language Learning/Acquisition, Bilingualism, and Cultural/Intercultural Pragmatics have recognized and valued the L2 cultural exposure/experience and the ways in which learners engage in authentic, natural, and real-world knowledge and communication. That is, they give great attention to the power of immersive L2 experience arguing that the authentic learning situations lead to a substantial change in the existing conceptual system (e.g. Kecskes and Papp 2000; Cook, 2003), accompanied with access to conceptual representation (e.g. Kroll and Tokowicz, 2001), mental representation (e.g. Grosjean, 1982, Riehl, 2010), and cognitive pattern (e.g. Athanasopoulos et al., 2015; Pavlenko, 2000, 2009). Primarily the learners’ use of lexical items reflects “social changes and communicative needs” (Kecskes, 2004, p. 8). As stated, L2-based socio-cultural background knowledge is shaped within the same speech community through the practice. The L2 context provides learners with a variety of different communicative contexts and the most commonly used contexts. In turn, this conceptual learning experience influences the previous L1-governed concepts in a way that encourages them to be redefined. As a result, learners’ concepts for L1 lexical items are ‘modified’.

Specifically, the target cultural community provides learners with more direct and authentic opportunities to be exposed to “culture-specific parts of world knowledge” and “different parts of sense of language”, tied to contexts, than those in the first language community (Kecskes, 2008). Through the frequent and various interaction with the target cultural community, learners’ conceptual knowledge “grow and evolve rather than are learned”, and their lexical items begin to encapsulate the conventionalized, conceptual content along with the socio-cultural load (Kecskes
To that end, the objectives of this dissertation research are to explore 1) the change in the conceptual content for lexical items that exist in learners’ L1 but that require acquisition of L2-based new content according to the cultural experience in an L2 speech community, which would be the result from 2) the effect of cultural experience in an L2 speech community on the existing L1 conceptual system, which transform learners’ L1 conceptual systems into a modified conceptual systems, and 3) the differences in learners’ L1 use due to this modified conceptual system.

Let us take two examples and see how lack of conceptual knowledge may cause difficulties in searching for and producing an appropriate L2 word.

**Excerpt** (adapted from Kecskes, 2014: original text was analyzed from a conversation analysis (CA) method. The NNS signifies a non-native speaker, Korean learner of English, and the NS is a native English speaker).

NNS: So to me, uh, when I first came in here, when I eat some, when I ate some bagels?

NNS: Bagels, ah, give me a pressure to eat because there is so many cream cheese in there.

NS: I know, the cream cheese.

NNS: Yes, now I can eat but at that time at that point I can’t, I couldn’t eat cuz it’s a little bit burden, it was a little burden to eat?

NS: When you say burden, what do you mean?

NNS: Pressure, I mean.
(1) In this excerpt, the Korean non-native speaker of English seeks to express that the cream cheese in the bagel was too ‘heavy’ for her. During the conversation, the learner used the word ‘pressure’ and then tried the word ‘burden’, but (still) couldn’t find the appropriate word in English. In Korean culture, her word choice ‘burden’ (pudam, 부담 in Korean) would be appropriate whereas in the U.S. culture this translation equivalent is not. This is mainly because of the different context encoded in L1 and L2 words that are only seemingly interchangeable. Another example is the concept ‘competition’ (kyŏngjaeng, 경쟁 in Korean) that exists in both cultures, but differs with regard to the conceptual contents, attitude (e.g. positive vs. negative connotation), and contextualization between cultures. This study confirmed that with the attitude scale test, the amount of quite negative attitude expressed by many Koreans to “경쟁” is not matched by the attitude of Americans to “competition” (e.g. many of them responded with a neutral or somewhat positive attitude).

These examples, on the whole, clearly show that without acquiring L2 conceptual knowledge our communication cannot “fit the functional needs of new language and culture”, and that adult L2 learners’ difficulty pertains to their interdependent relation between L1 and L1-governed way of thought (where the concept is a thought category; Kecskes, 2019), which developed in L1 culture (Kecskes, 2003, p. 199). This suggests that learners need to adjust and set up L2-based thought for L2 words to successfully communicate and translate their thoughts in L2 (i.e. conceptual translation, which is an important term in this research). The goal of second language learning is that it is expected to open the door to accessing new information and content shared within the target culture as world knowledge. This goal highlights the importance of the awareness and understanding of the difference in terms of underlying conceptual knowledge.
between L1 and L2 lexical items, which benefits from learners’ exposure to target cultural community.

**Why Does an L2 Learner’s Lexical Conceptual System Matter?**

What constitutes word knowledge is partly conceptual knowledge that carries sociocultural load. This is not that developing conceptual knowledge does not go hand in hand with learning linguistic sign; in fact, the conceptual knowledge is something to be grown and evolved, not necessarily learned through language textbooks (Kecskes & Papp, 2000). This ought to be achieved through cultural experience, such that it offers access to cultural knowledge and makes learners adapted appropriately and fully to the cultural context. As such, linguistic sign with sufficient cultural knowledge is essential to developing the lexical-conceptual system. Here, three main problems are listed, followed by discussion:

1. Associating equivalent lexical items in L1 and L2 to dictionary meaning. 2. Learning a particular aspect of context where an L2 lexical item can be used while disregarding other contexts in which it can also be fitted. Through the practice of both 1 and 2, learners can achieve the meaning, but not the conceptual knowledge (e.g. contextual meaning). Since “conceptual system is culture specific rather than universal” (Kecskes & Papp, 2000, p. 49; Wierzbicka, 1992), it is only through real-life situations and sociocultural experiences that we take in cultural background knowledge. Importantly, the lexical item functions as a repository of context (Kecskes, 2004, 2007, 2009). More specifically, the core meaning of the lexical item may be entirely different between L1 and L2 if a culture-specific conceptual property (CSCP, will be discussed in next paragraph) is attached to its core meaning. This fact necessitates acquiring contextual uses of L2 lexical items. By being exposed to conventionalized situations in which L2
is used, learners can develop ‘coresense’ of L2 lexical items, reflecting the common collective knowledge and the public context associated with lexical items. In this way, L1 equivalents that were once characterized by L1-based coresense and contexts begin to accommodate L2-based coresense and contexts (to some extent, depending on the speaker’s experience). 3. Limited ‘direct experience’ to target culture may deprive learners of experiencing full aspects of concept: especially when concepts are culturally loaded and/or charged. As noted by Kecskes (2019), “a lexical item embodies the sociocultural prior experience”, and therefore the experience in target culture is influential on concept formation. In this study, L2 English was used to compare learner groups’ conceptual development according to their cultural contexts.

Conceptual Development in L2 Context

As Kecskes and Papp (2000) pointed out, language learning is much more than learning about a linguistic system (alternatively referred to as a system of signs or linguistic code): what underlies is a conceptual system. Different languages reflect world knowledge in different ways. “The way people see and understand the world is usually reflected in their language” (Kecskes, 2009, p. 4). World knowledge and sociocultural load interplay to represent a concept in a particular culture and they are attached to merely any lexical unit. In this regard, L2 learners who learn “linguistic code” with limited or no experience using L2 in its target culture, find it difficult to “acquire encoded world knowledge of that particular language” (p. 4).

Socio-cultural background knowledge refers to the resource of world knowledge that is comprised of conceptual knowledge (e.g. different senses of language) and encyclopedic knowledge (e.g. cultural behavior, norms, value, etc.). The former is directly tied to lexical items whereas the latter is not something that is explicitly referred to by speakers, but both are related
each other to construct the conceptual base. Our cognitive structures and functions derive from this conceptual base. In L2 learning, the conceptual knowledge that is cross-culturally shared consists of core meanings (e.g. linguistic knowledge: dictionary/semantic meaning) and situational contexts. The acquisition of L2-based conceptual knowledge in language learning should be emphasized not only to be aware of the cross-cultural and cross-linguistic differences but to improve the real fluency (Kecskes, 2000a, 2000b), which is in line with the developmental and instructional perspective.

If we accept that “grammatical and lexical problems usually derive from conceptual failures” (Kecskes and Papp, 2000, p. 8), then the point of language learning should not be in obtaining linguistic proficiency as well as fluency. Thus, I agree with Kecskes and Papp (2000) in that “conceptual knowledge” is “even more important than grammatical and communicative knowledge because it serves as a basis for” the two (p. 10). The consensus in this line of research is that the grammatical proficiency (usually called language fluency) is not necessarily accompanied by conceptual development (Kecskes, 2000a, 2000b, 2003, 2008, 2010, 2015, 2019; Bardovi-Harlig, 2008, 2009, 2010, Bardovi-Harlig & Bastos, 2011). Yet, while language fluency has been researched extensively throughout decades, conceptual knowledge has not. If learners’ real fluency is reflected in their conceptual fluency (Danesi, 1992, 1995; Kecskes 1998; Kecskes & Papp 2000) and pragmatic meaning (DeKeyser, 1998), the fluency is inseparable from the conceptual knowledge and the conceptual knowledge undergoes the process of internalization, which in turn transform L1-based concept into the modified one (Kecskes 2008, 2013, 2019). What would be required in research is that the one modified conceptual system be viewed as a central force to operate two separate language.
Claims and Research Questions

This study investigates whether and to what extent bilinguals’ conceptual system is changed as a result of their different exposure to L2 socio-cultural backgrounds (e.g. exposure to target culture, exposure to L1 culture). The exposure to an L2 culture is assumed to play a significant role in changing the existing content, contexts, and connotations that constitute the conceptual knowledge behind the word, once shaped by L1 socio-cultural background. Learning in target context assumes opening up to an L2 socio-cultural knowledge (e.g. collective, salient, and preferred knowledge) tied to L2 words. At the conceptual level, a learner’s L1-based conceptual knowledge is assumed to go through the constant modification to the extent of learners engaging in the frequent, varied, and authentic interactive processes (i.e. the sociolinguistic and pragmatic aspects of a lexical unit) by which L2-based conceptual knowledge enters into and becomes blended with the prior L1-based conceptual knowledge. Thus, L2 learners’ conceptual systems should be viewed as ‘modified conceptual systems’ (the most important term in this study) that operate both an L1 as well as an L2 channel. Investigating this underlying conceptual change issue, I sought to answer to the following questions:

1. How will conceptual change be demonstrated in the concept-elicitation task and the task to rewrite L2 story into L1 when Korean learners of English and Korean heritage learners are exposed to different levels of L2 socio-cultural background?

2. What is the nature of conceptual change in the mind of Korean learners of English and Korean heritage learners when they are exposed to different levels of L2 socio-cultural background?

3. How can we demonstrate that Korean learners of English and Korean heritage learners are aware of this conceptual change?
2. LITERATURE REVIEW

Much of the research on L2 lexical processing and production by adult learners has examined their ability to access L2 concepts, along with language proficiency and language experience factors. The most influential and relevant was Kroll and Stewart’s (1990, 1994) Revised Hierarchical Model (RHM) that proposed that the RHM’s differential prediction (e.g. word association and concept-mediation route) that the strength between L2 lexicon and concept is different depending on the proficiency. The notions and developmental aspect of second language learning discussed in RHM align with other frameworks important in this study: common underlying conceptual base (CUCB, Kecskes & Papp, 2000), dynamic model of meaning (DMM, Kecskes, 2008).

Theoretical Perspective: Revised Hierarchical Model (RHM)

Weak link between L2 word and concept

Regarding change in bilingual’s L2 lexical access, Weinreich’s (1953) hierarchical model was a foundation that addressed the connection between word and its different type and degree of conceptual representation in bilingual memory, and Potter et al (1984)¹ distinction between concept mediation hypothesis and word association hypothesis was also theoretical basis to understand and predict bilingual language processing, whereas the bilingual developmental hypothesis was not their outset, which is essential issue of this study. It was Kroll and Stewart’s

¹ Word association model is that L2 word’s meaning is accessed through corresponding L1 equivalent (L1 word form). Concept mediation model is that both L1 and L2 word form are directly connected to respective concept. L2-to-L1 word form involves concept, direct retrieval of concept.
(1990, 1994) Revised Hierarchical Model (henceforth: RHM) that explains how language is differently processed with increased L2 proficiency by adult late bilinguals. The model was established initially by taking the evidence from translation production data, claiming two different routes to translation: word-word association and concept-mediation route (Kroll and Stewart, 1994; Kroll and Tokowicz, 2001).

Word association route means that bilinguals access L2 words through its L1 translation equivalents to retrieve meaning of L2 words. This is based on the assumption that L1 and L2 words share the meaning. In most cases, bilinguals whose L2 proficiency is insufficient heavily rely on this association, interchangeably termed, lexical level connection that they just bypass the concept. On the contrary, the connection between L1 and concept is strong, direct, automatic which is not the case for the connection between L2 and concept. In other words, L2 and concept connection is not strong nor conceptually mediated. The translation performance experiments in both directions, specifically investigating the semantic effect through word naming in another language and picture naming, measured by time and accuracy, results in that bilinguals engage in differential semantic processing for different direction. Translation asymmetry, in L1 to L2 forward translation direction, may derive from the dependence on L1 lexical equivalents, L1 concept, in an attempt to access to L2 concept. That is, this L1 - L2 direction requires mediation via translated meaning, called concept-mediated translation. By improving their L2 proficiency, the link from L2 word to concept is gradually developed and becomes active, then bilinguals’ access to concept becomes stronger and accessible than before. L1-L2 translation process is more likely to be mediated by concept, more engaging semantic processing, less likely to go through translation equivalents.
Translation Asymmetry

Translation production research showed that how development of concept changes the mechanism of bilinguals’ language processing by which the link between L2 words and its concept gets strengthened. The concept develops with increased skill in L2. So, bilinguals who are less skilled do not easily link L2 word to concept, namely weak conceptual link. However, it does not necessarily mean that the link to concept is impossible at all, rather the link is significantly weak in forward translation at early developmental stage and gets stronger with high proficiency.

This change in strength has been primarily observed in recognition rather than production experiments (Kroll et al, 2010). In translation recognition experiments, the conceptual link (i.e. L2 form and meaning) was shown to be strong and active even for less proficient bilinguals (de Groot, 1992; Groot, Dannenburg, & Van Hell, 1994; Kroll & Sunderman, 2006). That is, regardless of the proficiency, there is no difference in lexical processing between backward and forward translations at recognition level. However, current study does not necessarily deal with findings from recognition experiments primarily because eliciting conceptual knowledge takes considerably different form of cognitive activity. Moreover, investigating the activation of semantic meaning would significantly limit the scope of this study. Thus, it is only through the lexical-conceptual production tasks that require participants to engage in a distinct cognitive process than was not intended on recognition tasks. As Kroll et al (2010) noted, the lexical processing in different forms of context consider different engagement of cognitive processing:

The same lexicon may be accessed in both production and comprehension but the events that initiate processing, the representation of the meaning of the intended utterance in planning speech, the written form of a printed word in reading, and the sound of a spoken word in listening, will determine the nature of the activated candidates and the order in which lexical codes are engaged. (p. 375)
A series of experiments (Kroll and Stewart, 1994) with relatively proficient Dutch-English bilinguals showed the differential processing in terms of lexicalizing concept into L2 than into L1. For example, participants were asked to name the words in another language among the words that are semantically related and randomized. It assumes that participants were more likely to be sensitive to the interference of semantic manipulation (the latter) and in the L1-L2 forward direction. It is because that the retrieval of L1 equivalent, a process to retrieve the concept of the word, is required to activate the semantic information of L2 word. As predicted, the finding revealed that the semantic interference effect was observed for L1-L2 direction than the L2-L1 direction (subsequent production-based experiments for groups of more or less proficient bilinguals have showed the same result, except the result from recognition experiment). More specified and common findings in this kind of experiments were as follows. 1) Time: the time course of processing for naming among pictures of same categories takes longer (i.e. slower) than that of random categories and 2) Accuracy: L2 word production is less accurate. After that, they were tested if they remember the test word, which results in that L1 test words than L2 words were more accurately recalled. Taken together, it is interpreted as support for RHM prediction, suggesting that forward translation cannot be faster than backward translation because of requirement of conceptual mediation whereas backward translation that does not go through it would quickly be processed at lexical level (e.g. lexical activation). Subsequent studies produced consistent evidence predicting concept-mediated translation in L1-L2 direction, which the meaning is activated by L1 words (e.g. Sanchez-casas et al., 1992; picture naming task by Sholl et al., 1995; experiments using variables such as concrete words and words with number of translation equivalent by Tokowicz and Kroll, 2007).
Unequal activation of concept

As mentioned above, less fluent bilinguals may also be capable of conceptually mediating L2 only when engaging in recognition studies such as within- and across-language categorization task, lexical decision, etc. In addition, for the task in which cognates were included possibly have had similar finding that is incompatible with RHM. Compared to more fluent bilinguals, the ability to use concept was still limited. This difference attributes to different size of lexicon of which each language has its own lexical store where conceptual memory is in. In L1-L2 cross language condition, both languages activate conceptual information that would not be similar each other unless they are almost balanced bilinguals. But the shared conceptual representation does not correspond to L2 for the fact that the size of L2 lexicon – amount of semantic information - is much smaller than that of L1 and that L2 lexicon is comprised of fewer concepts (e.g. category exemplars in L2). Bilinguals’ retrieval of L2 concept is remained an
individual concept. Hence, activation of concept from shared conceptual representations proposed in RHM is not equal, and always subordinate to L1 concepts, especially for adult bilinguals (Kroll & Sunderman, 2006, La Heij et al., 1996). The acquisition process comes earlier for the familiar words. Learners make a gradual process in terms of developing L2 concept mediation. But the finding showed that learners’ L1 conceptual knowledge usually remain unchanged even after achieving fluency (Dufour & Kroll 1995).

In fact, the degree of sharedness in concepts across two languages determines the conceptual activation, as found in categorization task. Dufour and Kroll (1995) discussed about less fluent bilinguals’ ability of concept mediation, which they argue is possible if “L2 category cue activates small and well-defined set of conceptual representation in L2” (p. 176). It is the case for the complete overlap of L1 to L2, but not represent general L2 conceptual development. In the study of ‘semantic context effect by proficiency’ by Choi (2005), high proficient bilinguals took greater advantage of semantic context in the forward translation condition rather than in backward translation condition, but the reverse pattern was observed for the low proficient bilinguals. Regarding the result for low proficient bilinguals, contradictory to RHM, it can be accounted by the differential context effect. It could be an evidence that they activated more conceptual representations when L1 context is given than L2 context was given (Choi, 2005; Kroll & Stewart 1990).

The absence of translation equivalents in another language is one of reasons of lexical asymmetry (Dufour & Kroll 1995; Kroll & Tokowicz, 2001). Partial overlap that only have partially shared semantic components triggers activation of meanings in L1 and connect it to L2 meanings, which only to be barely approximate or incorrect. It aligns with the claim that L1 and L2 equivalents are not simple one-to-one mapping since translation equivalents in a particular
speech community involve different meanings, contextual use, senses, and much more (Tokowicz & Kroll 2007).

Another explanation for strength of links would be in the role of dominance. As Kroll and Stewart (1994) highlighted that the strength of lexical links differs not only as a function of L2 proficiency but also a relative dominance between L1 and L2. In bilingual language use model by Grosjean (1992), more active language is usually bilingual’s base language. That is, if L2 becomes more active, the base language will be L2 instead of L1. In this regard, Heredia (1997) argued that those who have lived in L2 culture for a long time experienced the dominant language shift from L1 to L2.

It is crucial that the cause of strength of links may attribute to the competition for lexical selection (Kroll et al., 2006, 2008), demand for control interference (Costa and Santesteba, 2004). In L1-L2 translation tasks, only bilinguals with high proficiency experience the interference (e.g. difficulty), as their attempt to connect the word-form to concept, in other words, which requires mediating the conceptual representation to proceed the translation. Studies with neurolinguistic approach to inhibitory process have revealed that when bilinguals translate word from L1 to L2 direction, the demand from L2 word to access concept gets heightened, causing higher competition among similar semantic information (or candidates), consequently reducing the time to make connection between L2 word and its concept.

**Theoretical Model: Dynamic Model of Meaning (DMM)**

For the purpose of this study, it is essential to understand the difference between a word’s semantic meaning and word’s concept (i.e. conceptual area) and how the concept relates to and is shaped by the social and cultural background. The interrelationship between the concept and the socio-cultural background helps us to understand the present study with regard to L2 learners’
conceputal change in relation to their social and cultural context. Kecskes (2007) states that what is behind a word is more than simply the semantic meaning. It is broader and more dynamic as it is embedded in and interacts with the socio-cultural background knowledge within a speech community. Our cultural, social, mental, and physical experiences with the world, in other words our embodied cognitive experience with the world, are encapsulated in a lexical item (Kecskes, 2004). Due to this fact, our world knowledge is partly culture-specific, and in turn our cultural knowledge is conceptualized in lexical items (Wolf & Polzenhagen, 2006). This cultural aspect of knowledge is attached to, by definition, the culture-specific conceptual properties (CSCPs), which are illustrated in Dynamic Model of Meaning (henceforth: DMM; see Figure 2). This part is not overtly realized with a lexical item, but carries the cultural load according to the context of lexical use. (See, for instance, differences of cross-cultural conceptual knowledge for the semantically same lexemes between Korean and the U.S. such as pumpkin/hobak (호박), “downtown/sinae (시내)”, “private institute/hagwon (학원).

It is important to draw on Kecskes’ (2008) DMM particularly because of its emphasis on the role of context in not just constructing but also supporting and provoking certain aspects of conceptual knowledge of a lexeme. More specifically, the context in DMM involves “both prior and actual present experience with the outside world” (Kecskes, 2008). As stated by Smith (2017), “the outside world includes not only the immediate environment, everything we see and hear, but also, more generally, the social world we move in with all the people with whom we interact” (p. 3). The notion of the ‘outside world’ is particularly important in this study due to the categorization of bilingual groups with respect to the cultural context participants live in. In this regard, the present experience with the outside world is the actual and situational context where
social interaction happens. And, this social interaction is influenced by one’s prior experience. This prior experience is a repertoire of individual knowledge which has been personalized through experience with the outside world (Kecskes, 2008, 2010, 2014, 2019; Smith 2017). Thus, these two sides of world knowledge inextricably and dynamically interact and are intertwined, such that they help build meaning construction and enhance comprehension of the meaning in situational contexts.

With respect to the context aspect of lexical items, “contextual prior experience” is, thus, encapsulated and reflected in one’s understanding and use of lexical items. Since the use of certain lexical items represents collective knowledge constructed in a particular speech community, the lexical item in its own right becomes a repository of context (contexts) (2008, p. 388). An inherent characteristic of lexical items is that they can “never be context free”, so they carry “meaning values without an actual situational context” (Kecskes, 2014, p. 140). In this study, the production of the prior contexts attached to a lexical item, which includes the meaning and contexts of reference, among groups of different L2 contextual exposure, are examined cross-culturally and inter-culturally. It is expected that those prior contextual knowledge (e.g. meaning and contexts) among groups, in turn, inform the role of L2 cultural exposure in developing CUCB, resulting in the modified conceptual system in the mind of L2 learners, which may also affect the way of thinking and using in L1.

Despite that learners’ production of contextual knowledge differs from that of native speakers’ due to the gap of concrete situational experience with the word, there is a crosslinguistic similarity in terms of the core meaning. This is why learners often use L2 lexical items in contexts where they are inappropriate in L2 culture, without relationship to conceptual knowledge development. Kecskes (2008), in his discussion about core meaning and its relation
to contexts, differentiates core meaning from contextualized meaning. First, the former is termed “coresense”, defined as basic conceptual information. The coresense is not treated as “a pure linguistic phenomenon”, but “extralinguistic factors” (Kecskes, 2008, 2014). It is “a summary of the most familiar, regular, typical and generally (but not always) frequent usage of a word in a particular developmental period of the given language” (2012, p. 45). “It is an essential feature of the word that brings together conceptual, semantic and grammatical information” (2012, p. 45) It is “a sum of previous occurrences of the word, which in itself can have a context-creating force, previous experiences make bringing about a standard context” (2012, p. 53). Second, even if the coresense is similar in two cultures and may not cause problems in communication, the various contextual interpretations of coresense are dissimilar between cultures and inaccessible without exposure to the cultural context. This particular thought and contextual meaning comprise “consense”. That is, the consense is difficult for learners to recognize, as it is “tied to a concrete, situated, contextual occurrence and the interplay of neighboring expressions” (2012, p. 51).

Therefore, DMM’s approach in an attempt to understand the complex and dynamic relationship between coresense and consense provides insight for this study. Also, it accentuates the inherent cultural background knowledge that is rooted in the lexical concept as well as the degree of L2 cultural contextual influence on L1 conceptual system.

A lexical item is a complex product that belongs to a public context on the one hand as well as an individual’s private context on the other hand. In the public context, a lexical item is publicly and commonly shared by members of the same speech community (i.e. collective knowledge, cultural product). However, it is the individual who makes the collective knowledge private, through the process of privatizing and subjectivizing. This private context is also indexed to a lexical item. The latter is deeply involved in the individual cognitive process, which
is the most essential point to language learning. Learners’ limited experience to public context in the L2 causes them to rely upon their most familiar conceptual knowledge, their L1-based prior knowledge.

*Figure 2. The Dynamic Model of Meaning (Kecskes, 2007, p. 41).*
The mechanism underlying learners’ production of modified concepts – dissimilar from that of their L1 native speakers in general – can be explained from what Cook (1992, 2002) refers to as “integration” (see Figure 3). It is one of three stages of development that provides the way bilinguals conceptualize L2 and thus its effect on L1 conceptual system. According to this notion of integration, L1 concept and L2 concept in each are not separate, but rather merged into a new concept underlying two languages. It relates to Kecskes and Papp’s (2000) claim about bilingual’s single conceptual system and the development of CUCB where preverbal thoughts originate and operate through two language channels that interact constantly. But, in another sense, “integration” is incompatible with the development of CUCB, as it stresses the interrelated relationship between thought and word. It means the concept is not exclusively independent from language: the modified concept is not a new concept that cannot belong to either language.

![Figure 3. L2 users’ vocabulary continuum (adapted from Cook, 1992)](image)

**Cultural Context and Bilinguals’ Conceptual Development**

Exposure to L2 cultural context is an essential condition for bilingual’s conceptual change. Although the quantity of L2 use or residence in L2 speech community does not necessarily affect the conceptual system, it is undeniable that the exposure to a good deal of L2
use in various kinds of cultural situations gives learners contextually and culturally oriented L2 knowledge. Kecskes and Papp (2000) assumed that “no real fluency is possible in the foreign language unless the learner spends some time in the target language country” (p. 10). The fluency does not only entail the lexical/grammatical knowledge, which can be achieved without acquiring the conceptual content (Kecskes, 2014), but rather come with the socio-cultural background knowledge, pragmatic knowledge, and skills in L2 activity (Cook, 1992; Kecskes, 2014; Kecskes & Papp, 2000; Pavlenko & Jarvis 2002). Learners in second language environment are provided with more access to L2-based socio-cultural knowledge than those in foreign language environment (Dansei, Mcleod, & Morris, 1993; Kecskes & Papp, 2000). The development of conceptual fluency is a developmental shift from reliance of word association link to concept-mediation link (Kecskes & Papp 2000; Kroll 1993; Kroll & Stewart, 1994). The change can be best captured at the lexicon that interact between linguistic representation and conceptual knowledge, in short, the lexical-concept interface (Kecskes, 2004). Word’s meaning is constituted in its own cultural background (Sweetser, 1990). Likewise, the relation between thought and word is united through meaning. And, this meaning represents human cognitive experience resulted from interaction and daily experience (Kecskes & Papp, 2000). These confirms that “concepts are culture specific” (Kecskes, 2014, p. 140). In L2 contexts, the culture specificity of word implies that it is rare to have a complete translation equivalents (de Groot, 2011), consequently enough exposure to L2 cultural background stands as decisive role affecting L1-based conceptual system.

The partial overlap between L1 and L2 concept can be accounted by the culture-specific conceptual properties of words that are shaped by the exposure to cultural context. Words can have similar lexical meanings in languages but may differ in conceptual loads attached to them.
It is called *synergic concept* (Kecskes, 2008, which is more discussed in the next section). An example can be the concept of “steamed rice” in Korean and English. An example can be the concept of “steamed rice” in Korean and English. An example can be the concept of “steamed rice” in Korean and English. “Steamed rice” ("밥, pop"), for most native Koreans, refers to a meal consisting of a bowl of steamed rice, a bowl of soup, and a few side dishes, including kimchi. It is served hot or warm.\(^2\) For most Americans, “steamed rice” is just one type of rice that is not typical consumed in daily life. Unlike Koreans, who associate the “steamed rice” with a “meal” in general, for Americans in the U.S., the regular “meal” has little to do with “steamed rice”. Moreover, this Korean word represents very much of Koreans’ warmth and hospitality, as it features in the common Korean greeting, “*Did you eat 밥* (steamed rice)”? This phrase literally means “*Have you eaten?*”. As such, L2 learners, who are in a cultural context, are more likely to acquire the socio-cultural load attached to the word “steamed rice”, both in L1 and L2, and become aware of that the underlying concept is different, although the meaning is semantically the same.

In this regard, bilinguals are, quite naturally, required to use a bidirectional processing between L1 concepts and L2 concepts, those of which interact dynamically in meaning construction and processing (Kecskes, 1998; Kecskes & Papp, 2000). It is the process that bilinguals can blend conceptual knowledge from two language channels into one conceptual

\(^2\) The Korean concept of a meal: the importance of rice in the Korean diet cannot be overemphasized. In fact, there are several words for rice:…… processed rice without a coating is referred to as *쌀*, and cooked rice, ready to be served, is *밥*. It is no accident that the word *밥* is used to refer to an entire meal as well as to rice itself. The Korean meal always includes an assortment of side dishes to bring out the flavor of the main course, whether that is rice, another grain, noodles, or dumplings (Young-mee Yu Cho et al., 2010, p. 238).
system, called common underlying conceptual base (henceforth: CUCB), hypothesized by Kecskes and Papp (2000). Bilinguals who develop CUCB no longer have a conceptual system that corresponds to that of monolinguals in L1 and L2. This claim is supported by many researchers (e.g., Cook, 2002, 2003a, 2003b, 2011; Francis, 2005; Grosjean, 2001; Otheguy et al. 2015). More importantly, the consequence of CUCB modifies not only conceptual base but also the way L1 is used, in a more elaborative manner, resulting in the cognitive advantage.

Regarding the learning context that supports the bi-directionality as a necessity of conceptual development, Kecskes (1998) and Kecskes and Papp (2000), based on their research finding, suggest that 2-4 hours a week of exposure to L2 in school is not adequate amount of time to have a positive cognitive influence on the development of L1 skills. In a similar vein, Ko (2017) addressed the importance of context for balanced bi-directional development that needs to be implemented for children’s language learning curriculum. The question was on the effect of English learning context (EFL, ESL, immersion) in proportion to length of stay in L1 country on L1 Korean grammar development. The finding showed that those differing learning contexts either accelerates or delays for correctly answer the questions in L1. For example, the result from question 1 in the study indicates that the least exposure to L1 and L1 culture while being exposed most to L2 and L2 culture correlates with limited grammatical knowledge and relatively low accuracy. Although exposure is a decisive factor it still may not result in significant conceptual change in the CUCB. Ortactepe (2012) found that conceptual change may not always happen in some bilinguals due to cultural or individual reason (this is more discussed in the discussion section).

Taken as a whole, it appears that the exposure to L2 socio-cultural environment along with its length and intensity may be a determining factor in conceptual change, but this does not
mean that conceptual change will always occur when the exposure is present. There are other factors that affect conceptual change such motivation, preference, willingness of the individual to accept, and others. Even fluent bilinguals who have been exposed to L2 cultural context do not necessarily have their conceptual system changed to a great extent.

**Conceptual Influence of Exposure to L2 Cultural Background on L1-based Conceptual Knowledge**

*Qualitative Change*

To achieve L2 lexical conceptual knowledge means to learn both coresense and consense as an integral part of a certain word. The problem is that learners in a classroom or FL learning environment are not provided with sufficient culture-specific contextual information, which in turn prevents them from having word-concept symbiosis evolved. In most cases, learners may as well develop coresense, as they learn meaning through dictionary definition without proper instruction or explanation that the equivalents between L1 and L2 do not mean that they share the similarities of conceptual load, connotation, value, or salient context between them. Learners may develop consense, which is a particular, not a whole, aspect of meaning – situated, contextual – occurred in a certain context. The former is learning a word merely at linguistic level, not a conceptual level, the latter is also not an effective approach even if the principle for learning is context-based (Kecskes, 2003). However, learning consense is harder than learning coresense even trying to immerse oneself to the target cultural environment. It is because the relationship between word and consense is quite loose. The core meaning only becomes specified and concrete when the context is given. This contextualized meaning reflects one’s actual thought, which belongs to more communal than individual sector (cf. opposite to L2 learners). That is, consense being tied to WSPs and/or CSCPs represents one’s ‘psychological
reality’ and it is a thing to be shared within members of speech community (Kecskes, 2003, p. 78). It implies that the inseparable relationship between language and reality. L2 learners can be more aware of and sensitive to different socio-cultural reality (Evans, 2009) So, for L2 learners, paying attention to consensus is a way to learn situated meanings and partly develop L2 pragmatic skills (Kecskes, 2003). Otherwise, learners may only know a word meaning that limits to a specific function.

**Bidirectional Influence**

L1 transfer is a phenomenon of linguistic transfer dealt with as negative phenomenon that happens at the beginning of learning. On the contrary, L2 transfer encompasses modified conceptual knowledge that involves the bidirectional influence between languages. Kecskes (1998) and Kecskes and Papp (2000) first discussed about this notion of bi-directionality. Its state is not fixed but moving in between on a developmental continuum. The gist of conceptual change is in the transfer of “knowledge and pragmatic skills”, and this is “noticeable in the (L1) language use”, for example, “metalinguistic awareness, good interactional style, broader knowledge base, multicultural attitude” (Kecskes, 2003 p. 192). Two sides of knowledge, skill-side and content-side, are transferred across two language and cultures, indicates the bidirectional nature of transfer. As such, the conceptual transfer should be considered a positive transfer. Consequently, L1 use is expected to be changed due to the modification of monolingual conceptual knowledge. According to Kecskes (1998, 2003), L2 effect does not result in errors in L1 use, rather the way L1 is used. It is exemplified with learners’ use of more sophisticated L1 vocabularies and structures. Learners start to use less frequently used L1 words or L1 words that they did not use in the past. This could be seen as their growing familiarity with concepts that fit more adequately in the L2 cultural context. In another way, it reflects learners’ knowledge and
efforts to express the concepts s/he originally intended.

However, it is not until after certain level of conceptual socialization and/or acculturation stage that this positive transfer is expected to occur (Acton and walker de Felix, 1986; 1995, Kecskes, 1998, 2003). This points out the importance of conceptual process through which new L2 socio-cultural background knowledge is interacted and then integrated into existing L1 conceptual system. Only when L2 leaners are conceptually involved in and learn different socio-cultural load attached to L2 during language activities, the concept that they acquired within L1 speech community that only carries L1 socio-cultural background knowledge is transformed into “synergic concept”. It is a “conceptual blends that encode the history of their prior use represented by two or more labels (words) in L1 and L2 production and comprehension” (Kecskes, 2007, p. 40).

In L2, it is not natural, but unique mechanism that has potential cross-linguistic, bidirectional influence between L1 and L2. It has been known in L2/bilingual pragmatic research that the linguistic proficiency does not develop in parallel with conceptual fluency. L2 is acquired in relation to L1 linguistic knowledge (e.g., Evans, 2009) and a skill-side of conceptual socialization, not through conceptually based content-side of acquisition (Kecskes & Papp, 2000; Kecskes, 2014). As such, L2 acquisition does not involve as much language socialization as L1 language development, which limits to access L2 socio-cultural knowledge. Even with the L2 cultural exposure, L2 acquisition also depends on learners’ contextual factor. For instance, those who live/work in environment where full access to L2 socio-cultural background is far limited or not necessary for them (e.g., immigrants who live long in the U.S. do not speak well in English, evidenced in sociolinguistics research). Similarly, Kecskes (2014) noted that “in L2 it is not exposure and social interaction but individual willingness, motivation and acceptance that play
the primary role” (p. 63). Nevertheless, “concepts are culture specific” (p. 140), which means target cultural exposure may be advantageous.
Pilot Study

The pilot study was carried out during 2014 with the data collection running from May through August. The primary goal of that study was to test whether a concept-elicitation task (adopted from Kecskes’ previous research, Kecskes, 2007) is an effective instrument for identifying the cross-cultural conceptual differences between two cultures (i.e. Korea and U.S), and, in turn, the change of conceptual knowledge in the minds of Korean learners of English in the U.S.

Participants were divided into four groups: a group of 15 native speakers of Korean (henceforth, KM) and a group of 15 native speakers of U.S. English (henceforth, AEM/EM), a group of 15 Korean learners of English in Korea (henceforth, KEFL), a group of 15 Korean learners of English living in the U.S. more than 2 years (henceforth, KESL). The participants’ age was controlled (i.e. all participants were in their 20s and 30s). For cross-sectional comparison, samples from a monolingual group were included as a baseline reference, and L2 learner population that was to be compared and contrasted against monolingual samples were included as a comparison group. That is, the baseline groups consisted of the number of 15 KM group and 15 AEM group. The comparison groups consisted of a KESL group who had a minimum 2 years of exposure to U.S. culture (i.e. participants’ developmental level was expected to be similar, suggesting beyond a certain threshold level) as opposed to a KEFL group (i.e. n = 15) with no exposure to U.S. culture while both groups have above intermediate level of proficiency in English and learning/using English on a regular basis. Each group provided a sample size of 15, which is almost half the number recruited for the dissertation research.
All groups of participants were asked to complete 20-minutes paper-based concept-elicitation task (cf. it was redesigned as an online task for this study) composed of 1) questions for word’s definition (e.g. the general term ‘word’ was used rather than the ‘lexical item’ in the task), 2) request for making a sentence, 3) request for selecting attitude (e.g. feeling). Each question was an integral part to explore the conceptual area underlying target lexical item. A total of 5 lexical items were listed: competition, teacher, dog, traffic, town. These were characterized with being translatable between Korean and English yet carrying some different conceptual load according to culture.

The result of this small sample size study proved 1) the existence of differences in the cross-cultural conceptual knowledge between two monolingual groups 2) change of monolingual-based knowledge in some Korean learners of English in the U.S. It is noteworthy that there was a small subset of Korean learners of English in the U.S. (e.g. three learners, with an average length of residence of 3 years) whose responses resembled the conceptual knowledge of native speakers of English in the U.S., and/or were not similar at all to learners of English in Korea. For example, one third of native English speakers mentioned the concepts of sports and a variety of events (e.g. data from subtask 1 for the lexical item “competition”), which were neither observed in native Korean speakers, nor in learners in Korea. But there were two learners in the U.S. who responded with the same concepts (e.g. Olympics, market place).

Another example about the deviation from both monolingual Korean group and learners in Korea was found in the contextual use of lexical item ‘town’ (i.e. data from subtask 2): the contexts commonly made by both Korean monolinguals and learners in Korea were based on the emotionally attached personal memory such as “I have feeling of warmth for my town”, “when the sun sets, our town is full of smell of bean paste stew” (Korean monolinguals), “my town always
welcomes me in its special warmth” (learners in Korea). But different pattern appeared for the group of learners in the U.S., as some did not attach their emotion to the ‘town’, which instead found to be aligned with native English speakers’ contextual use of the word, ‘town’.

Although it was found that a few learners in the U.S. had significant conceptual influence under the U.S. culture (e.g. their production of conceptual knowledge was different from monolingual Koreans while rather being closer to monolingual English speakers), such a small number of evidence was not sufficient to identify the relationship between the exposure to the target culture and conceptual change. In addition to that, the small sample of 15 participants in each group had a limitation in identifying patterns. Therefore, in the dissertation research the sample size needed to be enlarged by adding 15 (i.e. half more) participants for each group, which also enabled the statistical test, with the number of 30 participants.

The concept-elicitation production task was proved to be effective. First, most participants were able to produce their own individualized contents (e.g. salient conceptual knowledge). This indicates that their responses were relatively on their own, individually conceptualized contents rather than a uniformly defined meaning described in the dictionary. Second, participants’ responses had distinct categories within and across groups with different levels of exposure. It revealed the cross- and inter-cultural pattern. For example, more similarity was observed according to the cultural context in which a group was placed. These were the patterns that represent social-cultural knowledge that underlies and surrounds the lexical items. Consequently, these results corroborated that the concept-elicitation task is reliable for estimating participant’s current conceptual knowledge.

Nevertheless, it seemed that not all participants experienced that the task was straightforward and easy, particularly for L2 learners in Korea. For example, for the subtask 1,
there were several participants who merely rewrote the lexical item either in L1/L2 or both or wrote synonymous word at best. The most plausible reason that can explain this result is to be found in participants’ language learning background. It is not typical language classroom where students learn L2 lexical items without associating them with corresponding L2-based concept, contexts, and socio-cultural background knowledge. Students inevitably limited themselves by matching L2 lexical items to L1 equivalent of socio-cultural knowledge. This way of learning deprives them of accessing and exploring a broad conceptual meaning that differs culture by culture. To this end, it can be interpreted that those several participants were not even aware of the conceptual components and that their L2 language behavior. These are the outcome of EFL education in Korea\(^3\). Additionally, the observations and conversations with participants caused more reason to redesign the task. There were some participants who took longer (e.g. almost one hour) to complete the task, asked question to clarify what they were required to write during the task or stated that the task was difficult.

As a result, the task was redesigned to improve the clarity of task questions and instructions, and the total length of time to be spent. To strengthen the task’s overall effectiveness, a technology-based online task was designed. This new design uses the audio and visual tools for each lexical item. The technology-enhanced prompt was expected to better engage participants in the task. Altogether, the redesigning and refining process made the task more engaging and drew more attention so as to effectively elicit participant’s own conceptual area. In Table 1, the task used in the pilot study and how it is redesigned for dissertation study is presented side by side. Below is summary description about specific changes.

1. Re-designed presentation method: the presentation method was shifted from paper-

\(^3\) Dr. Kecskes made this point during a personal meeting, which is considered a crucial reason behind those participants’ language behavior.
based toward online-based (e.g. Google Forms) with support of other technological instruments. The lexical item was presented audio-visually within the video clip box (much more detail is in task 1 section).

2. Re-designed Subtask 1: more specific words such as ‘image, thought, and meaning’ replaced the general and even misleading word such as ‘meaning’. To investigate their conceptual trajectory, which is expected to be more local and situated in the individual state of mind, the change is expected to help subjects evoke one’s own mental image and to produce more spontaneous response.

3. Re-designed Subtask 2: Instead of one, two sentences were requested, in order to secure the useful data.

4. Re-structure: Each subtask provided all the lexical items in pilot study. The advantage of this design allows participants to focus on each task – different requirement from each task. However, it was not the lexical-item oriented task. Since the same lexical item was separately presented at each subtask, participants had to come up the concept of the lexical item in next subtask. To benefit cognitive process, the task should keep participant’s conceptual knowledge active and coherent rather than disconnected. It is the way to elicit relevant lines of conceptual knowledge that participants think of. As a result, three subtasks were organized as one set of measurement for certain ‘concept’ of a particular lexical item.

Table 1.

Comparison between concept-elicitation task in pilot study and refined concept-elicitation task for dissertation research.

<table>
<thead>
<tr>
<th>Pilot study</th>
<th>Dissertation Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation method</td>
<td>Presentation method</td>
</tr>
<tr>
<td>Paper-based task</td>
<td>Online-based task</td>
</tr>
<tr>
<td><strong>Stimuli</strong></td>
<td><strong>Stimuli</strong></td>
</tr>
<tr>
<td>Presentation</td>
<td>Presentation</td>
</tr>
<tr>
<td>Printed lexical items on the paper task</td>
<td>Video Clip displayed within the online task</td>
</tr>
<tr>
<td><strong>Stimuli Languages</strong></td>
<td><strong>Stimuli Languages</strong></td>
</tr>
<tr>
<td>English and Korean</td>
<td>Korean and English (i.e. the order of presenting language is switched)</td>
</tr>
<tr>
<td>Subtask 1</td>
<td>Subtask 1</td>
</tr>
<tr>
<td>Write down <strong>a meaning</strong> first coming up to your mind as</td>
<td>Write down <strong>images, thought, ideas</strong> as soon as participants</td>
</tr>
</tbody>
</table>
soon as participants see this lexical item

see and hear this lexical item through video clip

Subtask 2  Create one sentence using the same lexical item

Subtask 2  Create more than two sentences using the same lexical item

Subtask 3  Mark your attitude (feeling) about the same lexical item

Subtask 3  Mark your attitude (feeling) about the same lexical item

Format  Task-oriented format. At each subtask, all the lexical items were listed.

Format  Lexical item-oriented format. For each lexical item, three subtasks were combined.

**Instruments**

This study analyzed L2 learner subjects and Korean heritage subjects that were exposed to different levels of socio-cultural background knowledge, assumed to be influenced by their exposure to L2 culture. These contents were based on participants’ spontaneous written production. In Task 1, a concept-elicitation task, participant's conceptual knowledge for each of eight pairs of L1-L2 lexical items were obtained and holistically examined with three parts together: meaning, context, and attitude. In Task 2, rewriting L2 story into L1 task, L2 learner participants’ and Korean heritage participants’ L1 written lexical production were examined with reference to lexical items in the original L2 story. At the end, the questionnaires were distributed in order to collect 1) participants' prior and current history of L2 use (see Appendix C1) and 2) bidirectional conceptual access (see Appendix C2)

**Task 1. Concept-elicitation Task**

*Design*
In this concept-elicitation task (see Appendix A1), a set of eight word-pairs were used that were the lexical equivalency across two languages but differed as to their conceptual load and sociocultural background knowledge attached to the L1 word and L2 word. It was adapted from a “conceptual change test” by Kecskes (2004), which consists of the number of eight Korean-English word-pair stimuli, which is easily translatable each other.

For each stimulus, two open and less-controlled questions and a 5-point Likert-scale question were listed, totalling three questions were given. These three questions were in order, which I call first question a subtask 1, second question a subtask 2, and so on. Each subtask examines certain aspect of individual’s ‘conceptual knowledge’, complemented with other subtasks, to make it a multiple and holistic view of one’s conceptual knowledge. This task encourages immediate and spontaneous production of concept. Since the production of image, thought, and meaning are less constrained and rather freely generated, this part needs to be elicited first. Gradually, the production of specific context/situation for the lexical item are more constrained and effortful, hence comes next to the question in subtask 1. Attitude scale was overall sum based of that conceptual knowledge, so positioned last. In the following order (i.e. this order elicits most natural and a step-by-step conceptual knowledge, reducing the possible impediments one might address from a different order), conceptual contents, specific contexts (i.e. situations), and aroused feelings/emotions when participant encounters a particular word in L1 and L2.

This task could only be accessed online using any technology devices (e.g. computer, cellphone, etc.). With technological support, aurally and visually represented L1-L2 word stimuli were made in the form of video clip (mini player mode size). The video clips had black-colored background within which the white-colored stimuli were shown. And, in the middle of the video,
the ‘play button’ was shown. When clicking the button, the audio sound was sequentially played both in Korean and English, spoken by each native speaker.

Beneath the video presentation, three questions that concern three different aspects of conceptual knowledge about the word were listed (cf. importance of order was mentioned above): (1) write down thought, image, or meaning as soon as seeing and hearing the word (2) make two sentences using the word (3) tell your feeling/emotion toward this word by checking on a 5-point Likert scale ranging from positive to negative.

**Selecting Process of Synergic Concepts**

The criteria for lexical-items selection were developed for this research purpose. First, each pair of lexical items should be semantically equivalent, but not fully equivalent each other due to its culturally loaded meaning. Second, each pair of lexical items should be among the high frequency words and basic words in both cultures. This approach is taken to avoid any lexical knowledge gap for both cultural groups and to engage participants efficiently and effectively.

Synergic concepts were searched within the narrowed-down highly frequent volume of Korean basic word in the scope of 6000 words. Following are the resources: 1) a document of Korean vocabulary list for learners realized by the National Institute of Korean Language (http://www.Korean.go.kr/front/etcData/etcDataView.do?mn id=46&etc seq=71) based on previous national survey conducted by the National Institute of Korean Language, 2) a book titled Basic Korean vocabulary (Bae, 2010). The numerous words were tentatively chosen, and then were to be checked to see if they can be categorized into basic words and to identify the frequency level of those words. Throughout this searching and checking process, I ended up listing 31 nouns which I presumed each single noun carries the cultural load within the same
speech community. Then the most important step was to confirm whether and to what extent there are cross-cultural conceptual differences between L1 and L2 equivalent for each word pair. To ensure those as potential synergic concepts, I checked the monolingual dictionaries as well as bilingual dictionary, and chose highly valued Korean textbooks targeted for non-native Korean speakers. I explicitly focused on any comments that introduced socio-cultural information or the use of word in context that presents culture-specificity in reference to 31 nouns.

In the next step, I recruited Koreans users of English who at that point have been staying in U.S. for a few years. Those Koreans have been living in both cultures, experiencing of both cultures, hence their opinions would serve as resource and raise my cultural awareness and sensitivity. Total five Korean users of English were recruited. They were given a brief instruction about the selection criteria followed by Q/A, and then were asked to select 12 to 15 word-pairs that would not cross-culturally equivalent each other. This process contributes to determine the likelihood that the selected concepts best represent the conceptual differences between the two cultures. Based on their response, I sorted out word-pairs by counting the number certain word-pair was chosen and ranked them (see Appendix A2).

Rationale

The rationale behind the task design was based on the understanding of conceptual knowledge development in the individual mind – deep and subconscious, being affected by local, cultural, and situated variables. For example, the question of subtask 1 attempted to guide for

participants to think at the conceptual level so what they produced would be on their own conceptual knowledge. The question includes such words as meaning, image, thought, in ways to naturally immerse participants and then kind of a subconscious content they hold could easily be evoked.

To explain why three different subtasks were needed, it is essential to address that the conceptual knowledge cannot be satisfied with nor defined by a single representation, which inevitably necessitates the need of and even desirable to have multiple approaches in order to effectively and holistically observe the conceptual knowledge of one’s own. As such, bearing this in mind, three aspects of conceptual knowledge -- content/meaning aspect, context/situation aspect, connotation aspect -- were elicited. These three aspects of conceptual knowledge were expected to capture bilinguals’ conceptual knowledge depending on their level of exposure to L2 culture. Given the conceptual production obtained from not only different groups of bilinguals but also each bilingual in the group, the bilingual production data should be analyzed and explained from a pragmatic and socio-cognitive perspective.

Additionally, these three aspects of conceptual knowledge were central to understand the language use within a speech community in terms of a pragmatic and socio-cognitive, sociocultural perspective. Each of three aspects of conceptual knowledge was expected to help 1) to grasp the conceptual knowledge better or relatively fully and 2) to obtain as fully representative and nuanced a concept as possible. It does not mean that each subtask is independent of other tasks, but rather each is interconnected one another.

In this regard, newly designed questions were expected to collect meaningful data and to better assess one’s conceptual knowledge. This idea and expectation were primarily based on the understanding of the nature and development of concepts.
For example, the *meaning, image, thought* (in subtask 1) for a certain lexical item are a part of the lexical concept, which has connection to and inseparable from the *context/situation* (in subtask 2) of its use, which are another part of the lexical concept, and the *feeling/emotion* (in subtask 3) related with above those two are also part of lexical concept. Thus, it was based on understanding that those three seemingly independent parts are integral parts of the concept.

The audio and visual elements of the stimuli were expected to facilitate the conceptual base by enabling the perceptual and cognitive engagement that occurs during the process of conceptual knowledge. Participants would have been challenged to think of responses at conceptual level if not provided with this audiovisual support. No one has a conscious awareness of concept, even when using language; besides this, it would not be the nature of concept. As mentioned in literature section, the scope of concept is a broadly underlying subconscious area that involves non-linguistic implicit knowledge. Therefore, with the help of that facilitative tool in support of the wording in question, the lexical stimuli designed for this study should more effectively assist participants to access to this conceptual area.

It is important to note that participants freely choose either L1 or L2 for production. The rationale behind this can be accounted for by the relative strength between the language and the level of conceptual fluency. For example, the choice of L1 over L2 may indicate that L1-governed conceptual knowledge is more active and fluent than that of L2. This assumption was

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5 A concept is associated to multiple sensory-motor modalities such as shape, visual motion, sound, meaning that it is a reflection of multimodal abstraction (Binder, Conant, Humphries, Fernandino, Simons, Aguilar, & Desai, 2016). The conceptual knowledge representation resulted from numerous memory-related works in which sensory motor system was used to activate it (Moss and Hampton, 2003). Bilingual lexical processing goes with the multisensory processing, integrating previous and emerging audio-visual input (Marian, in Pavlenko, 2008).
evidenced in the previous bilingual lexical studies (Andreou & Galantomous, 2009; Kecskes, 2000a, 2000b; Kecskes & Cuenca, 2005; Kroll, 2008).

Procedure

A guided instruction session preceded participation in this task. During this instruction session, participants were informed about what questions and procedures would be asked, along with the explicit request to play the audio included for each of eight video clips. To facilitate their understanding and familiarity with the requirements, the exact same questions that would soon be given in the actual task were presented before engaging. Participants were also informed about the approximate amount of time to complete the task (about 10-15 minutes).

At the beginning of the task, participants would see the video clip on the top of each set consisting of three questions. This task was placed on the same page online, which means without clicking ‘next’ button and with scrolling down the whole sets were presented. To start to respond, participants need to see and, nearly at the same time, listen to a L1-L2 word-pair sound by clicking the ‘play button’ in the middle of video clip. There was no limit to how many times a clip could be played; although, ideally, playing the clip (i.e. seeing/hearing the word-pair) once or twice would prompt participants conceptual knowledge and have them produce their thoughts spontaneously. After seeing and hearing a word-pair, participants would be asked to respond to the following the question in following order. First, they were asked to write down any image, thought, or ideas that come up to their mind as soon as they encounter the word-pair. Next, they were asked to write down two sentences using the same word. Lastly, they were asked to check on a five-point Likert scale – from positive (point 1) to negative (point 5) – that best represents their feeling and emotion when they encounter this word.
Table 2

*The Characteristics of Word-Pairs for the Comparison of Cross-cultural Conceptual Differences.*

<table>
<thead>
<tr>
<th>CHARACTERISTICS OF WORD-PAIRS FOR CONCEPTUAL COMPARISON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CONCEPTUAL EQUIVALENCE</td>
</tr>
<tr>
<td>2. TRANSLATABILITY</td>
</tr>
<tr>
<td>3. SEMANTIC SHAREDNESS</td>
</tr>
<tr>
<td>4. FREQUENCY</td>
</tr>
<tr>
<td>5. PARTS OF SPEECH</td>
</tr>
</tbody>
</table>

Task 2. Rewrite L2 story into L1 task

**Design**

The purpose of this task is to explore whether L2 learners make a conceptual switch when they have to move from L2 to L1. L2 learners’ language can take place on conceptual level or lexical level. If they switch from L2 to L1 conceptually, their switching is based on the connection between the word and its associated concept. If they switch language lexically, they process the word by associating it with its dictionary meaning.

The story consists of 8 sentences in English. Thus, all L2 lexical items to be switched were contextualized in the story. This story is as short as just one paragraph and as easy as each sentence was made with basic vocabularies and simple grammars. The overall tone and style of language was, therefore, considered simple, plain, and neutral.

This story describes a series of unexpected happenings occurring to Jane (the main character in this story). None of scenes were culturally biased to either culture, but could,
although a little bit exaggerated, plausibly be part of daily-life situation in both cultures, thus salient to anyone (e.g. missing a bus, taking a taxi, being in a car accident, etc.). Task 2 is attached in Appendix B.

**Rationale**

The task was implemented with the idea that there would be different in the way of L2 users’ processing L2 word and its contextual information (given that a specific situation was depicted in each sentence), which affects their producing L1. What L2 users produced as an L1 equivalents reflect their L1 and L2 lexical-conceptual knowledge state. This knowledge state is affected by to the extent which the L2 users are exposed to such environment that the dominance of L1/L2 culture and amount of use in L1/L2 interplay. in a broad perspective, whether L2 users produce direct translation or other L1 equivalents gives clue such that their conceptual knowledge is not activated only to go through word-to-word association (for case of direct translation), or processed at conceptual level, producing any possible/relevant L1 equivalents.

**Procedure**

Learner groups and heritage group were asked to read the story presented on a screen. They were instructed to comprehend the story. After that, they were asked to retell⁶ the content of the story in writing in L1 Korean. The instruction was given in between L2 story and response box. Here, the important request was made to participants that were required to write what the story was about and write as if retelling the story, not translate the story into L1. It was shown in

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⁶ The intent of using the very word ‘retell’ was that it would make participants paying attention to the content when writing, rather than language, so that their switching to L1 production would be more natural and conceptual. If in the latter case, it is more likely that participants would translate the language, which is not the purpose of this task. The emphasis on ‘focusing on content’ was explicitly instructed in question.
bold form to emphasize that. During participation, re-reading the L2 story were allowed, whenever necessary (the benefit of allowing to do was detailed in rationale section). The task was shown in the same page, which was accessed scrolling ups and downs. The only constraint was participant’s language to use, which was L1 Korean only. There was no time constraint, but the task had to be completed in one sitting.

**Task Summary**

**TASK 1**

![Conceptual Links](image)

**TASK 2**

![Conceptual Links](image)

*Figure 4. The concept-elicitation production task and rewriting L2 story into L1 task.*
Participants

The primary interest of population were Korean learners of English in the U.S. and Korea and Korean heritage speakers in the U.S. In addition, monolingual speakers of English and Korean were needed to collect cross-cultural data that is only required in Task 1, not in Task 2. Task 2 included only bilingual groups because it requires language switching, from English to Korean. The language and sociocultural background questionnaires were collected from bilinguals only, as it was specifically designed to know the language use and cultural exposure in L1 and L2.

A total of 144 participants were collected for this study. They comprised three groups of Korean-English bilinguals (Korean Heritage speakers, H = 28, Korean ESL, KESL = 28, Korean EFL, KEFL = 29) and two groups of monolinguals, one for native speakers of Korean (= 29) and the other for native speakers of English (= 30). Monolingual groups represent a baseline group of Korean and United States, and bilingual groups\(^7\) differed in the exposure to L2 socio-cultural background represent a comparison group. Table 3 shows the organization of all these groups.

All participants’ age ranged from 20 to 39. It is because when recruiting participants, it said only those who were in their 20's or 30's were able to participate in tasks. This age restriction lessens the possible confounding effect. All participants in two groups of Korean learners of English had certain things in common: Korea is their birthplace and upbringing country, and they are considered themselves as native Korean speakers and non-native English speakers. For

\(^7\) Bilingual groups can be distinguished as a group of sequential bilinguals on one hand (e.g. Korean learners of English as a L2/FL for this study) and mix of simultaneous and sequential bilinguals on the other hand (e.g. Korean heritage speakers who responded that their L1 is Korean was 18 out of 28). But, it is important for this study that regardless of which language was acquired first the heritage participants were early exposed to English and U.S. Environment (cf. early childhood exposure) See next footnote.
participants in all three comparison groups, including heritage speakers’ group, the most important factors of interest such as length of exposure to L2 cultural background, plus the selection criteria involving L2 proficiency, language of daily use, and other detailed information are discussed below.

Table 3

Participants groups

<table>
<thead>
<tr>
<th>Baseline group</th>
<th>Comparison groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolingual speakers of Korean, KM (n=29)</td>
<td>Korean heritage speakers in the U.S., H (n=28)</td>
</tr>
<tr>
<td>Monolingual speakers of American English, AM (n=30)</td>
<td>Korean ESL speakers in the U.S., KESL (n=28)</td>
</tr>
<tr>
<td></td>
<td>Korean EFL speakers in Korea, KEFL (n=29)</td>
</tr>
</tbody>
</table>

L2 Learners’ Proficiency Level

Those who were at least intermediate level of English proficiency (i.e. above intermediate level) were another major condition of eligibility for the participation. Three steps involved to ensure the matter of their proficiency. At first, potential participants were given the Informed Consent Form that described that the level of proficiency is one of necessary condition to take part in this study. If they agreed on it, along with evidence of their online signature, it means that they read and thought that they met the criteria. After this first screening, participants were given two questions that requires to assess their language proficiency. First question was about self-perceived level of English proficiency. Participants were requested to check one of the following four categories referenced to Common European Framework of Reference for Language (2017): intermediate (B1), upper intermediate (B2), advanced (C1), proficient (C2). These specified
categories gave more options for self-assessment on one’s proficiency level. Second question was rather objective evaluation. Participants were asked to report their official English test score.

In heritage speakers\(^8\) group, 24 participants self-reported proficient, 3 at advanced, 1 at intermediate. Many participants (n=18) did not provide test results; some said they do not remember, or they are fluent or proficient. Rest provided SAT score (n=6), GMAT (n=2), TOEFL (n=2) which the scores are all considered advanced level. In KESL group, 11 self-reported at proficient, 6 at advanced, 7 at upper intermediate, 4 at intermediate. Among 19 participants who provided TOEFL scores were above intermediate. Others provided SAT (n=1), TOEIC (n=1), or GRE (n=1) score, which were all advanced level. One score (n=1) was hard to be identified. In KEFL group, 5 self-reported at proficient level, 10 at advanced, 6 at upper intermediate, 8 at intermediate. The test results from TOEFL (n=11), TOEIC (n=10), TEPS (n=2) were all considered above intermediate.

*Years of Living in L2 English-speaking Country*

The average years of living in English-speaking country was 6 years for KESL (cf. this number of years far exceed the expected years - a minimum of 2 years) within the range from 2 years to 9 years, 1 year for KEFL within the range between 0 and less than 2 years of past exposure, 20 years for Korean heritage speakers within the range between 13 years and 27 years. In KEFL group, 10 participants had no exposure, and 7 participants had less than a year of exposure, 4 participants had 2 years of exposure in the past (i.e. students at language schools, exchange

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\(^8\) In the foreign language education, the term designates a student of language who is raised in a home where a non-English language is spoken. The student may speak or merely understand the heritage language and be, to some degree, bilingual in English and the heritage language (Valdé, 2005, p. 412).
students), except those years since then had been living in Korea. The main difference between KESL and KEFL is whether they have been and currently (i.e. until the time of participation) live in the U.S. This difference distinguishes the extent to which L2 socio-cultural exposure have been influenced participants.

**Criteria for Length of Direct Exposure**

The most important factor and the heart of this study is one’s experience of exposure to target environment (i.e. foreign language environment vs. second language environment, Kecskes & Papp, 2000). This distinction between the ‘presence’ and ‘absence or little’ of direct exposure to target culture is crucial for learners to develop the concept of target language and consequentially affects previous concept of L1 (This was discussed in literatures review chapter). The direct exposure-related issue is related to experiential factors such as length of residence in target culture, daily use of L2, immersion, etc., that had widely been proved to have an impact on success of L2 learning (e.g., pronunciation, grammar comprehension or production) but had little studied on the impact on learners’ conceptual knowledge underlying L1 as well as L2 particularly lexical item in this study.

Learners in a target culture (i.e. KEFL) may be thought as having been using more frequent L2 in a life-like situation, and experiencing, understanding, and acquiring more socio-cultural aspects of L2 in naturalistic context throughout the consistent or continuous interaction. This ‘long-term direct exposure’ is a factor in this study that is assumed to be responsible for explaining the nature of conceptual development in the mind of bilinguals. The idea supported by the nature of conceptual development is that the concept is not learned but grown (Kecskes & Papp, 2000). The former emphasizes the L2 input, the latter advances input stage and much more, indicating
the intake or internalization of it, put it simply. The intake process would be powerful or at least advantageous in a target cultural setting in which the language is contextualized, being carried and loaded with rich, complex (not simply described), and naturalistic conceptual knowledge. It redirects to the fact that it is the concept that feeds into the language channel(s), not vice versa. Thus, the direct L2 exposure makes learners’ L1 conceptual base (not merely a linguistic knowledge) would likely to modify, at varying degree, under the influence of L2-based socio-cultural conceptual knowledge (Kecskes, 2019). Bearing that concept-exposure relationship in mind, I set a criterion to explore the conceptual system possibly distinguished between KESL and KEFL. The eligibility to participate in as a KESL should be those who have had more than 2 years of exposure up until the time of participation. During the selection process, one KESL participant who had 3 months of exposure while marking at ‘advanced’ for one’s English proficiency and using English everyday was removed from the participants pool due to this reason. KEFL have been intensively learning English through at least six years of formal education and using English on a regular basis. Given the context difference in the way of achieving target language, how the learning context lacking direct exposure to L2 culture impacts on KEFL’s L1 conceptual system was in question, which consequently was explored in this study.

**Criteria for Regular Use in L2**

All L2 learner participants have used English on a regular basis. This fact was confirmed by their signing an Informed Consent Form and responses to language and socio-cultural background questionnaires. As far as the regular use of both L1 Korean and L2 English is concerned, all participants belong to comparison groups can be considered bilinguals (Cook 1992, Kecskes 1998, Ortega, 2016, etc). In questionnaires, participants responded to the question about
frequency of one’s using L2. 17 KESL participants responded that they use English everyday whereas 3 KEFL participants did and 5 KEFL use 4-5 times a week (rest are 2-3 times a week and once a week). That is, although both learner groups regularly use English, they differ in terms of its frequency. Most heritage speakers use English every day (n=26), and at the same time, half of them use Korean every day, which indicates that those of half are considered as relatively balanced bilinguals\(^9\). But this cannot be interpreted to such thought that the function of two languages, the level of proficiency, or the purpose of use either one of languages would be same/similar.

Table 4

Groups of learners’ and heritage speakers’ profile by sociocultural and sociolinguistic factors

(e.g., length of exposure, amount of language use, L2 proficiency)

<table>
<thead>
<tr>
<th></th>
<th>Korean Heritage Speakers (N=28)</th>
<th>Korean ESL learners (N=28)</th>
<th>Korean EFL learners (N=29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of in English-speaking country (^\text{10})</td>
<td>Mean=20.39 (SD=7.20)</td>
<td>Mean=5.83 (SD=3.27)</td>
<td>Mean=0.53 (SD=0.72)</td>
</tr>
<tr>
<td>Daily communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English use (everyday)</td>
<td>n=26</td>
<td>n=17</td>
<td>n=3</td>
</tr>
<tr>
<td>Korean use (everyday)</td>
<td>n=14</td>
<td>n=26</td>
<td>(4-5 times/w, n=5)</td>
</tr>
<tr>
<td>Self-perceived English proficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proficient</td>
<td>n=24</td>
<td>n=11</td>
<td>n=5</td>
</tr>
<tr>
<td>Advanced</td>
<td>n=3</td>
<td>n=6</td>
<td>n=10</td>
</tr>
<tr>
<td>upper intermediate</td>
<td>n/a</td>
<td>n=7</td>
<td>n=6</td>
</tr>
<tr>
<td>Intermediate</td>
<td>n=1</td>
<td>n=4</td>
<td>n=8</td>
</tr>
</tbody>
</table>

Note: Korean EFL learners (No exposure to English cultural environment, n=10)

\(^9\) Balanced bilinguals: bearing in mind that, however, there is no perfect or balanced bilinguals (a lecture by Kecskes in Bilingualism and SLL course).

\(^\text{10}\) Participant(s) who responded ‘all my life’ or ‘entire my life’ was counted as 20 years, which considered a minimum eligibility for participation as an adult heritage speaker in terms of age.
4. ANALYSIS AND FINDINGS

4.1. TAKS I CONCEPT-ELICITATION TASK

In this section, I present participants’ production results from concept-elicitation task – in the following order of subtasks: conceptual meaning, contexts and attitude/connotation. These three subtasks elicited each different part of a concept in a way related as a conceptual component of a whole and answered the first research question. The cross-sectional group comparison was made for each group’s production ratio and each percentage of Korean-based concepts, American English-based concepts, and cross-culturally common concepts. At the same time, I describe whether English-based concepts that were frequented as most common in a group (i.e. learner groups and heritage speakers’ group) matched with the salient concepts produced by English monolinguals. These findings along with consistent detailed qualitative analysis captured whether, how, and to what extent L1-based concepts were modified according to the cultural exposure, which also relates to the discussion for the nature of bilingual’s conceptual system.

List of Acronyms

D Definition of each concept, produced by subjects
D1 The most frequently used definition of a certain concept, produced by Korean Monolingual subjects
D2 Second most frequent definition of a certain concept, produced by Korean Monolingual subjects
D# # ranked frequent definition of a certain concept, produced by either
Korean Monolingual subjects or American English Monolingual subjects (the distinction is made by color, Korean Monolingual subjects in orange color, American English Monolingual subjects in blue color)

C Context of each concept, produced by subjects

C1 The most frequently used context of a certain concept, produced by Korean Monolingual subjects

C2 Second most frequent context of a certain concept, produced by Korean Monolingual subjects

C# # ranked frequent context of a certain concept, produced by either Korean Monolingual subjects or American English Monolingual subjects (the distinction is made by color, Korean Monolingual subjects in orange color, American English Monolingual subjects in blue color)

**Definition of Categories**

**Korean-based Coresense**
The definitions of a certain concept produced by the learner groups and the heritage group are compared with those produced by Korean Monolingual subjects and fall into two categories: 1) those responses which closely correspond with the responses by Korean Monolingual subjects and 2) those responses which only partially correspond.

**Korean-based Consense**
The context of a certain concept produced by the learner groups and the heritage group are compared with those produced by Korean Monolingual subjects and fall into two categories: 1) those
responses which closely correspond with the responses by Korean
Monolingual subjects and 2) those responses which only partially
correspond.

American English-based Coresense  The definitions of a certain concept produced by the
learner groups and the heritage group are compared with
those produced by American English Monolingual
subjects and fall into two categories: 1) those responses
which closely correspond with the responses by American
English Monolingual subjects and 2) those responses
which only partially correspond.

American English-based Consense  The context of a certain concept produced by the learner
groups and the heritage group are compared with those
produced by American English Monolingual subjects and fall into two categories: 1) those responses which closely correspond with the responses by American English Monolingual subjects and 2) those responses which only partially correspond.

Cross-culturally Common Coresense  The definition of a certain concept produced by the learner groups and the heritage group are shared with those produced by both monolingual groups.

Cross-culturally Common Consense  The context of a certain concept produced by the learner groups and the heritage group are shared with those produced by both monolingual groups.
Analysis of Conceptual Content of Lexical Items

Concept of the Lexical Item: ő의 나이

Korean-based Coresense

The KEFL group produced the Korean-based coresense the most, in terms of 1) the percentage, 2) the number of Korean-monolingual categories, and 3) the salient concept (e.g., D3, described below). Specifically, the total percentage that the KEFL group produced far exceeded other groups. A similar percentage was found between the KESL group and the H group with an 18.8% average gap against KEFL. Another noticeable finding was that the most salient concept produced by KM\textsuperscript{11} was not the most salient for KEFL. The most salient concept produced by KEFL was the next highest concept in KM. This indicates the different conceptual knowledge between KEFL and KM. However, a more distinctive conceptual difference was found between KESL and KM. Consequently, KESL is also differentiated from KEFL. For example, KESL did not even produce any of the salient concepts (as mentioned above, there were two concepts that were equally ranked second (e.g., D2: passage of time, D3: times one has lived so far). In general, it was found that the indirect, yet regular exposure (i.e. KEFL) was influential, but the direct and lengthy exposure to L2 culture (i.e. KESL) is more deeply and substantially influenced learners’ L1 concepts.

Korean-based Consense

The KEFL group was the first to be ranked that produced the Korean-based contexts the most in terms of 1) the percentage, 2) the salient contexts (there were two most salient Korean

\textsuperscript{11} D1 is defined as a number measuring years of living from birth by Korean monolingual subjects
contexts; see Appendix D, C1: getting/growing old, old enough C2: something comes with age such as an experience, regret, thought, ability, burden of life, etc), and 3) the number of Korean-monolingual context categories. The percentage that KESL produced for those salient contexts was less than half of what KEFL produced. Overall, KEFL’s production was very similar to KM’s not only for the total percentage but also for the salient contexts.

American English-based Coresense

The KESL group produced English-based coresense categories the most, in terms of 1) the total percentage and 2) the salient conceptual meanings. Indeed, the total percentage produced by KESL far exceeded other groups (e.g., about a 10% difference from the next closest group, KEFL, and a 20% difference from the least close group, H). Specifically, the percentage of KESL’s most salient concept was closely aligned with EM (D5: young or old, younger or older). Then, KEFL was followed by KESL. But, interestingly, this L2 cultural exposure effect was not clearly found in H group, and the total percentage produced by H for the English-based conceptual meanings was much smaller than that of KESL.

American English-based Consense

Unlike the above results, the assumption was evidenced in production of contexts. The H group produced English-based contexts the most, in terms of 1) the percentage, 2) salient contexts (two out of three most salient English contexts; see Appendix D, C11: something getting better at or worse with age, C12: not like to tell my age). Specifically, the total percentage by H was so big that the percentage gap between H and KESL (the next closest group) was as much as 13%. Moreover, an 18% gap was observed between H and KEFL (the least close group).

Cross-culturally Common Coresense
The two groups, H and KESL, showed one cross-culturally shared common concept (see Appendix D, D9: number) with different frequency. For H, this concept was the second most salient meaning and had about 14% more of it than KESL. In contrast, KEFL did not produce it at all. This indicates that a certain common concept mainly relates to direct exposure, and thus affects the direct exposure groups only.

**Cross-culturally Common Consense**

There were three cross-culturally common contexts (see Appendix D, C10: age is nothing but a number, C20: my age or somebody’s age, C9&21: golden age). In the comparison groups, H was the only one group that had all of them, while KESL and KEFL had the same two contexts (see Appendix D, C10, C20). As far as the total percentage is concerned, the highest was KESL, which had about a 10% gap to the next, H; the least was KF with about a 10% gap to H.

It is important to note that there was a particular context (see Appendix D, C20) where the English monolingual (EM) group had almost three times more than Korean monolingual group, and none of the comparison groups resembled the EM group, but KESL produced about twice more than KEFL and H. That is, this amount and ratio by KESL appeared distinguishable, and only close to those of EM.

**Attitude**

Significantly, cross-culturally, the most frequent attitude of “neutral” (value 3, approximately 61%) was exhibited across all comparison groups. In contrast, for the “somewhat positive” attitude, both H and KEFL showed a similar pattern and were more aligned with EM than KM. However, KESL, with 18%, was almost the same as EM, at 17%. Based on the differences between the learner groups, direct exposure to the L2 culture was significantly
influential for some individuals to internalize the L2-based attitude. For the other attitude, “somewhat negative”, KESL was quite similar to KM and substantially different from EM.

Thus, KESL either aligned with EM or KM depending on which specific attitude was considered. However, neither H or KEFL strongly aligned with either, although the latter did display an equal division between “neutral” and “somewhat negative” attitude.

Figure 5.1. Conceptual content, percentage of definitions of concept for AGE produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups. (As noted in the list of acronyms, I made a visual distinction between L1-based concept and L2-based concept. The orange color represents L1-based concept and the blue color, L2-based concept. The green stripe represents the shared concept between two cultures.)
Figure 5.2. Sentence context, percentage of contexts of concept for AGE produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups. (As noted in the list of acronyms, I made a visual distinction between L1-based context and L2-based context. The orange color represents L1-based context and the blue color, L2-based context. The green stripes represent the shared context between the two cultures.)

Concept of the Lexical Item: 경쟁 kyŏngjaeng/COMPETITION

Korean-based Coresense

The KEFL group produced Korean-based coresense the most, in terms of 1) the percentage, 2) the number of conceptual meaning categories (i.e. four out of five categories), and 3) the salient conceptual meaning (see Appendix D, D1: win over others, D2: inevitable or
necessary in our life/to go through our life). Although the KESL group produced the same number of Korean-based coresense categories as KEFL, the KESL group’s production measured by a total percentage for each category was lower – with a gap of more than 10% for each – than KEFL. The H group was furthest from Korean-based coresense. That is, H group’s total production was less than KESL (by about 8%) and much less than KEFL (by more than 20%). Interestingly, the percentages of salient concepts (D1 and D2) for the H and the KESL group were similar. H was closer to KEFL than KESL in the percentage of a particular salient concept (D1).

**Korean-based Consense**

The KESL group produced more Korean-based contexts than KEFL in terms of 1) the percentage (i.e., about a 10% gap compared with KEFL; about a 16% gap with H), 2) the number of categories, and 3) the salient contexts (see Appendix D, C1; living in a cut-throat competition). It is important to note that the most salient context, C1, was also most salient for learner groups as well as for the H group. Another thing to note is that the percentage of the number of particular contexts H produced (see Appendix D, C3: pursue coexistence) was more similar to that of KM than any other groups (although the gap was small).

**American English-based Coresense**

The H group produced the English-based core meanings the most in terms of 1) the percentage (46.4%), followed by KESL (42%), and then KEFL (37.6%), and 2) the salient coresense (D7: sports). Although both H and KESL produced all of three English-based meaning categories, they differed considerably for the most salient meaning category (D7). H produced it (25%) much more than KESL. In fact, this meaning category (D7) was the dominant one for EM (73.3%). This indicates two things: KESL showed a direct cultural exposure effect for having
English-based conceptual meaning categories, but not on the saliency pattern. Unlike KESL, Heritage speakers’ direct exposure since birth or childhood gave rise to a greater degree of similarity for the English-based saliency pattern.

**American English-based Consense**

The H group produced the English-based contexts the most, both in terms of 1) the percentage (35.1%, followed by KESL, 27.2%), 2) the saliency (see Appendix D, C10; a variety of types of competition). Surprisingly, the most salient American context (C10) was produced very little by KESL and not at all by KEFL, as shown in Figure 2.2. For example, C10 was rare in KESL (1.7%). Another interesting thing was that the second most salient context (see Appendix D, C11: like/dislike or love/hate) was not produced at all by H and little by KESL, but it appeared as the most salient context in KEFL. As for the number of English-based context categories, H and KEFL had only four categories, while KESL produced most of the English-based categories (6 out of 7). Combining the result from English-based conceptual meanings with this result, there seems to be a close relationship between the direct cultural exposure and the production of a wider range of various items of American conceptual knowledge, especially for this lexical item: *competition*.

**Cross-culturally Common Coresense**

All groups shared the common conceptual concepts (see Appendix D, D6: competing/fighting or competitive/aggressive). Notably, H produced these by as much as one-third (32.2 %), which far exceeded both monolingual groups (KM: 17.2%; EM: 10%) and KEFL. However, KESL did produce these concepts by as much as one-fourth, which places it second, after H.

**Cross-culturally Common Consense**
Two groups, H and KESL, displayed all of the two cross-culturally shared contexts (see Appendix D, C8: rivalry, C9: winning/defeating/awarded). KEFL displayed one (C9), by as much as 20.9%, but this is a relatively high percentage and thus is difficult to relate to both the monolingual groups (KM: 5.2%; EM: 6.7%) and the other groups (H: 8.9%; KESL: 3.4%).

**Attitude**

It is notable that a clear difference between the two monolingual groups was observed regarding the overall polarized attitude (positive versus negative). This big attitudinal contrast decreased gradually to the extent that the more direct and lengthier the exposure to L2 cultural background, the bigger the decrease and the smaller the gap between the comparison groups and EM. For example, H had the smallest contrast alongside a similar ratio to EM, followed by KESL, and then lastly KEFL. The evidence shows the influence of L2 cultural exposure on modifying L1-based attitudes toward L2-based attitudes. Another interesting finding shown in H was that certain attitudes were quite close to L1-based attitudes (i.e. L1 salient attitude) and other attitudes were dissimilar to monolingual cultures.
Figure 6.1. Conceptual content, percentage of definitions of concept for COMPETITION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

![Graph showing conceptual content percentages](image)

Figure 6.2. Sentence context, percentage of contexts of concept for COMPETITION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

Concept of the Lexical Item: 개 kae/DOG

**Korean-based Coresense**

H produced Korean coresense considerably high in terms of 1) the percentage 2) a large number of Korean coresense categories. The percentage of total production by H far exceeds that of learner groups: H (32.2%), KESL (17.1%), KEFL (10.3%). In fact, KEFL only produced two
categories as opposed to all of four categories used by H and KESL. The saliency showed rather different result: It was KESL that had the highest production of salient coresense (see Appendix D, D1: familiar animal), followed by KEFL. That is, KESL is closest to KM in terms of coresense saliency.

*Korean-based Consense*

KEFL produced Korean-based conceptual meanings the most, both in terms of 1) the percentage and 2) the number of Korean consense categories. Thus, the closest group to KM was KEFL, followed by KESL, and then H. However, notably, the percentage and order of KM’s salient consense categories were very similar to those of KESL. Finally, although H produced very few Korean consense categories overall, what they produced coincided with the two most salient KM consense categories. However, KEFL’s most salient consense category was the least salient KM consense category (e.g., like/cute/pretty/cute).

*American English-based Coresense*

KESL produced English-based coresense the most, both in terms of 1) the percentage and 2) the number of English context categories (4 out of 4) – Even H produced less categories and had a slightly lower percentage overall (e.g., 20.6 vs. 17.8). What was noticeable is the big gap between KESL and KEFL with approximately 14% (KEFL: total 6.8%) and significantly low total percentage along with the production of only two American English-based categories. One of two most salient coresense (see Appendix D, D7: a certain dog breed) was not produced by KEFL. Therefore, although H and KESL were much similar in producing EM coresense, but H is much closer to EM for the production of salient coresense.

*American English-based Consense*
The KESL group’s production of English-based contexts exceeded H on 1) the percentage (KESL: 25.7%; H: 17.9%; a difference of 6.7%) and 2) the salient contexts (see Appendix D, C8: love, adorable, cute). The same number of categories (5 out of 7) were produced by both KESL and H, while for KEFL, only one category was produced. Regarding the learner groups, there was a substantial difference between KEFL and KESL, with the former group demonstrating a very low percentage and very few English-based categories, which were also not salient contexts. However, the cultural exposure effect was much more clearly observed in the production of contexts.

**Cross-culturally Common Core Sense**

The common concepts between the two monolingual groups (KM and EM) were almost identical such that they shared the same number of categories and a similar percentage in each of those categories. However, the comparison groups produced only one of those concepts. Interestingly, while one particular concept (D9) was shared by both learner groups, it was not produced by the H group. Additionally, the number of common concepts produced by the comparison groups was different — either smaller or larger — than that of monolingual groups. The learner groups also did not produce similar percentage of concepts (with a 26% gap between KESL and KEFL), and they were substantially different when compared with that of the heritage group (with 41% and 69%).

**Cross-culturally Common Consense**

Regarding contexts, H showed a high percentage on average for the most commonly occurred contexts (C5 and C7). When there was large percentage gap between KM and EM, especially larger for KM than EM (C5, C6), either KESL or KEFL turned out to be considerably closer to KM. However, this does not mean they were next each other in order. For example, in
case of C5, the highest order was as follows: KEFL, H, and KESL. Reversely, when the percentage of common context is higher for H than KM, the occurrence was in the following order: KEFL, H, and KESL, respectively (e.g., C3&C8). Overall, in 2 cases out of 5, KEFL had the most frequently occurred common concepts, followed by H (1) and KESL (1).

**Attitude**

It was clear that there was a big attitudinal contrast between KM and EM in terms of 1) overall attitude (ratio for each value and its total percentage), 2) the positive attitude (value 1: KM, about 28% versus EM, 80%). In learner groups, this cross-cultural difference gets slightly decreased while being closer to EM’s attitude, which indicates the influence of L2-based conceptual knowledge on L1-based attitude.

However, somewhat mixed, unclear findings were also observed. For less salient value (value 3), KEFL’s attitude was far from KM while being similar to EM, but their closeness toward L2-based attitudes was observed very little for KESL. For the least salient value (value 4), the opposite pattern was found. While KEFL was almost same as KM, KESL was a bit closer to EM. It is notable that, in this concept, the H’s attitudes and EM’s attitudes did go hand in hand. In addition, the attitudinal gap between H and learner groups was quite huge, especially for the salient value.
Figure 7.1. Conceptual content, percentage of definitions of concept for DOG produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
Figure 7.2. Sentence context, percentage of contexts of concept for DOG produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

Concept of the Lexical Item: 외국인 woegugin /FOREIGNER

Korean-based Coresense

KESL produced much more Korean-based concepts than other groups in terms of 1) the percentage, 2) salient conceptual meanings. Although the percentage KESL produced for the salient Korean concepts (24.1%) were more than double the KEFL (10.3%), both learner groups produced the most salient and the next salient concepts (e.g., D1 and D2). Particularly, KEFL was closer to KM than KESL in terms of the ratio. Compared to learner groups, the most salient concept in H was the second most salient KM’s concept.

Korean-based Consense

The learner groups were similar for the total percentage of producing Korean-based contexts. However, KEFL had a close alignment with KM’s saliency. The highest percentage KEFL produced for the context was the most salient Korean context (C1, 12.1%), while KESL produced a much lower percentage for C1 production (6.9%), and H was even distinctively different from KESL for C1 production (1.8%). Subsequently, even though KESL maintained two most salient Korean contexts, the total percentage of KESL’s producing them was much less than KM (e.g., almost less than half against the most salient context produced by KEFL).

American English-based Coresense

H produced most of the English monolingual categories (4 out of 5). It was in contrast with learner groups that only produced the two same categories. One of concepts (D7) produced
by learner groups as salient was, in fact, not salient for H, so was EM. In sum, H was significantly close to EM in terms not only of total percentage, but also of the salient concepts.

**American English-based Consense**

H was considerably close to EM in every aspect. For example, H produced all of English categories (total 7 categories) with almost same percentage and ratio, particularly for the salient contexts. The total percentage H produced was significantly greater than that of KESL. But KESL, when compared to KEFL, was closer to EM. Indeed, KEFL’s production of English-based contexts showed little alignment with EM. They only produced three categories of English contexts, and each had a low percentage (10%), which overall showed no relevance to those produced by EM. In contrast, KESL produced as many as five categories. What was notable is that EM’s second most salient English context was their most salient context (8.6%) and the third most salient was their second most salient context (6.9%).

**Cross-culturally Common Coresense**

All groups produced common conceptual meanings. But, in learner groups, the biggest gap was observed, as KESL (13.8%) producing D4 was twice as high as that of KEFL (6.8%).

**Cross-culturally Common Consense**

There was a distinctive tendency for the preference of common contexts, especially between learner groups. For example, KESL (15.5%) produced C8 more than double the KEFL production (7.1%), on the contrary, KEFL (10.3%) produced C9 as six times as much of the KESL production (1.7%).

**Attitude**

Regarding the cross-culturally salient attitudes, the finding indicates that learners’ direct and longer exposure to L2 culture was not influential enough to change the most salient L1-
based attitude. However, the cultural exposure was obvious in the result of the second-most attitude (value 2). For example, KESL showed a dissimilarity to KM in terms of the saliency (i.e. difference in rank order, which KESL had as its third-most frequent value) and a large percentage gap between them (about 10% lower than KM). By contrast, KEFL displayed value 2 as a second-most value, with a 7% higher percentage than KM, which indicates quite a different extreme attitude between KEFL and KESL. It is also notable that value 2 in EM was actually not frequent and was considered to be closer to the third or fourth value. Thus, the fact that KESL had a low percentage and a less percentage gap to EM than KM indicates an attitudinal change: further away from L1-based attitudes while being closer to L2-based attitudes.

The exposure effect was clearer in the results of H. There was a remarkable similarity between H and L2 cultural attitudes. For example, H showed nearly the same percentage as EM for the first- and second-most value. But the cultural influence was not the same for other attitudes, especially for the remaining less salient attitudes. H showed a much higher percentage (about 13%) than that of EM for the third-rank value (value 4), which interestingly was neither close to learner groups nor to KM.
Figure 8.1. Conceptual content, percentage of definitions of concept for FOREIGNER produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
Figure 8.2. Sentence context, percentage of contexts of concept for FOREIGNER produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

**Concept of the Lexical Item: 친구 ch’in’gu/FRIEND**

*Korean-based Coresense*

Unexpectedly, H was most aligned with KM’s concept for 1) the percentage (which was large for both groups) 2) numbers of categories (4 out of 5), and 3) the most salient concept (D1). Furthermore, although KESL was lower than KEFL for the total numbers of categories, KESL produced more Korean-specific features than KEFL, indicating that even if direct exposure reduced Korean-based concepts or made them less salient over English-based concepts, some Korean concept categories still remained. Furthermore, the most salient concept was ranked second of all the Korean concepts. In contrast to KESL, KEFL’s minimal exposure to L2 cultural background seemed to relate to the production of more Korean-based concepts. Indeed, this group produced only three concept categories when compared with KESL, and even the saliency was the least similar to Korean saliency as well as other groups.

*Korean-based Consense*

KESL produced the highest number of Korean contexts, and it also produced all of the Korean context categories. In contrast, KEFL produced a lower percentage and number of categories and used fewer salient contexts. However, when compared to H, KEFL was much more closely aligned with KESL.

*American English-based Coresense*
The KESL produced the highest percentage (51.2%), which was substantially higher than other groups (H:38.7%; KEFL:34.5%). This group also produced most of the English conceptual categories (4 out of 5) as well as the most salient English concepts (D7, D8, and D11).

**American English-based Consense**

H produced the highest percentages of English contexts — almost three times as much — when compared with the learner groups (H: 21.5%; KESL:5.1%; KEFL 6.8%). Additionally, only H highly aligned with EM on the number of English categories, salient contexts, and the ratio for the categories.

**Cross-culturally Common CoreSense**

H and KM were similar on the total percentages of producing one of common concepts (D 11: emotional closeness, comfortable). In contrast, KESL showed the least production for this concept, while EM also produced a low percentage.

**Cross-culturally Common Consense**

KESL produced the highest percentage of common contexts, at over 50%, while H also produced a high percentage for the production of common contexts. Furthermore, although KEFL and EM were also similar in production of one common context (C 12: hang out), KEFL was distinct from not only EM but from KESL due to very low percentages for one of the salient contexts (C 11: supportive).

**Attitude**

The overall findings showed that the longer the exposure to L2 culture, the more likely Korean learners and heritage speakers internalize L2-based attitudes. For example, majority in H and KESL group produced the same attitude (value 1) with similar frequency, which was closely aligned with EM. H was also in common with EM for having diverse attitudes ranging from
“positive” to “somewhat negative”. But this production of diverse attitude was not observed in KESL. Instead, KESL and KM were similar for not having diverse attitudinal distribution. In fact, KEFL showed greater percentage for value 3 (over 20%) compared to either KESL or KM, and their percentage was almost three times as high as EM. The existence of this culturally unique attitude cannot be overlooked. It could be an evidence of the disproportionate effect of indirect exposure or past short-term exposure to L2 culture.

![Figure 9.1](image)

*Figure 9.1. Conceptual content, percentage of definitions of concept for FRIEND produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.*
Figure 9.2. Sentence context, percentage of contexts of concept for FRIEND produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

**Concept of the Lexical Item: 손님 sonnim /GUEST**

*Korean-based Coresense*

The KEFL was the closest to Korean concepts in every aspect. They used all the Korean conceptual categories (4 out of 4), resembled the saliency as KM showed, and a greater percentage of producing Korean concepts compared to other groups. KESL produced about 7% less than KEFL and used 3 Korean categories. H was the farthest with almost a 10% gap to KEFL and used only 2 Korean categories.

*Korean-based Consense*
The KESL produced the most Korean contexts (12%) – more than double the KEFL (5.3%). What learner groups produced included the salient Korean contexts with the similar percentage. H had even no similarity with either KM or learner groups.

**American English-based CoreSense**

Contrary to the hypothesis, English concepts that KEFL produced was 6% more than H, even about 10% more than KESL. Other than that, in general, H was slightly closer to English-based contexts than learner groups in terms of the number of English categories and the English category ratio. For example, the most salient context (D7) H produced matched with that of EM with similar amounts. Interestingly, both learner groups did not focus on the salient English contexts; instead, the most salient context was least produced. Likewise, the least salient context was the most produced by them.

**American English-based Consense**

H produced most of the English contexts (4 out of 5), with the highest percentage, and this group produced the same salient context (C10) as EM. However, the direct exposure effect was not observed for the learner groups. Indeed, KEFL was considerably influenced by L2 cultural background knowledge. For examples, when compared with KESL, this group produced twice as many L2-based contexts, had one more English category, and produced approximately half as many L1-based contexts as L2-based contexts.

**Cross-culturally Common CoreSense**

Both H and KESL were similar to each other in terms of category ratio (D9, D10). KEFL produced the least common concepts. Specifically, KESL’s pattern contrasted with both monolingual groups’ pattern. Whereas in KESL’s production, one of concepts (D9: visitor to my house) was very few, but in both monolingual groups, it is the largest. The same – opposite
amounts occurrence between KESL and monolingual groups – was observed for another concept (D10: courtesy, hospitality).

*Cross-culturally Common Consense*

The KEFL produced the most common contexts, followed by KESL, and H, the least amounts (3.6%). While common contexts produced by learner groups comprised more than 75% of total production of concepts common contexts produced by H was about 60%. Interestingly, those amounts produced in learner groups were similar to KM, and amount produced in H was similar to EM.

*Attitude*

Evidently, the KESL’s L1 culture-specific attitude for the lexical concept guest was hardly affected. Thus, with respect to L1-based salient (value 3), KESL and KM shared similar attitudes. In contrast, KEFL and H shared similar attitudes, and they were opposite to those of the other two groups. Specifically, both KEFL and H were almost the same with regard to being less aligned with L1-based saliency. For example, there was a large percentage difference with these groups compared with each monolingual culture, indicating very little alignment with either culture for certain attitudes. However, they generally had an attitude that are more closely aligned with the L1-specific cultural value. For example, they exceeded KM for the percentage of that specific attitude by 20%.

Thus, as far as the salient value is concerned (including the second most, third most), any influence of L2 culture on any group was hardly observed. The L2-based salient attitude (value 1, “positive”, about 37%) actually showed little salience (less than 10%) for all comparison groups. Counter-intuitively, this L2-based attitude was the least for H, which reinforces the non-resemblance between H and L2 culture for this concept. All of these indicate that L1 culture-
specific attitudinal value contained in certain lexical items (associated with CSCPs) is hardly modified under the direct and lengthy exposure to L2 culture.

Figure 10.1. Conceptual content, percentage of definitions of concept for GUEST produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
Figure 10.2. Sentence context, percentage of contexts of concept for GUEST produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

**Concept of the Lexical Item: 전통 chǒnt'ong /TRADITION**

*Korean-based Coresense*

Contrary to hypothesis, H was closest to KM’s conceptual production in terms of 1) total amounts (28.6%, compared to the next close group, KEFL, 24%) 2) having the most salient concepts with similar percentage to KM’s. The KESL had the fewest Korean concepts. However, it was only KESL that produced the second most salient Korean concept (D2: to maintain and develop the past) with similar percentage to KM.

*Korean-based Consense*
KESL produced large amounts of Korean contexts (41.3%) and similar amount of Korean salient context (C1). While KEFL’s production was slightly less (approximately 2%), they used one more –almost all – Korean context categories (4 out of 5) than KESL. H was slightly less than KEFL (approximately 2%) and, likewise, used almost all of Korean categories. But H was about 11% less than learner groups in producing the most salient Korean context (C1).

*American English-based Coresense*

H produced the most English-based concepts in terms of 1) categories (5 out of 6) and 2) culturally salient context (i.e. D4: ritual, long-held belief). But it was KESL, not H, which produced the largest amounts of English concepts in total (i.e. approximately 70%). KESL also produced the most salient context (D4), though it much less when compared with H, whereas KEFL did not even produce the first and second most (e.g., D5: family) salient contexts at all.

*American English-based Consense*

H used the most English categories (5 out of 7) producing 17% more English contexts than learner groups (Heritage: 41.3%, KESL: 25.9%, KEFL: 24.1%). The learner groups showed the overall similarity in terms of 1) total amount of English contexts production and 2) no occurrence of salient contexts (e.g., C7: family tradition during holiday, C8: celebrating holiday). Some less salient contexts were highly salient to either learner group (e.g., C12 for KESL; some specific things, society, some group of people are traditional, C14 for KEFL; religious).

*Cross-culturally Common Coresense*

The KESL did not produce any common concepts. By contrast, KEFL produced common concepts shared between L1 and L2 culture.

*Cross-culturally Common Consense*
All three groups produced all three common types of contexts. Among them, KEFL showed the highest production, 17% more than KESL, and 23% more than H.

**Attitude**

Notably, the learner groups shared similar attitudes to KM on the first and second most salient attitudes. However, this was not true of the third most salient attitude (value 1, “positive”). This dissimilarity between the learner groups and KM was quite substantial, with percentages of approximately 15% and 20%, respectively. However, the dissimilarity was even greater when compared with EM. These findings indicate the low influence of L2 cultural exposure, particularly for the third most salient attitude. Moreover, when compared with KEFL, KESL was more aligned with KM, with findings showing that overall, they had a less “positive” attitude. Thus, direct exposure to L2 culture did not contribute to developing the attitude in the way the target culture preferred. Instead, the salient L1-based attitude had been retained in the learners’ minds.

However, this is not necessarily true for the other two remaining attitudes, “neutral” and “negative”. Indeed, the differences in the third most salient attitude showed that both learner groups were not similar to either monolingual culture. Thus, although exposure to L2 culture did not cause them to acquire L2-based attitudes, the cultural exposure per se marginally affected their L1-based attitudes. Furthermore, KEFL was twice as affected as KESL.

Interestingly, H did not go hand in hand with EM for the most salient attitude, but they showed a high similarity with EM for the second most and third most salient attitudes. To sum up, for learner groups, the L1-based cultural attitudes that are highly salient (value 3, value 2 in ranked order) and the least salient (value 5, “negative”, about 4%) had not been changed, but that was not the case for the remaining attitudes, meaning that those had severely been modified.
Figure 11.1. Conceptual content, percentage of definitions of concept for TRADITION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
Figure 11.2. Sentence context, percentage of contexts of concept for TRADITION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.

Concept of the Lexical Item: 방학 panghak/VACATION

Korean-based Coresense

H produced the highest amounts of Korean concepts, most of the Korean categories (3 out of 4), and most of the salient Korean concepts (e.g., D1: taking a break from a school/semester, D2: relaxing/resting days). In contrast, KESL produced the smallest amounts of Korean-based concepts.

Korean-based Consense

H produced most of the Korean categories (5 out of 7) compared to other groups, but they had least amount of total production. It was KEFL that produced the highest total amounts. A
larger similarity was observed between KEFL and KESL in terms not only of their amounts of total production, but also of the amounts in salient context.

*American English-based Coresense*

KESL produced more L2-based concepts than KEFL, with appropriately a 5% difference. Furthermore, although KESL had higher total percentages of L2-based concepts, they produced one less L2 category (2 out of 3), the least salient one. Finally, the total production of L2 concepts was also less than the L1 concepts. In contrast, KEFL produced all L2 categories, and the total production ratio of L2 concepts was more (about 5%) than L1 concepts.

*American English-based Consense*

KESL produced more L2-based contexts than KEFL, although there was only a very small (1%) difference between those learner groups. However, the distinction was clearly demonstrated by KESL using all L2 categories. There was also a similar pattern of ratios. Regarding the ratio of L1 contexts to L2 contexts, H had the largest, with the fewest L1 contexts and most L2 contexts produced. This was despite the fact that the percentage was quite small, at approximately 5%, KESL produced slightly more L1 contexts than L2 contexts, with a difference of approximately 3%. However, KEFL was considerably different than KESL, producing many more of L1 contexts (about 12%) than L2 contexts when compared with KESL.

*Cross-culturally Common Coresense*

The learner groups produced a particular common concept (D9: exciting, playtime, enjoying, happiness), and it was more prevalent than in the monolingual groups and H group. Even KEFL produced this concept three times as much as the monolingual groups. However, KESL only produced this concept only, not having any of the other concepts (e.g., D8: time off from work/study/home).
Cross-culturally Common Consense

KEFL was much closer to KM than KESL in terms of 1) about 30% of total production 2) production of all of three categories 3) ratio for each category. This resemblance occurred to H and EM. But, it was only KESL that was far from those patterns.

Attitude

Since the majority of both KM and EM shared a similar attitude (i.e. positive), the difference in each comparison group was small, and hence the result may not adequately reflect the cultural exposure effect. In spite of that, the results showed that the more directly exposed to L2 culture learners are, the more similarity toward L2 cultural attitude was observed. For example, KEFL showed a similar pattern the way KM displayed in terms of salient attitude distribution and its frequency. More specifically, there was one cross-culturally distinctive attitude – neither positive nor negative (value 3). Concerning this attitude, the distinction between KEFL and KESL was clear and the difference between them was quite large. Both KEFL and KM were shown with a similar percentage (i.e. 20% of KEFL, 17% of KM), whereas both KESL and EM were shown with a similar small percentage (i.e. 6% of KESL, 3% of EM), which indicates that KESL’s conceptual movement came close to EM.

Overall, the attitude pattern (salient attitude and its percentage) shown in H was the closest toward the EM, indicating a clear exposure effect. At the same time, there are resemblances between H and KM, as some H had the attitude that only KM had. That is, Korean heritage culture also cannot be underestimated, as it actually played a huge role for some heritage speakers to, in a way, structure their attitudinal preference.
**Figure 12.1.** Conceptual content, percentage of definitions of concept for VACATION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
Figure 12.2. Sentence context, percentage of contexts of concept for VACATION produced by the learner groups and the heritage group that are compared with those produced by each of monolingual groups.
4.2. CONCEPTUAL MOVEMENT ON L1-L2 CONTINUUM FROM TAKS 1 CONCEPT-ELICITATION TASK

In this section, I focused on overall change of the L1 conceptual system by group and then on close examination of specific results measured on different points on a continuum. This continuum is a developmental continuum that assesses the modification process of a bilingual’s conceptual base that constantly moves along L1-L2 continuum depending on cultural exposure, social interaction, and so on. The importance of using a developmental continuum is that it only concerns the effects of L2 on L1.

To demonstrate bilingual’s L2-based conceptual production through the developmental continuum analysis, first, I presented the visual representation of each groups’ L2 conceptual production results as a whole (which grouped the point 4 and point 5 and compared these results across groups). Second, I presented overall L2 production results that were divided into separate points between near L2 concept (point 4 on a continuum; partial correspondence) and exact L2 concept (point 5 on a continuum; full correspondence). Comparing bilinguals that were close to L2 concept but at the different level of developmental continuum were expected to reveal patterns of L2 concept production relative to their exposure. In addition, bilingual’s L1 concept production results were also measured and related to those of their L2 concepts, which provides another comprehensive piece of evidence for the exposure effect on the L1 conceptual system.

Movement on a Conceptual Development Continuum
Hypothesis: The more time learners spend and the more direct experience they have in the L2 cultural environment, the closer they get to L2 American English conceptual system and the further from L1 Korean conceptual system.

**Subtask 1. Coresense**

Based on the conceptual production result from Subtask 1, I attempted to compare the ratio between L1-based and L2-based conceptual meanings produced by each comparison group for all of the lexical items (total eight) combined. This analysis aimed to assess the relationship between the conceptual movement pattern on a continuum and the levels of exposure to an L2 socio-cultural environment. Figure 13 shows that the KEFL group produced a similar percentage for English-based and Korean-based categories, whereas the KESL group produced about 6% more English-based categories than Korean ones. KESL’s result for increased L2-based conceptual meanings in spontaneous production was found in H. H had much more increased L2-based conceptual meanings, with 14% more than L1-based conceptual meanings. As such, not only direct exposure but also length of exposure as well as childhood exposure in the target cultural context are likely to develop L2-based coresense (i.e., English conceptual meanings) for semantically transferable L1-L2 lexical items, as was revealed in their spontaneous production. This result confirmed the hypothesis.

In addition, when examining the total production of conceptual meanings that fully correspondent to L2, categorized as a point 5 on a continuum, KESL showed fully correspondent L2 conceptual meanings more than KEFL. However, in this case, the gap between learner groups was very small. This indicates that there was little difference between KESL and KEFL for the production of fully correspondent L2 conceptual meanings. H produced fully correspondent L2 conceptual meanings much more than the learner groups, about 11% more than KESL’s
production for the full L2 correspondence. To sum up, the result showed consistency in terms of quite a large difference for the L2 conceptual meaning production between KESL and H, for both partial versus full correspondence.

Although the hypothesis was still proven, especially between H group and learner groups, it was not necessarily between learner groups due to a very slightly positive effect of L2 exposure on their conceptual production. Rather, the overall result likely corroborates the difference in the nature and state of L2 conceptual knowledge between H’s and KESL’s conceptual system.

![Figure 13](image)

*Figure 13. Production of L1 and L2 conceptual meanings within each cultural group.*

(combination of fully correspondent and partially correspondent conceptual meanings)

As shown in Figure 14, KESL produced slightly more (1.5% more) fully correspondent L2 coresense than KEFL did in terms of total production. Another finding was that there was a
pattern in which the learner group showed a difference, though the difference was small, in producing conceptual meanings according to the particular lexical items. For example, KESL produced about 2% more fully correspondent L2 conceptual meanings for such lexical items as *age, competition, dog, guest*. Similarly, KEFL produced 2% more fully correspondent L2 conceptual meanings than KESL for the other remaining four lexical items such as *foreigner, friend, tradition, vacation*. These kinds of lexical-conceptual differences between learner groups for specific lexical items made it difficult to explain with the direct exposure effect only. Nevertheless, it was notable that these kinds of group differences for those specific lexical items were also found in the subtask 2 result. In this case, the percentage difference between groups was more than that of subtask 1. This lexical-specific conceptual difference that occurred in relation to the levels of exposure is explained in more detail in the discussion section.

![subtask 1: exact correspondence to monolingual lexical concept](image)

**Figure 14.** Production of L1 and L2 conceptual meanings within each cultural group.

(fully correspondent conceptual meanings)
In statistical tests, L2 cultural exposure was not found to significantly influence the conceptual meanings, $F(2, 443) = 1.588, p = .205$. Immediately after that, follow-up tests were conducted to find the L2 exposure effect on each lexical item by group. The difference in production between H and KEFL was found to be statistically significant for one lexical item ($p = .031$, concept of competition). In addition, the difference between H and KESL approached significance for a certain lexical item ($p = .081$, concept of foreigner).

**Subtask 2. Consense**

I attempted to compare the ratio between L1-based and L2-based contexts (8 lexical concepts × 2 sentence contexts, per participant) created by KESL, KEFL, and H. The contexts created for each of the corresponding lexical item were all combined in order to assess the relationship between the increased production of L2-based contexts and decreased production of L1-based contexts and levels of exposure to an L2 culture.

Figure 15 shows that, of all groups, H produced about 15% more American English-based contexts than Korean contexts. Unlike H, both KESL and KEFL produced more L1 Korean-based contexts than L2 English-based contexts with similar percentages of production (19-20%). This result, that L1-based contexts in KESL override (about 7-8%) L2-based contexts, indicates that the effect of L2 cultural exposure on the monolingual concepts was quite moderate, and that for certain lexical items, L1-based concepts were still maintained saliently. More interestingly, it was the KESL group not the KEFL group that produced more L1-based contexts

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12 A certain culture (L1/L2)-based contexts included both the same (full correspondence) and the approximate (partial correspondence) monolingual contexts.
than L2-based contexts. Out of L1-based contexts in KESL, 5% were in partial correspondence to Korean contexts. A similar result was found in KEFL but with only 2% production for the partial contexts. That is, KESL showed evidence of having, though a small number, modified L1 contexts while producing Korean culture-specific contexts more than KEFL. The ratio between L1-based versus L2-based contexts in H was as much as KEFL production, but in the opposite direction. H had the least L1-based contexts such that the gap in H was 20% with KESL, and 15% with KEFL. Indeed, H’s low production for L1-based contexts was just more than a half (ranging between 3% and 10%, respectively) as KESL and KEFL. Almost all of H’s production of L1-based contexts were full correspondence.

Even if KESL produced more L1-based contexts, their production of L2-based contexts was as much as 37%, which is only 2% less than that of H and, notably, 15% more than that of KEFL. This result indicates the considerable difference between KESL and KEFL, which added a piece of evidence that supports the hypothesis.

Another interesting point for L2-based contexts was that both H and KESL produced partially correspondent L2 contexts as much as 9% and 16%, respectively. As shown in Figure 15 and 16, KESL hold much more partial L2 contexts, which can be seen as unique characteristic and consequence of adult learners’ exposure to L2 culture.
**Figure 15.** Production of L1 and L2 contexts within each cultural group.

(combination of fully correspondent and partially correspondent contexts)

A similar pattern that occurred in subtask 1 was also found in subtask 2 in all group comparisons. First, when the full and partial correspondence to L2 contexts were combined in a result, the gap between KESL and KEFL was as much as approximately 15%. However, the gap between learner groups was considerably less at about 3% when only full correspondence was looked into. Also, although the gap between KESL and H for the production of the full and partial correspondence to L2 contexts was small, which was contrasted with the result for the production of full and partial correspondence to L2 conceptual meanings, the gap between them appeared to be as much as 10% when the full correspondence to L2 contexts only was considered for comparison. A similar finding about a large gap between KESL and H for the production of full correspondence to L2 conceptual meanings also occurred in subtask 1. Out of the L2-based contexts combining full and partial correspondence produced by KESL, around 42% were the
L2-based partial contexts. This is in stark contrast to the result from H whose production of partial L2 contexts was approximately 22% and full L2 contexts of approximately 78%.

*Figure 16. Production of L1 and L2 contexts within each cultural group.*

(fully correspondent contexts)

Statistical analyses showed significant effects of L2 cultural exposure on the conceptual change, $F(2, 842) = 23.720, p = .000$. The post-hoc test revealed that a significant difference was found between KESL and heritage speakers ($p = .000$), and between KEFL and heritage speakers ($p = .000$). No significant difference was found between KESL and KEFL ($p = .810$).
Summary

To summarize, for both subtask 1 and subtask 2 (point 1 and 5), there was a positive relationship between L2 cultural exposure and production of L2 conceptual knowledge. When the production was measured by partial L2 concepts (value 4) and full L2 concepts (value 5) combined altogether and separated in each, KESL consistently produced a slightly larger number of L2 concepts than KEFL for subtask 1 and 2. This group difference in production ranged from 1.5% to 8.8% according to the type of subtasks and different criteria of ‘partial versus full concepts’ or ‘combined partial and full concepts’. Specifically, when comparing results from subtasks, it was in subtask 2 (i.e., creating contexts) that KESL more frequently and spontaneously produced L2 contexts. But this increased L2 conceptual production did not occur in KEFL. The relationship between exposure to L2 culture and production of L2 contexts was fairly positive for heritage speakers. These results underscore quite considerably an impact of L2 cultural exposure on the knowledge and use of contexts. What was notable for heritage speakers’ production is that their production of L1 contexts was much lower compared to that of L1 conceptual meanings, which showed as almost 1.8 times lower than learner groups’ ratio for the production of L1 and L2 contexts. Another significant finding was that despite KESL’s increased production of partial L2 cultural contexts, the total percentage of KESL’s production of L1-based contexts – both near native and native value (value 4 and 5 combined) and native value (value 5) – surpassed the L2 counterpart, with approximately 8% more and approximately 19% more, respectively. This result accords with the representation of L1 concepts contained in CUCB: original L1 concepts and modified L1 concepts influenced by L2 (Kecskes and Papp, 2000, 2003).
The qualitative results partly aligned with the statistical analyses in that a significant difference was found between heritage group and learner groups whereas no significant difference was observed between KESL and KEFL. Statistical results that the interaction between L2 exposure and production of L2 concepts was found to be significant for creating contexts, *subtask 2* (p = .000), but not the conceptual meanings in the lexicon, *subtask 1* (p = .205).
4.3 TAKS 2 REWRITE L2 STORY INTO L1 TASK

I attempted to demonstrate production results pertinent for the first research question in a different way. This task specifically examined L1 lexical use. It was to see whether groups that differ according to the levels of L2 cultural exposure also differ in their L1 lexical use when they have to switch L2 into L1. In this section, I describe the patterns of L1 lexical use in terms of translation equivalents, conceptual equivalents, variations, L1 culture-specific words across groups, which is the evidence for the exposure effect on the L1 conceptual system.

Conceptual Representation

**Direct Translation versus Conceptual Equivalents**

The relationship between the exposure type to target cultural background and total production of either direct translation equivalent (henceforth, TE) or conceptual equivalents (henceforth, CEs) for all lexical items (content words) presented in the story are given in number and percentages. More cultural exposure appeared to influence CEs production with an increase over the TE. However, this relationship did not correspond with each lexical production, when looking into it separately. Contrary to expectations, KEFL did exhibit slightly more CEs for two lexical items than did KESL. But it is also important to note that the TE production in KEFL for one lexical item was significantly higher than their CEs production. This stark gap was the greatest in KEFL among groups. In fact, the gap between TE and CEs production in KESL was shown to be consistently small.

**Direct Translation Equivalents**

Table 5 and 6 demonstrated that the direct translation in KEFL was the highest in percentage among groups by 7% more than KESL. The least percentage occurred in H by 11%
less than KEFL. The fact that H less likely relied on TE is further examined in the discussion chapter in relation to their production of L1 concepts (particularly the conceptual meaning) and modified L1 concepts found in task 1.

Conceptual Equivalents

As far as total percentage (between TE and CEs) of all lexical items is concerned, the group with more exposure to the target cultural background did produce more CEs than the group with less or no exposure. As Table 5 and 6 showed, H produced the highest percentage of CEs - 9% more than KESL. The least percentage occurred in KEFL as 15% less than H.

It suggests that the effect of L2 cultural exposure makes some conceptual production difference but that this difference was slight between learner groups. This indicates that H’s conceptual link was stronger than learner groups. It means they were more directly able to access concept(s) when producing L1 lexical items. Within learner groups, KESL’s conceptual access was a bit higher and active than that of KEFL when producing L1 lexical items.

As far as each lexical item is concerned, there was a group similarity. Two content words showed the same pattern across all groups; high CEs production over TE production without any inappropriate CEs production. For example, CEs production for the lexical item, run into, was more than double the TE for all groups. H was among groups that showed the highest CEs production, with more than three times that of TE. In addition to that, groups showed the similarity in terms of the various types of CEs – more than five. It is notable that H characterized by the highest number and percentage of total CEs production did not appear to be the highest in
terms of the CEs types. H’s total number of CEs types was five, which was equal to KESL’s, but lower than that of KEFL.

Similarly, CEs production of another lexical item, *stop*, was as much as six times more than TE for all groups. But, contrary to the H’s result for the lexical item, *run into*, the gap between H’s CEs and TE production was lowest among groups (although it was one less type than learner groups). In fact, H’s total CEs production was also the lowest. As far as the learner groups are concerned, there was a similarity in terms of the ratio between CEs and TE. The number of various CEs types was same for each learner group.

Taken together, regarding the total percentage of CEs production, the finding indicates that the length of exposure to L2 cultural background resulted in an increase in the overall CEs production, but not necessarily in an increase in the various production. Table 5 and 6 demonstrated that the gap of CEs production to TE was the largest between H and KEFL, and larger between H and KESL than between KESL and KEFL. Nevertheless, KESL’s production of various types of CEs was the same or lower than KEFL throughout all lexical item. Despite more L2 cultural exposure that facilitates more amounts of CEs production, the cultural effect on producing various conceptual types (L1 lexical types) was not observed.

*Inappropriate conceptual equivalents*

Although the percentage of inappropriate production of CEs was fairly small, it only occurred for H and KESL. The possible reasons could be that the link from a concept to L1 word was 1) not firmly developed, particularly for H, or 2) developed but less active, led them to have

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13 CEs types in H was consistently found to be less various than learner groups (cf. it was consistent throughout three lexical items, except in one case, for the lexical item, *left*).
difficulty in finding the appropriate one (i.e. influence of one’s dynamic movement along a conceptual development continuum). H had a little bit higher (4% more) inappropriateness than KESL. The inappropriate CEs only occurred in H and KESL for particular words (e.g., left, got in).

Table 5

Total number and percentage of direct translation equivalent(s), appropriate conceptual equivalents, inappropriate conceptual equivalent(s) by cultural group for four content words.

<table>
<thead>
<tr>
<th>Conceptual equivalents</th>
<th>H (73)</th>
<th>KESL (87)</th>
<th>KEFL (82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct translation equivalent</td>
<td>28% (21)</td>
<td>35% (31)</td>
<td>39% (32)</td>
</tr>
<tr>
<td>Conceptual equivalents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate</td>
<td>64% (47)</td>
<td>62% (54)</td>
<td>60% (50)</td>
</tr>
<tr>
<td>Inappropriate</td>
<td>6% (5)</td>
<td>2% (2)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

Table 6

Concepts showing a mixed result tendency in the number of production for conceptual equivalents (CEs) and direct translation equivalent (TE)

<table>
<thead>
<tr>
<th>Concept</th>
<th>CEs &gt; TE</th>
<th>Groups</th>
<th>TE &lt; CEs</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>Higher</td>
<td>H</td>
<td>Slightly higher</td>
<td>KESL</td>
</tr>
<tr>
<td></td>
<td>Slightly higher</td>
<td>KEFL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Got in</td>
<td>Slightly higher</td>
<td>H</td>
<td>Strikingly higher</td>
<td>KEFL</td>
</tr>
<tr>
<td>Stop</td>
<td>Highest</td>
<td>All groups</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Ran into</td>
<td>Higher</td>
<td>All groups</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

Variation of CEs among Intercultural Groups

Scene 1
(1) Original English sentence: [I]t looked as if a bus had just left.

(2) Content word: left

Out of six different CEs, there were three common CEs produced by all groups. Among these shared CEs, one CE is noticeable: not only was it the most frequently produced across all groups; it was also the only common CE that produced a different expression that required a complete change in the original structure. This CE, “놓치다” (“miss”), resulted in the subject changing from “a bus” to “I”, and placed “I” as an agent, creating a sentence in an active voice. This result provides two insights on language switching from L2 to L1. First, participants did not follow the English expression when switching it into Korean and, accordingly, produced a different expression while conveying the same content. Second, the switched expression in Korean could be considered as a natural consequence of the very frequent and common use of the expression (“I missed a bus”) in Korea. Thus, it reveals that what was salient for participants was also salient in L1 culture.

However, the finding shows that there was a decrease in the number of L1-based salient expressions and the CE (“miss”) in it depending on the direct or longer exposure to L2 culture. For example, those KESL who produced this CE fell in a medium range of frequency of producing this CE. They were also more aligned with H than KEFL. Thus, there is a greater degree of similarity on the number of the most salient CE production between groups comprising individuals who had been exposed to an L2 cultural setting for a lengthy period than between these and another group with indirect L2 cultural exposure. In fact, the gap between the learner groups was observed to a great extent for the remaining CEs, which suggests that L2 cultural exposure influenced the production of conceptual representation. For example, for another common CE, “지나가다” (“pass by”), five KESL produced this CE, whereas only one
occurrence was found in KEFL. For the CE that was not shared between the learner groups, “출발하다” (“depart for”), no KESL used this CE, but three KEFL produced it.

Interestingly, KESL produced the fewest different types of CEs, meaning that their production of CEs was only restricted to the commonly shared ones. In contrast, KEFL produced one more type of CE, and this was not shared by any other group, not even H. Finally, H produced the most different types of CEs, with two more CEs than all other groups, and these were unique to H.

Scene 2

(1) Original English sentence: She stopped it [a taxi] and got in.

(2) Content word: got in

Surprisingly, the CE “잡아타다” (“to take”) was the most frequent type produced by all groups. This CE is a compound verb that combines “to take” with “to get in” and is a very frequent colloquial expression. However, it is mostly associated with “taxi”, not other vehicles. This result reveals that many participants produced a culture-specific lexical item following the conceptualization of the situation and that their L1 knowledge of lexical items had appropriate and authentic quality. Such salient L1-based concept is directly accessed in the participants’ conceptual system and was sufficiently available for them to immediately utilize.

When H was compared with native speakers of Korean, of consideration is that most H produced this CE even though this compound verb is not regularly introduced nor is it on a list of

14 The meaning of this Korean CE “잡아타다” (“to take”) can literally be translated into “stopped it and got in” (a vehicle), with these meanings are joined by a coordinating conjunction.
essential words to be learned in Korean language textbooks (cf. the verb 잡다 “stop”, “catch”, or “grab” is included as a basic words). In this regard, they would have produced a literal translation equivalent if they had not already had experience or had not interacted with someone (in)directly about the way native Korean speakers express for this particular situation. It also indicates that their exposure to and experience of the colloquial communicative contexts through Korean communities in U.S. seemed to have as much of a positive and beneficial effect as they may have been exposed to in Korean communities in Korea. That is, interactions with family and heritage communities in L1 served well as an authentic source for them to acquire the lexical-conceptual knowledge. However, it is also notable that H was the only group that produced inappropriate CEs most frequently, which may be due to their limited vocabulary or having no or little real-world experience of the constructing language. As such, the L1-based concept for the lexical item(s) had not been developed in their conceptual system and consequently could not be used to strengthen the L1.

KESL produced less common yet still conceptually related CEs, though its number was as small, at just two. Additionally, KESL’s CEs were more different and had more specific meanings than the other groups. However, this contradicts the general finding that as learners’ exposure to L2 cultural background increased, fewer different CEs tended to be produced.

Scene 3

(1) Original English sentence: The taxi ran into a car.

(2) Content word: ran into
Many KESL produced the CE “사고가 난다” (“accident occurs”). Although many KEFL and H also produced this CE, both of these groups were found to differ in terms of just producing this CE. Indeed, L1-based conceptual knowledge in KESL was less varied than KEFL and H. For example, while as many as nine KESL produced the same CE exclusively, “사고가 난다”, only three KEFL produced it in the same way KESL did. Instead, KEFL produced slightly different CEs using compound words for 사고 (accident, such as “차 사고”; literal translation in English: car accident, “교통사고” traffic accident). This difference may show between KESL and KEFL in terms of producing L1 lexical knowledge.

Scene 4

(1) Original English sentence: Jane asked them to stop quarreling.

(2) Content word: stop

Of a total of five different types of CEs, two CEs were commonly produced by all groups. Additionally, these CEs were also the most frequent for all of the groups. One of the most frequent CEs was “말리다”, which represents a causative voice of the verb “to stop”. Interestingly, for KEFL, this CE was not just the most prevalent (at 11) but was also the most dominant concept produced. Naturally, KEFL showed a large difference for the next frequent CE compared with other groups. Indeed, the other frequent CE was “그만하다”, which is “to stop”, which functions as an indirect quotation, such as in the example of “그만하라고”. More specifically, the finding showed that there is a greater between KEFL and H than between KEFL and KESL, which indicates a more in-depth conceptual production in the learner groups than H. Indeed, H’s conceptual production may be rather incomplete.
**L1 culture-specific concept**

More KEFL than KESL produced certain types of CEs, specifically those based on L1 culture-specific conceptual knowledge. This finding would be considered as a consideration of authentic lexical production that fits specific situational contexts. It means that more KEFL could immediately produce a few particular of very specific and concrete situations and corresponding images while reading the English description of the scene, which made them to produce the appropriate lexical items. For example, in Scene #3, the context being described was ‘the taxi ran into a car’. Here, KEFL tended to transform the phrasal verb “run into” in the given context into L1-based culture-specific words, such as “break in” and “encounter”. However, these words only impart some of the meaning of the original L2 word, meaning that while their choices were conceptually and contextually appropriate, there was not semantic transference between L1 and L2. In fact, with this L1 conceptual production, KEFL attempted to create an unexpected and possibly dangerous incident that the driver may face. This may have been affected by the KEFL individuals’ familiarity with a particular situation and the way language is used while living in the L1 culture and speech community, as well as being fully and frequently exposed to the media, news reports, and daily conversations related to these types of incidents or accidents. Thus, it is interesting to see that what may have been salient for them is their main focus and severely affects the way they understand and interpret phrases, thus causing a radical reinterpretation of the original situation. However, this type of altered meaning in CE production was found to diminish as learners had more direct and lengthy exposure to the L2 culture.
5. DISCUSSION

This chapter discusses the main findings and patterns, guided by research questions, offering more interpretations and explanations and their relationship to previous empirical studies and to existing theoretical models of L2 conceptual development and the modified conceptual system of late bilinguals.

*Is L1-based concept modified by exposure to L2 socio-cultural background? How?*

Research question 1 inquired about the effect of L2 cultural exposure on conceptual modification of lexical items that are semantically similar but are different in culture-specific conceptual properties between L1 and L2.

**Task 1. Concept-elicitation Task**

The present study demonstrated the general pattern of more influence on the conceptual system according to L2 cultural exposure as this exposure increases. For example, in the data, there were 60% of KESL (n=17) who produced at least one L2-based concept including *coresense* and *consense*, which exactly corresponds to native English speakers’ concept for a particular lexical item, whereas 48% of KEFL (n=14) produced them. This exposure effect contrasts more when examining the production of more than two L2-based concepts. As seen in the data, there were 14% of KESL (n=4) who produced more than two L2-based concepts, but it was not observed in KEFL. With regard to the exposure to L2 culture, the result demonstrated that more modified concepts, referred to as a qualitative change, occur when learners have been in the context of “crossing language” being exposed to L2 and an L2 cultural community (Kecskes, 2009, p. 9).
More specifically, the length and intensity of socio-cultural exposure were found to be relevant to the change of conceptual content (This will be discussed in detail in the section of question 2). The specific factors that influenced L1-based concept have been documented, suggesting that neither mere exposure nor a short period of exposure to L2 culture is sufficient, but that an intensive and immersive learning environment is. The result is in accordance with the findings of following research; more than 2 years of learning in immersion class (Kecskes and Papp 1995, 2000, on L1 rhetoric, cognitive development, conceptual system), 2.5 years of semi-immersion class (Verspoor and Smiskova, 2012, on development of formulaic sequence) more than 6-month immersion (Kroll; the effect on conceptual representation, only found in high proficient learners), natural and lifelike interaction in L2 cultural contexts (e.g., Francis, 2005; Fries 1945; Kecskes & Papp, 2000; Kecskes 2007; Ko, 2017; Langacker, 2001; Pavlenko & Jarvis 2009), frequent and various communicative contexts (Hall, Cheng & Carlson, 2006), long-term and “sufficient repeated exposure” (Athanasopoulos et al. 2015; it brings about L2 cognitive pattern) are likely to be more ideal a learning context that affects development of knowledge, specifically, development of conceptual and sociocultural knowledge, CUCB (Kecskes 1998, 2003, 2006, 2007, 2010, 2014; Kecskes & Papp 2000, 2003), and multi-competence (Cook, 1992, 2002, 2003; Cook & Wei, 2016).

Unlike other KESL, a few participants of KESL who produced more than two L2-based concepts were exposed to L2 culture for 7 years, approximately 1.2 years longer than the average length of exposure of all KESL. In fact, it is even 2 years longer than the average length of those KESL who produced one L2-based concept. In this regard, there is likelihood that KESL who have had the average 7 years of exposure would double those have had an average 5 years of exposure in terms of the quantity of L2-based concepts. Although similar research findings
reported that L2 effect was observed for those living in L2 culture at a minimum of 3 years (Cook et al., 2006, on cognitive restructuring; Pavlenko & Jarvis, 2000, on morphosyntax), the differential effect according to the different length of exposure has only been found in this study. Thus, it is reasonable to argue that, at a general level, L2 learners with long-term exposure to L2 sociocultural background differ from learners with less exposure quantitatively and qualitatively.

Task 2. Rewrite L2 story into L1

L2-based Conceptual Development, Fluency, and L1 lexical production

The result indicates that the increase of CEs’ quantity relates to the exposure and the length to target cultural background. This general tendency confirms the hypothesis in such a way that learners’ concept mediation route strengthened, and a conceptual base of learners was influenced, to some extent, by L2 culture, and thus their two language systems were linked to shared conceptual system (hence, the existence of CUCB in their mind). The fact that KESL spontaneously produced more CEs than KEFL did suggests two things. First, for the case of KESL, L2 to L1 direction is as conceptually mediated as it may be in the opposite direction. Unlike KESL, KEFL tends to run through word association routes in an L2 to L1 direction, which is a typical phenomenon for learners who are used to rely on such learning as dictionary-based one-to-one semantic mapping translation.

RHM explained that a word association is strongly involved in the L1 to L2 direction until learners increase high proficiency. However, it is not known what will happen in the opposite direction (L2 to L1) when learners increase proficiency. Therefore, a call for another explanation is required. In this study, both groups of learners are native speakers of Korean, thus their concepts are already directly connected to the L1 Korean lexicon, meaning that the strength
of concept-word link would fairly strong. In my view, as Kecskes (e.g. 1998, 2010) and Kecskes and Papp (2000) first described in the developmental process to establish a bilingual conceptual system, which assumes in this study that KESL may have already developed CUCB, the production of conceptual content of a specific L1 lexical item is derived from the shared modified conceptual system. Consequently, their L1 lexical-conceptual knowledge would have no longer been the same as that of either KEFL or KM (e.g., Francis 1999, 2000; Cook, 2002, Kecskes & Papp 2000, 2003).

In addition to this general pattern, further evidence such as differences in group tendency to choose preferred concepts (CEs) supports the idea that the cultural exposure influences learners’ cognition. According to the relationship between language and general human cognitive system, “once concepts have been acquired, they are stored independent of language and can be accessed without resource to language” (Lecours and Joanette, 1980). It points out the blend of conceptual elements in L1 and L2. It is also important to note that the cognition is the result of the influence of socio-cultural background. Evans (2009) states, “different language and culture promote and sensitize the attention and representation of quite different aspects of social reality” (in Cook and Bassetti, 2011, p. 198). L2 acquisition requires knowledge beyond L2 linguistics. It reorganizes the learner’s entire language system, his/her language use, and cognition in general (Kroll, 2008).

In this regards, learners’ conceptual change, particularly KESL, is made at the core, rather than at the peripheral (Kecskes, 2007, 2008). It also should be emphasized that the meaning that one spontaneously connects to L1 lexical item is the representation and current state of his/her underlying modified concept as a consequence of exposure to L1 and L2 culture. The extent to which learners spontaneously map a certain concept to L1 lexical item moves
closer to or farther away from either end of the L1/L2 continuum. As far as cognitive functioning is concerned, Kecskes (2003) distinguished the cognitive functioning of bilingual speakers from that of monolingual speakers:

This difference is not only reflected in the use of concrete linguistic elements such as structures and words, but also in cultural values, text comprehension and discourse organization of bilingual speakers. Each language used as an L1 of a community has a system of expectations and traditions. Performance, pragmatics and language use have their own rules. Bilinguals with CUCB may not apply these rules in the usual and/or expected way (2003, p.258)

**Nature of Conceptual Modification**

Research question 2 explores how L2 cultural exposure differently influences conceptual modification, according to culture-specific lexical-concept characteristics, sociocultural contexts, and individual difference, and whether these findings are collective phenomenon (e.g., significant role of L1 cultural value) or individual development, which demonstrates the dynamic nature of L2 learners’ conceptual system.

**Conceptual modification in L2 culture**

When compared with KEFL, KESL is observed to be exposed to more than twice the amount of L2 use on a daily basis. This can mean that it is not merely the L2 cultural exposure alone that influences the L1 conceptual system, but rather it is the learners’ daily and intense L2 use. This finding corroborates the bidirectional influence mentioned above. Learners’ L1 use and cognition change in accordance with the intensive exposure to L2 in the target cultural environment (Pavlenko & Jarvis, 2000, 2002) as well as intensive daily exposure to L2 norms (Jarvis, 2003; Latomma, 1998; Laufer, 2003).
Interestingly, in the KESL group, regardless of whether they had been exposed for just a few years or five years, the learners were able to develop a modified conceptual system. In addition, among participants in the KESL group who produced a fully correspondent L2 concept (for a specific lexical item), it has been reported that their average length of exposure was approximately 5 years, which is actually a little bit lower than the average length of KESL groups (5.8 years; the lowest is 2.5 years). This interpretation is somewhat aligned with previous findings that no significant difference exists between learner groups of 3-5 years of L2 exposure versus 5-8 years (Pavlenko, 2003). However, it also may be possible that learners’ long-term exposure, meaning above-average length, combined with a high level of proficiency might have enhanced their cultural knowledge through various socio-cultural contexts and natural interaction. This combination also might have increased the level of their intercultural competence (Kecskes, 2013) and multicompetence (Cook, 2002), which might lead to having an individual preference.

Regarding the production result of contextual use, (i.e. task 1.2. consense), the learners quite clearly observed the general pattern. For example, KESL produced a much greater number of L2-based contexts (including the exact and approximate L2 categories) than did KEFL. It is also very interesting to note that cultural exposure influences not only the acquisition of a broad range of contextual information (i.e. varieties of L2 contexts), but it also follows the native English speakers’ conceptual saliency, which was more revealing in creating contexts than defining conceptual meanings of lexical items.

Especially, this L2-based saliency was a distinction between KESL and KEFL. Although the production rate of L2 conceptual knowledge, including that which is related, somewhat closer to L2 concepts and contexts, between KEFL and KESL was small (sometimes, very small,
depending on the concept), KEFL’s production of the L2-based salient conceptual knowledge was less frequent than that of KESL’s production. Specifically, the distinct characteristics shown in KEFL are the following: 1) They sometimes did not produce salient English concepts (e.g. coresense of ‘friend’) 2) They tended to produce the non-salient English concepts. (To put it another way, what was salient for them was not salient to ENS, e.g. consense of ‘vacation’) 3) A particular salient English concepts emerged as dominant ones (e.g. coresense of ‘competition’).

Since “consense realizes a particular aspect or aspects of the coresense by uniting it with the appropriate word-specific semantic property and/or culture-specific conceptual property when the word is uttered in an actual situational context” and “consenses are the variations of coresense in context” (Kecskes, 2014, p. 145), it makes sense that the exposure to repeated similar situations as well as experiences of not just various but, more importantly, commonly occurring situations where L2 lexical items were contextualized (aspects of coresense) within L2 socio-cultural contexts contribute to developing standard L2 contexts (Violi, 2000; Kecskes, 2007). As the data shows, KESL followed a saliency pattern similar to ENS and/or heritage speakers. The KESL lexical knowledge may be conceptually different from KEFL, though, because of the structure of conceptual constituents. Their cultural and specific contextual experiences “create a set, thus become one’s own knowledge frame” (Kecskes, 2004). Overall, the lengthy (5.8 years) exposure to L2 sociocultural background improved learners’ ability to know and internalize the most common L2-based contexts.

Additionally, this study suggests learners have a more conceptual advantage relative to the exposure to an L2 cultural background. As explained in DMM, culture-specific conceptual properties (CSCP) are features of conceptual pragmatics. This means that learners’ conceptual background knowledge, encyclopedic knowledge, and saliency may be a consequence of their
“prior conversational experience with the lexical items” and “the familiarity with the situational frame” (Kecskes, 2014, p. 156). Learners’ different prior experiences with a target language community result in different saliences, and, hence, target cultural experience plays a primary role in salience (Kecskes, 2014). The lack of these conceptual components and less contextualized lexical use eventually surface as limited understandings of L2 sociocultural background encoded in L2 lexical items. If a person lacks L2 conceptual knowledge, and thus lacks L2 conceptual fluency, they are only able to subconsciously process L1 conceptual knowledge through the L1-dominated conceptual system.

**Conceptual modification in L1 culture**

Although exposure is a determinant factor, conceptual modification is also available in the L1 socio-cultural background. It is an unexpected result that as many as 48% of learners living in an L1 country (n=14) produced L2-based concepts, exactly corresponding to coresense and consense of L2 culture. It is considerably a surprising number when compared with the 60% of learners who produced those concepts in KESL. Some researchers have agreed upon the potential effect the L1 environment has on conceptual development. One of the interesting and directly related findings in Kecskes’ (2007) research was that learners living in an L1 country showed some changes in their existing L1-based concepts. A similar effect was found in other areas. For instance, in a foreign language environment, L2 (i.e. FL) was still influential enough to affect L1 conceptually and, thus, in the use of L1 (e.g. passive vocabularies in L1 become active in use (Kecskes & Papp, 2000); it also affects L1 and L2 pragmatics equally (Cenoz & Valencia, 1996; Cenoz, 2003). That is, L2 concepts can be developed in L1 culture, which indicates the existence of a bidirectional influence across two languages in L1 culture (e.g.
Cenoz, 2003; Cook, 2011; Kecskes, 2008, 2010; Laufer, 2003). On the other hand, this may be the result of the following sequence: short-term exposure to L2 culture in the past, then continued learning and use of L2 in an L1 environment. In the data, among those who produced L2 concepts, eight learners put more effort into learning in L2 highly frequently and on a regular basis. However, since it is incompatible with research findings that have focused on L2 learners’ conceptual changes and bidirectional influence, and such a short-term exposure has not been documented as a significant factor in conceptual areas, it remains in question whether their production of L2 concepts were the reflection of past short-term exposure. Also, if this is right, those learners still have had these modified concepts while not reverting to previous L1-based concepts. If we do not accept the effects of short-term exposure on the conceptual base, then it can be explained that learners’ production of L2 concepts can be attributed primarily to FL learning contexts in support of the potential FL context on acquisition (i.e. internalization) in the condition of intensive learning, as mentioned above. In fact, KEFL dominantly used L1, whereas not using L2 as a daily means of communication, as opposed to KESL, which maintains two languages with a 1(L2):2(L1) ratio on a daily basis. To conclude, such individual factors as regular use of L2, willingness to learn, ongoing efforts, above intermediate–advanced proficiency, and learning-related factors such as materials and lesson goals may altogether contribute to modifying the existing L1 concepts under L1 culture.

**Heritage Speakers’ Conceptual Modification**

Given that heritage speakers’ early exposure to L2 culture and direct and full access to L2 socio-cultural knowledge are hypothesized to advance L2 conceptual development, the qualitative results, which stated that: 1) 78% of heritage speakers produced more than one
completely correspondent L2 concept (out of eight concepts) and 2) 35% produced the number of two completely correspondent L2 concepts, were not unexpected. This result indicates a sharp divide between the heritage group and learner groups in terms of the quantity and quality of L2-based concepts in production. For example, heritage speakers’ conceptual definitions and contexts associated with certain lexical items represented those of L2-based conceptual categories, which was 2.5 times higher when compared to KESL. The statistical difference turned out to also be significant, and subsequently corroborating the impact of a longer cultural exposure in a way that represents the great extent to which their conceptual knowledge is represented toward the culture to which they have long been exposed.

However, considering the production percentage from the heritage speakers’ group, only two lexical items exactly represented L2 concepts (i.e., full correspondence to L2 concepts) out of a total eight lexical items. Therefore, it can be thought of as quite a small quantity. Apart from these two L2 concepts, the remaining speakers exhibited partial L2 concepts, partial L1 concepts, and full L1 concepts, which importantly suggests that what consists mainly of the heritage speakers’ conceptual system would not be the L2 concepts, but rather the modified concepts that had been influenced to some different degree by L1 and L2 concepts. Furthermore, it is noted that their continuous use of heritage language in the U.S., even though in far limited contact with L1-based cultural background, had much to do with some heritage speakers’ producing L1-based conceptual knowledge as their salient one. This reveals that heritage speakers had blended and modified lexical-conceptual knowledge, resulting from their (sub)conscious experiences of the L1-L2 bidirectional conceptual influence.

However, the fact that heritage speakers’ production of L1 contexts was much lower compared to L1 conceptual definitions indicates the lacking condition of L1 heritage socio-
cultural background as well as various situational communicative contexts. As Kecskes (2003) highlighted, bilinguals’ development of L1 heritage concepts is constrained by the given social context and community members’ communicative competence. Importantly, all these production results were the reflections of a dynamic process that heritage speakers had been going through and that is always present and that constantly influences his/her conceptual base along an L1-L2 continuum (Francis, 2000; Jesenner, 2002; Kecskes, 2003).

Additionally, several participant-specific evidences further suggest that participants’ regular and frequent (daily) use of the heritage language, not necessarily hours of L1 use, play a role in developing a unique dual language system. The center of this system involves the CUCB which is responsible for operation of two distinct language channels that constantly interact each other during production (Kecskes 1998, 2003; Kecskes & Papp, 2000).

Although the factor of English use with Non-Native English Speakers (NNES) was not the main question in this study, and thus not further addressed before, the finding is worth mentioning, as follows: those heritage speakers who reported to have used English with NNES produced the vast majority of CEs in L1 (see Appendix E). If the NNES they had mainly interacted with were Korean heritage speakers and/or Korean international speakers, then the high production of conceptual equivalents in L1 may be attributed to their frequent and repeated experience with them, which implies the exposure to some aspects of L1 conceptual knowledge that may come to the surface when in interaction in L2 (e.g. Wenger, 1998).

There are Certain Concepts that are Lesser/Greater Modified

In task 1, it is noteworthy that there were a few clear patterns among KESL that, for certain concepts, the effect of L2 cultural exposure on a conceptual modification was very different. The higher amount of L2 concepts suggests that the modification should be understood
not only in its quantitative occurrences but also in the qualitative conceptual content change. This may indicate the imbalance of conceptual development between coresense and consense, or very little conceptual development in both coresense and consense of the same lexicon. The evidence in the data can be categorized into three types and summarized as follows: First, two lexical items, foreigner and vacation, correspond to the use of L2 cultural context more than to an L1 cultural context, and their coresense was not as modified as was the consense. Second, a lexical item, friend, reflects L2 coresense, but not L2 consense. In contrast, there was a lexical item, guest, which was least modified both in coresense and consense. Learners would have been resistant to change, but they preferred to maintain culturally salient concepts relevant to the polite, hierarchical interpersonal relationships relating to the sociocultural value and behavior practiced in Korean culture. The results of L2-based consense production (e.g., foreigner, vacation, as mentioned above) indicates that for some lexicons, situational contexts are more subject to be acquired and are more influenced by target cultural experience than the conceptual meaning. In other words, while L2 situational contexts are mostly salient for L1/L2 lexicons, the conceptual meaning is dominated by the L1-based concept. Similarly, this interpretation may apply to the result of the lexical item friend. But, in the case of friend, what was mainly affected by cultural exposure is ‘general world knowledge about the concept’, the essential meaning and thought about the word (Kecskes, 2007, 2008, 2014). This may be due to the full or limited access to various prior situational experience in ENS communities or Korean learners’ cognitive dissonance in internalizing and assimilating to L2 culture-specific ways of thought and behavior, both of which suggest the dynamic nature of learners’ conceptual knowledge.

In particular, a certain lexical item (e.g., guest) presents a great challenge of conceptual modification. Much of the coresense or consense encoded in guest were found to be based on L1
culture specific knowledge. This influence can be the result of two reasons. First, it may be because of the different systematic patterns across cultures, resulting in lack of relevance or indirect access to certain concepts in a particular culture (Francis, 2009; Kecskes, 2007, 2008, 2014, 2019; Kecskes & Papp, 2000; Kroll & de Groot, 1997; Jared, Yun Poh, & Paivio, 2013; e.g. image representation). In other words, it may be due to the sociocultural nature of this concept that is hard to approximate conceptually to an L2 equivalent, which was clearly present in the data in support of those claims. For example, the Korean equivalent of guest, ‘son-nim’ has the honorific morpheme ‘nim’ that explicitly exhibits the social hierarchy and cultural attitude. Second, even when learners live in an L2 culture for a long period of time and are intensively exposed to communication in L2, certain L1 values are maintained and kept rather strongly as the primary (e.g. Jarvis, 2003). A longitudinal research study (Ortacetepe, 2012) found that L2 learners intended to hold L1 cultural values while undergoing second language socialization. Similarly, as Dewaele and Pavlenko (2003) pointed out, when L2 has a large effect on mental representation, the L1 value is not lost to bilingual memory.

These findings are compelling in support of the argument that, despite a long exposure to L2 cultural contexts, certain L1-based concepts play a big role having learners resist L2 conceptual knowledge. In contrast, there are certain L2 concepts that are easily subject to change. In an L2 learner’s mind, it can be predicted that some concepts are much more likely placed somewhere close to an L1 point, while other concepts that are more greatly modified are placed somewhere close to L2 points on a continuum. Consequently, this process points to the dynamic nature of conceptual development.
Are L2 concepts in unconscious process for L2/L1 use? Evidence of Bidirectional Influence

The self-reported, reflection-oriented survey helps understand the bidirectional influence involved in conceptual production. The finding in this survey was generally consistent with task results throughout this study. This survey–task consistency corroborates not only the bidirectional influence hypothesis, but it also demonstrates the notable change on learners’ L1 conceptual systems.

At first, the results from participants’ acquisition of L2 concepts demonstrated that most heritage speakers’ L2 lexical use was a relatively unconscious act. This tendency was observed in learners in smaller numbers as compared to heritage speakers. But it was a good deal of learner participants with slightly more numbers in KESL than KEFL. In comparing these results to learning contexts (e.g. Ellis, 1989, 2005; Kecskes, 2003, 2007; Kecskes & Papp, 2000; Kroll & Tokowicz, 2003; Pavlenko, 2009), it aligns with the general pattern that the direct experience in the target cultural environment and/or naturally immersed class over intensive class bring about more beneficial effects in the acquisition and qualitative changes of learners’ conceptual content. In concept-elicitation task and rewriting L2 story in L1 task, a similar finding was observed (increased production of L2-based concepts according to increased length of exposure, in task 1, and production of more conceptual equivalents over translation equivalents, in task 2), which gives the overall study results consistency and ensures L2 cultural exposure effect on CUCB.

The results also add evidence to the RHM hypothesis. More exposure to L2 culture increased one’s unawareness to L2 concepts (ranging from ‘absolutely true’ to ‘partly true’), such that they tended to unconsciously think of L2 concepts (specifically, the question was to elicit L2 socio-cultural background knowledge) when using L2 lexical items. It means that KESL
were less likely to rely on L1 translation equivalents than KEFL and that L2-based concepts were already integrated into the conceptual system of KESL.

Regarding the unconscious process of L2 concepts when using L1, a similar result (i.e. similar number) was observed for heritage speakers and learners, which provides additional evidence for the L1–L2 bidirectional influence. It was not surprising that L2 concepts that appeared to be the most active were of the H group. Findings from the self-report indicate 39% of H with ‘almost always’, and ‘in accumulation’ to ‘partly active’ up to 61%. However, the number of KEFL speakers that reported automatically having L2-based concepts when processing L1 suggests that even learners with past short-term exposure to L2 culture may develop CUCB. This means that they developed a modified conceptual system during their stay in the U.S. and that their modified conceptual system did not revert back to their previous monolingual conceptual system and was not disrupted in their L1 Korean culture. This finding may relate to KEFL’s relatively strong conceptual link shown in Task 2.

For both learner groups, it was difficult to determine whether their use of L1 was different than Korean monolingual speakers’. But it was notable that learners were likely to experience not turning off the activation of L2 socio-cultural knowledge, even when in monolingual language mode. While using L1, they were likely to process L2 conceptual knowledge in a relatively unconscious and automatic manner. This interplay of L1 and L2 concepts simultaneously may represent that the concepts pertaining to L1 lexical items are no longer L1 culture-specific, but rather they are positioned somewhere in between two cultures. Thus, the concepts learners think of are derived from their own modified conceptual system at that moment. Regardless of the degree of modification, it would be likely that learners’ concepts eventually impact their L1 use. In this respect, those learners are considered to achieve the
conceptual fluency to some extent through (in)direct exposure to L2 cultural background and daily/regular communication in L2 (e.g. Danesi & D’Alfonso, 1989; Danesi, McLeod, & Morris, 1993; Kecskes, 2007; Kecskes & Cuenca, 2005). The relationship between unconsciousness and conceptual fluency could be additional characteristics of learners’ experience with the bidirectional influence of two languages. The findings from KEFL also suggest that the bilingual language mode (e.g. Grosjean, 1992, 2001; Kecskes, 2007, 2008, 2010) could be available despite the lack of cultural exposure and socio-cultural contexts.
6. CONCLUSION

This qualitative-oriented mixed method study provides empirical evidence that supports L2 learners’ qualitative, conceptual development during their direct exposure to L2 socio-cultural background knowledge. Through the concept-elicited production data, the study demonstrated that the group with direct exposure for approximately five years to L2 socio-cultural background knowledge experienced a larger impact on the modification of learners’ previous L1-governed conceptual knowledge than the group with indirect exposure. These groups differentiated between a number of modified concepts in their production of conceptual content and contexts, and differed more in the production of more, and more various, kinds of L2-based contexts that represented L2 context categories. On the contrary, the indirect group, on top of a relatively lower number of L2 concepts, was likely to have following distinctive pattern such that their production consisted of a fewer number of L2 categories and was less relevant to the rank of L2-based saliency. It does not mean that more modification always occurred in the direct exposure group. For the few cases of no effect, it was observed that the direct exposure group tended to have much less L2-based modified conceptual knowledge than the indirect exposure group while holding much more previous L1 conceptual knowledge including as many L1 categories and as much L1 saliency. But, for most cases, it was seen that the direct exposure caused a decreased production of L1 conceptual knowledge while increasing the production of modified conceptual knowledge and, as such clearly differs from the indirect exposure group. More difference was observed on the production of L2-based contexts, indicating a probable consistent influence of learners’ range of authentic experiences to particular social and communicative situations tied to a lexical item from the most common to the less common.
Although, as seen in the statistical analysis, those difference of producing modified concepts between the direct exposure group and the indirect exposure group was not statistically significant, it could be argued that there was a distinctive pattern of qualitative differences and that the direct exposure to L2 socio-cultural background had an effect that was different from, as well as stronger than, compared with the indirect exposure group, though not significantly so, on learners’ conceptual system.

Within the direct exposure group, some learners did not go through the modification process in the way others did. It may be that the conceptual modification cannot be explained alone without the factor of continued efforts to use L2 – such as the regular use of L2, and the amount of L2 used on a daily basis. Other than L2 use in cultural contexts, the role of L1 culture should be considered to understand the findings of their larger production of L1 concepts found in the study, especially for certain lexical items. That is, despite having over five years of direct L2 cultural exposure, some L1-based conceptual knowledge and L1 cultural values still remained much less modified. As such, the result suggests that the influence of L1 and L2 cultural exposure on a bilingual subject’s conceptual base is dynamic and bidirectional, and its influence is always moving along an L1-L2 continuum (Kecskes 2003, 2007, 2008, 2019; Kecskes & Papp, 2000). The study also suggests that concepts are modifiable in nature even later on in learners’ lives and that factors such as learners’ target sociocultural and cognitive experience help facilitate their modification.

This study contributes to the emerging field of *Socio-cognitive approach to Bilingualism* and *Intercultural Pragmatics* by providing answers with empirical evidence to questions about the impact of direct exposure to L2 socio-cultural background on adult L2 learners’ conceptual development, and either on L1- or L2-based saliency pattern in their conceptual production.
However, despite the role of learners’ socio-cultural background in relation to their conceptual knowledge, little scholarly attention has been paid to this conceptual aspect of second-language acquisition. I argue in this study that the direct exposure to L2 cultural context does not have as much influence on the development of a number of modified concepts as compared to indirect exposure, but on the development of as many different and salient L2-based conceptual knowledge. Again, these suggests that the concepts have modifiable nature even in later life. The concepts produced by learners displayed the distinctive modification patterns that seem to result from the interplay of levels of sociocultural exposure and individual differences about dependence on and/or preferences for L1-based cultural knowledge and experiences, and values.
References


Second Language Acquisition. 28(3), 387-422.


Beginning 2: KLEAR Textbooks in Korean Language (2nd ed.). Honolulu: University of Hawai’i Press.


Appendix A1

Task 1. Concept-elicitation Task

This task consists of total 10 words and 3 questions for each word. The same three questions will be given for a word. For each word, please also hear the sound by clicking the video play button. Here comes the three questions ahead for you to get a sense of the task.

질문 1. What images, thought, or ideas come up to your mind as soon as you encounter this word? (이 단어를 접하자마자 여러분 마음속에서 바로 떠오르는 이미지, 생각 등이 무엇입니까?)

질문 2. Please make two sentences using the same word provided on question #1. (같은 단어를 사용하여 두 문장씩 만들어 주시기 바랍니다.)

질문 3. Please mark on the Likert scale below that best represents your feeling or emotion when you encounter this word. (이 단어를 접할때 여러분의 감정,기분,느낌을 가장 적절하게 표현하는 척도에 동그라미 표시를 눌러주시기 바랍니다.)

1. What images, thought, or ideas come up to your mind as soon as you encounter this word? (이 단어를 접하자마자 여러분 마음속에서 바로 떠오르는 이미지, 생각 등이 무엇입니까?)
Your answer

2. Please make two sentences using the same word provided on question #1. (같은 단어를 사용하여 두 문장씩 만들어 주시기 바랍니다.)
Your answer
3. Please mark on the Likert scale below that best represents your feeling or emotion when you encounter this word. (이 단어를 접할때 여러분의 감정,기분, 느낌을 가장 적절하게 표현하는 척도에 동그라미 표시를 눌러주시기 바랍니다.)

<table>
<thead>
<tr>
<th>Negative</th>
<th>Somewhat negative</th>
<th>Neutral</th>
<th>Somewhat positive</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A2

L1-L2 word pairs

나이 – age
경쟁 – competition
개 – dog
외국인 – foreigner
친구 – friend
손님 – guest
전통 – tradition
방학 – vacation
Appendix B

Task 2. Rewriting L2 story into L1 task

Instruction: Please read the story below. Then tell me what happens in Korean language. Please make sure you do not translate the text but tell the story. Thank you. (과제 설명: 아래 이야기를 읽어주시기 바랍니다. 그리고 무슨 일이 일어났는지 한국말로 이야기해 주시기 바랍니다. 당부드릴 말씀은, 아래 글을 번역하지 마시고 이야기를 말해주시면 되겠습니다. 감사합니다.)

Story (이야기)

Jane hurried out of the house to catch the bus to the station. No one else was waiting at the stop, so it looked as if a bus had just left. Jane was worried because she didn't have much time to spare. Just then she saw a taxi. She stopped it and got in. But as they were coming out of a side-street into the main road, the taxi ran into a car. Both drivers got out and began shouting at each other. Jane asked them to stop quarreling, but neither of them listened to her at all. Jane was in despair since she was sure that she would miss her train.

Now, please retell the story in Korean only. 이제 한국어로만 이야기를 작성해주세요.
## Appendix C1

### Language and Sociocultural Background Questionnaires

1. Make sure that Korean is your first language (L1), English is your second language (L2)
   - Yes (   )

2. English proficiency scores from TOEFL, GRE or else: (  )

3. Age of L2 exposure: (    ) years old

4. Length of residence in L2 environment: (    ) years (    ) months

5. Frequency of L2 use and L1 use

   - L2 use: (    ) hours/Daily, (    ) hours/4-5times a week, (    ) hours/2-3 times a week
     (    ) hours/once a week
   - L1 use: (    ) hours/Daily, (    ) hours/4-5times a week, (    ) hours/2-3 times a week
     (    ) hours/once a week

6. Type of Exposure to L2

   - Exposure to family (    ) hours,
     Daily(    ), 4-5times/week(    ), 2-3times/week(    ), 1/week(    )
   - Exposure to friends (    ) hours,
     Daily(    ), 4-5times/week(    ), 2-3times/week(    ), 1/week(    )
   - Exposure to watching TV shows, drama, etc. (    ) hours,
     Daily(    ), 4-5times/week(    ), 2-3times/week(    ), 1/week(    )
   - Exposure to reading such as books, articles, magazine (    ) hours,
     Daily(    ), 4-5times/week(    ), 2-3times/week(    ), 1/week(    )
   - Exposure to self-instruction (    ) hours,
     Daily(    ), 4-5times/week(    ), 2-3times/week(    ), 1/week(    )

7. Types of L2 speakers

   - Native English speakers
     (Mostly, often, sometimes, rarely, not at all)
   - Mostly non-native English speakers (not including Korean international speakers)
     (Mostly, often, sometimes, rarely, not at all)
### Appendix C2

**Bidirectional Conceptual Access Questionnaires**

<table>
<thead>
<tr>
<th>Questions</th>
<th>(5) absolutely true, (4) mostly true, (3) partly true/partly untrue, (2) not really true, (1) not true at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When using English words, I translate Korean word into English word all the time.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>2. When using English words, I try to think of the American way of expression to get the meaning/thought across.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>3. When using English words, I unconsciously and automatically think of one of these: its English equivalent knowledge, image, situation, or value.</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>4. When using Korean words, I unconsciously and automatically think of one of these: its English equivalent knowledge, image, situation, or value.</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>
Appendix D

Lexical-conceptual Difference between Korean and English

Stimulus word: ‘Age’

Table. The content and frequency of word definition for each monolingual (*mark indicates the concept that occurred once)

<table>
<thead>
<tr>
<th></th>
<th>Definition</th>
<th>Content</th>
<th>%</th>
<th></th>
<th>Definition</th>
<th>Content</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCP</td>
<td>D1</td>
<td>a number measuring years of living from birth</td>
<td>37.9</td>
<td>(11)</td>
<td>D5</td>
<td>young/old, younger or older people</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>passage of time</td>
<td>20.7</td>
<td>(6)</td>
<td>D6</td>
<td>my age, someone's age</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>Times one has lived so far</td>
<td>20.7</td>
<td>(6)</td>
<td>D7</td>
<td>grow old</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>D4 (*)</td>
<td>aging, social standards, appearance, life</td>
<td>6.9</td>
<td>(2)</td>
<td>D8 (*)</td>
<td>birthday, years, declines, worry</td>
<td>13.3</td>
</tr>
<tr>
<td></td>
<td>Common concept</td>
<td>D9</td>
<td>number</td>
<td>6.7</td>
<td>(2)</td>
<td>D9</td>
<td>number</td>
</tr>
</tbody>
</table>

Table. The content and frequency of sentence context for each monolingual

<table>
<thead>
<tr>
<th></th>
<th>Sentence</th>
<th>Context</th>
<th>%</th>
<th></th>
<th>Sentence</th>
<th>Context</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCP</td>
<td>C1</td>
<td>getting old, growing old, old enough</td>
<td>19</td>
<td>(11)</td>
<td>C11</td>
<td>something getting better at (e.g., maturity) or worse with age</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>C2</td>
<td>something comes with age (e.g., experience, regret, thought, ability, burden of life)</td>
<td>19</td>
<td>(11)</td>
<td>C12</td>
<td>Do not like to tell my age</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>Time flies</td>
<td>5.2</td>
<td>(3)</td>
<td>C13</td>
<td>someone is the same or similar age as me</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>comparing who is younger and older</td>
<td>5.2</td>
<td>(3)</td>
<td>C14</td>
<td>legal, official</td>
<td>6.7</td>
</tr>
<tr>
<td>C5</td>
<td>appear young or old</td>
<td>5.2 (3)</td>
<td>C15</td>
<td>Information – Stone/ Bronze Age</td>
<td>5 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>---------------------</td>
<td>--------</td>
<td>-----</td>
<td>---------------------------------</td>
<td>------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>social standards</td>
<td>5.2 (3)</td>
<td>C16</td>
<td>opportunity to do things in society</td>
<td>3.3 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7</td>
<td>Korean way of measuring age</td>
<td>3.4 (2)</td>
<td>C17</td>
<td>age well</td>
<td>3.3 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8</td>
<td>sadness</td>
<td>3.4 (2)</td>
<td>C18</td>
<td>act one's age</td>
<td>3.3 (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C9(*)</td>
<td>Age should not be a social hierarchy, act your age, golden age, measure by number</td>
<td>5.2 (3)</td>
<td>C19(*)</td>
<td>others: golden age, look young, age of objects, aged (as wine), die of old age, compare my age to others; age reference is important between 0-18, birthday determines one more year added to my age</td>
<td>8.3 (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C10</td>
<td>age is nothing but a number, age has nothing to do with something (e.g., maturity)</td>
<td>17.2 (10)</td>
<td>C19(*)</td>
<td>age is nothing but a number, age has nothing to do with something (e.g., maturity)</td>
<td>16.7 (10)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Common context

| C20 | how old are you?, my age | 8.6 (5) | C19(*) | golden age | 1 |
| C9(*) | golden age | 1 | C19(*) | golden age | 1 |

**Stimulus word: ‘competition’**

*Table.* The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th></th>
<th><strong>Korean</strong></th>
<th></th>
<th><strong>Native English speakers in the U.S.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td><strong>Content</strong></td>
<td><strong>%</strong></td>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>win over others</td>
<td>24.1 (7)</td>
<td>D7</td>
</tr>
<tr>
<td>D2</td>
<td>inevitable or necessary in life/throughout life</td>
<td>24.1 (7)</td>
<td>D8</td>
</tr>
<tr>
<td>Korean</td>
<td>Context</td>
<td>%&lt;br&gt;(#)</td>
<td>Native English speakers in the U.S.</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>----------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td>C1</td>
<td>living in a cutthroat competition</td>
<td>19&lt;br&gt;(11)</td>
</tr>
<tr>
<td>C2</td>
<td>growth and development</td>
<td>10.3&lt;br&gt;(6)</td>
<td>C11</td>
</tr>
<tr>
<td>C3</td>
<td>pursue coexistence, dangers of competition itself</td>
<td>10.3&lt;br&gt;(6)</td>
<td>C12</td>
</tr>
<tr>
<td>C4</td>
<td>hard, stressful, mental strain</td>
<td>6.9&lt;br&gt;(4)</td>
<td>C13</td>
</tr>
<tr>
<td>C5</td>
<td>unavoidable and necessary</td>
<td>5.2&lt;br&gt;(3)</td>
<td>C14</td>
</tr>
<tr>
<td>C6</td>
<td>market, business</td>
<td>5.2&lt;br&gt;(3)</td>
<td>C15</td>
</tr>
<tr>
<td>C7(*)</td>
<td>college entrance exam, a way of evaluating one's ability, romance, journey for a meaningful life</td>
<td>6.9&lt;br&gt;(4)</td>
<td>C16(*)</td>
</tr>
</tbody>
</table>

*Table.* The content and frequency of sentence context for each monolingual
<table>
<thead>
<tr>
<th>Common context</th>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definition</td>
<td>Content</td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td>D1</td>
<td>familiar animal</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>slang</td>
</tr>
<tr>
<td></td>
<td>D3(*)</td>
<td>life partner, communicative relation</td>
</tr>
<tr>
<td></td>
<td>D10(*)</td>
<td>love, fluffy, fuzzy</td>
</tr>
<tr>
<td><strong>Common concept</strong></td>
<td><strong>D4</strong></td>
<td>member of dog family</td>
</tr>
<tr>
<td></td>
<td>D5</td>
<td>puppy/animal, cute</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D6</td>
<td>most popular pet</td>
</tr>
</tbody>
</table>

**Stimulus word: ‘dog’**

*Table*. The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentence</strong></td>
<td>Context</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table*. The content and frequency of sentence context for each monolingual
<table>
<thead>
<tr>
<th>CSCP</th>
<th>slang expression</th>
<th>12.1(7)</th>
<th>C8</th>
<th>love, cute, adorable</th>
<th>35(21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>characteristics: (e.g., loyalty)</td>
<td>12.1(7)</td>
<td>C9</td>
<td>characteristics: cool, friendly, hilarious, needs attention</td>
<td>10(6)</td>
</tr>
<tr>
<td>C3</td>
<td>like/fear/pretty/cute</td>
<td>5.2(3)</td>
<td>C10</td>
<td>walk the dog, take care of dog</td>
<td>11.7(7)</td>
</tr>
<tr>
<td>C4(*)</td>
<td>animal hospital, many stories episodes about a dog, domestic animal, zodiac, animal, ban the dog meat</td>
<td>12.1(7)</td>
<td>C11</td>
<td>breed of dog</td>
<td>10(6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C12</td>
<td>dog's name</td>
<td>3.3(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C13</td>
<td>pet dog</td>
<td>3.3(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C14(*)</td>
<td>rescue dog in animal shelters, dog sitter, dogs vs. cats</td>
<td>6.7(4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common context</th>
<th>dog in a house, own a dog, look after a dog, handle a dog</th>
<th>24.1(14)</th>
<th>C15</th>
<th>(do not) own a dog</th>
<th>8.3(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>dog's behavior/physical description (e.g., bark)</td>
<td>17.2(10)</td>
<td>C16</td>
<td>dog's behavior/physical description (e.g., bark)</td>
<td>3.3(2)</td>
</tr>
<tr>
<td>C7</td>
<td>man's friend, family</td>
<td>8.6(5)</td>
<td>C17</td>
<td>“man's best friend”</td>
<td>8.3(5)</td>
</tr>
</tbody>
</table>

**Stimulus word: ‘foreigner’**

*Table.* The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Content</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

146
<table>
<thead>
<tr>
<th>CSCP</th>
<th>D1 not Korean; people in Korea but from other countries, people who do not have Korean nationality</th>
<th>D5 new, strange, non-western</th>
<th>27.6 (8)</th>
<th>23.3 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2</td>
<td>people from/with different culture, language, or race</td>
<td>D6 immigrants</td>
<td>13.8 (4)</td>
<td>16.7 (5)</td>
</tr>
<tr>
<td>D3(*)</td>
<td>forming separate groups, a word ought to be disappeared from global society</td>
<td>D7 different language</td>
<td>6.9(2)</td>
<td>16.7 (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D8 popular music band “Foreigner”</td>
<td>13.3 (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D9 poor, struggling</td>
<td>6.7(2)</td>
<td></td>
</tr>
<tr>
<td>Common concept</td>
<td>D4 people of other countries, nationality (general view)</td>
<td>D10 someone from, different country</td>
<td>48.3 (14)</td>
<td>23.3 (7)</td>
</tr>
</tbody>
</table>

**Table.** The content and frequency of sentence context for each monolingual

<table>
<thead>
<tr>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sentence</td>
</tr>
<tr>
<td>CSCP</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>increase of (describe) foreign tourists/people in Korea</td>
</tr>
<tr>
<td>C2</td>
<td>wish to/experience of foreign culture or with foreigner in Korea</td>
</tr>
<tr>
<td>C3</td>
<td>interested in or attentive to foreigner's</td>
</tr>
<tr>
<td></td>
<td>experience/view of Korea</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
</tr>
<tr>
<td>C4</td>
<td>strange, different, negative</td>
</tr>
<tr>
<td>C5</td>
<td>communication in either Korean or English</td>
</tr>
<tr>
<td>C6</td>
<td>meet foreigner(s)</td>
</tr>
<tr>
<td>C7(*)</td>
<td>lonely, admission for international(foreign) students</td>
</tr>
<tr>
<td>Common context</td>
<td>I was once a foreigner, I am foreigner to other foreigners.</td>
</tr>
<tr>
<td>C9</td>
<td>foreign neighbor, worker, coworker</td>
</tr>
</tbody>
</table>

Stimulus word: ‘friend’

*Table*. The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th></th>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Content</td>
<td>%</td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>heart-to-heart relationship (reliable)</td>
<td>37.9 (11)</td>
</tr>
<tr>
<td>D2</td>
<td>precious, important</td>
<td>10.3 (3)</td>
</tr>
<tr>
<td>D3</td>
<td>long-term, life companion</td>
<td>10.3 (3)</td>
</tr>
<tr>
<td>D4</td>
<td>intimate person of same/similar age</td>
<td>6.9(2)</td>
</tr>
<tr>
<td>Korean</td>
<td>Context</td>
<td>%</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td><strong>CSCP</strong></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>school friends, long-term friend/companion</td>
<td>8.6(5)</td>
</tr>
<tr>
<td>C2</td>
<td>comfortable (long-term friend), joyful, happy, abundant, thankful, affectionate, family-like (emotional closeness)</td>
<td>12.1(7)</td>
</tr>
<tr>
<td>C3</td>
<td>being in touch with</td>
<td>12.1(7)</td>
</tr>
<tr>
<td>C4</td>
<td>many friends (quantity)</td>
<td>5.2(3)</td>
</tr>
<tr>
<td>C5</td>
<td>in need of, precious</td>
<td>6.9(4)</td>
</tr>
<tr>
<td>C6(*)</td>
<td>travel, liking friendship, comes and goes</td>
<td>8.6(5)</td>
</tr>
<tr>
<td></td>
<td><strong>Common context</strong></td>
<td></td>
</tr>
<tr>
<td>C7</td>
<td>truthful relationship; real, good-hearted friend</td>
<td>12.1(7)</td>
</tr>
<tr>
<td>C8</td>
<td>supportive, asking/giving advice</td>
<td>10.3(6)</td>
</tr>
<tr>
<td>C9</td>
<td>hang out</td>
<td>3.4(2)</td>
</tr>
</tbody>
</table>
Stimulus word: ‘guest’

Table. The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th>Korean Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td>CSCP</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Common concept</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table. The content and frequency of sentence context for each monolingual

<table>
<thead>
<tr>
<th>Korean Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentence</strong></td>
</tr>
<tr>
<td>CSCP</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### Common context

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C4</strong></td>
<td>hospitality, warm reception</td>
<td>15.5 (9)</td>
<td><strong>C16</strong></td>
</tr>
<tr>
<td><strong>C5</strong></td>
<td>serve meals/drinks</td>
<td>13.8 (8)</td>
<td><strong>C19</strong></td>
</tr>
<tr>
<td><strong>C6</strong></td>
<td>preparation to welcome guest, clean up the house</td>
<td>3.4 (2)</td>
<td><strong>C17</strong></td>
</tr>
<tr>
<td><strong>C7</strong></td>
<td>a welcome, important guest/polite manner</td>
<td>13.8 (8)</td>
<td><strong>C18</strong> (partial)</td>
</tr>
<tr>
<td><strong>C8</strong></td>
<td>invite to home</td>
<td>10.3 (6)</td>
<td></td>
</tr>
<tr>
<td><strong>C9</strong></td>
<td>you/he are(is) my guest, I am your guest</td>
<td>3.4 (2)</td>
<td></td>
</tr>
</tbody>
</table>

**Stimulus word: ‘tradition’**

*Table. The content and frequency of word definition for each monolingual*

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CSCP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>culture, custom, native things passed down/preserved from generation to generation</td>
<td>54.4 (16)</td>
<td><strong>D6</strong></td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>to maintain and develop the past</td>
<td>17.2 (5)</td>
<td><strong>D7</strong></td>
</tr>
<tr>
<td><strong>D3</strong></td>
<td>Think and do things as ancestors did, and do, being acceptable</td>
<td>13.8 (4)</td>
<td><strong>D8</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>D9</strong></td>
</tr>
</tbody>
</table>
regardless of the age, the past, integration of past and present knowledge

D10 important, valuable  6.7(2)
D11(∗)  Asian, eventful day  10(3)

**Table.** The content and frequency of sentence context for each monolingual

<table>
<thead>
<tr>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentence</strong></td>
<td><strong>Context</strong></td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>time-honored, traditional things (e.g., food)/practice/method/way/place</td>
</tr>
<tr>
<td>C2</td>
<td>learn/conform to a tradition</td>
</tr>
<tr>
<td>C3</td>
<td>change unreasonable, unnecessary, wrong practices/customs</td>
</tr>
<tr>
<td>C4</td>
<td>experience Korean tradition, cultural experience tour</td>
</tr>
<tr>
<td>C5</td>
<td>need to inherit and develop for next generation and our future</td>
</tr>
<tr>
<td>C6</td>
<td>prestigious family, beautiful, reasonable, passed down</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
from past, Koreans have little pride for their tradition, fearful word to speak in groups

<table>
<thead>
<tr>
<th>Common context</th>
<th>C14</th>
<th>(importance of) preserving, maintaining a tradition</th>
<th>22.4 (13)</th>
<th>C14</th>
<th>tradition should be respectful and preserved</th>
<th>13.3 (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C15</td>
<td>tradition in our family/school</td>
<td>6.9(4)</td>
<td>C15</td>
<td>certain tradition within family, among group of people, my own non-holiday traditions</td>
<td>15(9)</td>
<td></td>
</tr>
</tbody>
</table>

**Stimulus word: ‘vacation’**

*Table.* The content and frequency of word definition for each monolingual

<table>
<thead>
<tr>
<th></th>
<th>Korean</th>
<th>Native English speakers in the U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definition</td>
<td>Content</td>
</tr>
<tr>
<td><strong>CSCP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>taking break from a school/semester</td>
<td>44.8 (13)</td>
</tr>
<tr>
<td>D2</td>
<td>relaxing day, rest period</td>
<td>17.2 (5)</td>
</tr>
<tr>
<td>D3</td>
<td>time for self-enrichment, self-development</td>
<td>13.8 (4)</td>
</tr>
<tr>
<td>D4 (*)</td>
<td>diary</td>
<td>3.4 (1)</td>
</tr>
<tr>
<td><strong>Common concept</strong></td>
<td>D5</td>
<td>time off from work/study</td>
</tr>
<tr>
<td></td>
<td>D6</td>
<td>exciting, playtime</td>
</tr>
</tbody>
</table>
Table. The content and frequency of sentence context for each monolingual

<table>
<thead>
<tr>
<th>Korean</th>
<th>Sentence</th>
<th>Context</th>
<th>%</th>
<th>Native English speakers in the U.S.</th>
<th>Sentence</th>
<th>Context</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCP C1</td>
<td>travel, trip abroad</td>
<td>12(7)</td>
<td></td>
<td></td>
<td>C8</td>
<td>look forward to, cannot wait to go on a vacation</td>
<td>18.3 (11)</td>
</tr>
<tr>
<td>C2</td>
<td>opportunity to learn and study more</td>
<td>12.7(7)</td>
<td></td>
<td></td>
<td>C9</td>
<td>plan, go on a(many) vacation(s), not yet or done.</td>
<td>15 (9)</td>
</tr>
<tr>
<td>C3</td>
<td>planning, goal</td>
<td>12(7)</td>
<td></td>
<td></td>
<td>C10</td>
<td>use vacation time (for certain purpose)</td>
<td>5(3)</td>
</tr>
<tr>
<td>C4</td>
<td>vacation period</td>
<td>12(7)</td>
<td></td>
<td></td>
<td>C11</td>
<td>privilege, expensive, American dream</td>
<td>6.7 (4)</td>
</tr>
<tr>
<td>C5</td>
<td>given in school</td>
<td>5.1(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>time to regain vibrant energy, time to recharge</td>
<td>3.4(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7</td>
<td>others: being able to have a free lifestyle, tedious, my life without vacation, being paid during vacation, afraid of having vacation</td>
<td>8.5(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common context C12</td>
<td>get excited, feel so happy, enjoyable, fluttered</td>
<td>12(7)</td>
<td></td>
<td></td>
<td>C12</td>
<td>relax, enjoy</td>
<td>10 (6)</td>
</tr>
<tr>
<td>C13</td>
<td>go to &quot;specific&quot; place</td>
<td>6.8(4)</td>
<td></td>
<td></td>
<td>C13</td>
<td>Go to/want to go to &quot;specific&quot; place</td>
<td>28.2 (17)</td>
</tr>
<tr>
<td>C14</td>
<td>in need of vacation</td>
<td>5.1(3)</td>
<td></td>
<td></td>
<td>C14</td>
<td>need, necessary</td>
<td>16.7 (10)</td>
</tr>
</tbody>
</table>
Appendix E

Characteristics of Exposure to L2/FL.

<table>
<thead>
<tr>
<th>Characteristics of L2/FL exposure</th>
<th>Years of living in English-speaking country</th>
<th>Daily comm: English use</th>
<th>Daily comm: Korean use</th>
<th>Conversation with NS</th>
<th>Conversation with NNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%, (n)</td>
<td>Everyday, Hours</td>
<td>Everyday, Hours</td>
<td>Mostly, often</td>
<td>mostly, often</td>
</tr>
<tr>
<td>H: Eng. Eng. Concept ≥2</td>
<td>21 yrs (incl. all of 6 responded <em>entire one’s life</em>)</td>
<td>95% (21 out of 22), 15 hrs</td>
<td>50% (11 out of 22), 4 hrs</td>
<td>90% (20), *4%</td>
<td>4% (1), 27% (6)</td>
</tr>
<tr>
<td>KESL: Eng. Concept ≥1</td>
<td>23 yrs (incl. one person responded <em>entire life</em>)</td>
<td>100% (10 out of 10), 15 hrs</td>
<td>50% (5 out of 10), 3 hrs</td>
<td>90% (9), 10% (1)</td>
<td>0%, 40% (4)</td>
</tr>
<tr>
<td>KESL: Concept ≥2</td>
<td>*5 yrs</td>
<td>58% (10 out of 17), 4.6</td>
<td>100%, 9.1 hrs</td>
<td>58% (10 out of 17), 11% (2 out of 17)</td>
<td>5% (1 out of 17), 35% (6 out of 17)</td>
</tr>
<tr>
<td>KEFL: Eng. Concept ≥1</td>
<td>7 yrs</td>
<td>50% (out of 4) cf. 4-5times/w, n=2</td>
<td>92% (out of 4)</td>
<td>100% (4 out of 4), 0%</td>
<td>0%, 25% (1 out of 4)</td>
</tr>
<tr>
<td>KEFL: Concept ≥2</td>
<td>0.6 yrs</td>
<td>21% (3 out of 14) cf. 4-5times/w, n≥5</td>
<td>92% (13 out of 14)</td>
<td>21% (4 out of 4)</td>
<td>28% (4 out of 14), 21% (3 out of 14, 7% (1 out of 14))</td>
</tr>
</tbody>
</table>

Note: here the term ‘changed concept’ refers to participants’ production of both conceptual meaning and contexts that fully correspond to those produced by native English speakers. These are considered an evidence of extremely modified concept toward L2 culture.
Appendix F1

The Content of Lexical Equivalents for Each of Four Concepts in Context (*red mark indicates partial equivalents*).

<table>
<thead>
<tr>
<th>Keyword - Translation equivalents</th>
<th>H</th>
<th>KEFL</th>
<th>KESL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left: 떠나다</td>
<td>놀치다, 못타다, 컷녕, 가다, 지나가다, 나가다</td>
<td>놀치다, 가다, 지나가다, 출발하다</td>
<td>놀치다, 가다, 지나가다</td>
</tr>
<tr>
<td>Ran into: 부딪치다, 충돌하다</td>
<td>사고가나다, 차사고가나다, 접촉사고가 나타, 들이박다, 받다</td>
<td>사고가 나타, 접촉사고가 나타, 교통사고가 나타, 마주치게되어, 차가 끼어들어, 맞딱뜨렸다, 받다</td>
<td>사고가 나타, 끼어들어, 들이박다, 박다, 박아버리다</td>
</tr>
<tr>
<td>Got in: 탔다 (including stop and got in, 멈춰/세우고 탔다)</td>
<td>탑승하다, 잡아타다, 불러서타다, 들어가다, 선택하다, 전화하다</td>
<td>탑승하다, 잡아타다</td>
<td>잡아타다, 올라타다, 불잡아타다, 부르다, 멈추고 잡았다</td>
</tr>
<tr>
<td>Stop: 멈추다, 중단하다</td>
<td>그만하다, 말리다, 중재하다, 말다</td>
<td>그만하다, 말리다, 중재하다, 만류하다</td>
<td>그만하다, 말리다, 중재하다, 말다</td>
</tr>
</tbody>
</table>
**Appendix F2**

Comparison of Lexical Variation and Density for Each of Four Words.

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>KESL</th>
<th>KEFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>놓치다 O (5)</td>
<td>O (6)</td>
<td>O (9)</td>
</tr>
<tr>
<td>가다</td>
<td>O (2)</td>
<td>O (1)</td>
<td>O (1)</td>
</tr>
<tr>
<td>지나가다</td>
<td>O (2)</td>
<td>O (5)</td>
<td>O (1)</td>
</tr>
<tr>
<td>출발하다</td>
<td>O (2)</td>
<td>O (3)</td>
<td></td>
</tr>
<tr>
<td>못타다</td>
<td>O (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>커녕</td>
<td>O (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>KESL</th>
<th>KEFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ran into</td>
<td>박다 O (2)</td>
<td>O (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>받다</td>
<td></td>
<td>O (1)</td>
</tr>
<tr>
<td>LSP</td>
<td>들이받다 O (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSP</td>
<td>박아버리다</td>
<td></td>
<td>O (2)</td>
</tr>
<tr>
<td>LSP</td>
<td>들이박다</td>
<td></td>
<td>O (1)</td>
</tr>
<tr>
<td>사고가 나다</td>
<td>O (8)</td>
<td>O (9)</td>
<td>O (3)</td>
</tr>
<tr>
<td>LSP</td>
<td>접촉사고가 나다 O (2)</td>
<td></td>
<td>O (3)</td>
</tr>
<tr>
<td>LSP</td>
<td>교통사고가 나다</td>
<td></td>
<td>O (3)</td>
</tr>
<tr>
<td>LSP</td>
<td>차사고가 나다 O (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*** related concept</td>
<td>까어들다 O (2)</td>
<td>O (2)</td>
<td></td>
</tr>
<tr>
<td>***related concept</td>
<td>마주치게 되다</td>
<td></td>
<td>O (1)</td>
</tr>
<tr>
<td>***related concept</td>
<td>맞딱뜨리다</td>
<td></td>
<td>O (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>KESL</th>
<th>KEFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Got in</td>
<td>잡아타다 O (6)</td>
<td>O (7)</td>
<td>O (5)</td>
</tr>
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<td></td>
<td>올라타다</td>
<td>O (1)</td>
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<tr>
<td></td>
<td>H</td>
<td>KESL</td>
<td>KEFL</td>
</tr>
<tr>
<td>------------------</td>
<td>----</td>
<td>------</td>
<td>------</td>
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<tr>
<td>불잡아타다</td>
<td>O (1)</td>
<td></td>
<td></td>
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<tr>
<td>*official 탑승하다</td>
<td>O (1)</td>
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<th>Stop</th>
<th>H</th>
<th>KESL</th>
<th>KEFL</th>
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<tbody>
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<td>그만하다</td>
<td>O (5)</td>
<td>O (6)</td>
<td>O (3)</td>
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<td>말리다</td>
<td>O (6)</td>
<td>O (9)</td>
<td>O (11)</td>
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<td>O (1)</td>
<td>O (1)</td>
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<tr>
<td>말다</td>
<td>O (2)</td>
<td>O (1)</td>
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<td>만류하다</td>
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Appendix F3

Occurrences and Examples for the Overlapped Lexical Equivalents between Groups.

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<th>Between groups</th>
<th>Heritage speakers and KESL</th>
<th>Heritage speakers and KEFL</th>
<th>KESL and KEFL</th>
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<tr>
<td>Left</td>
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</tr>
<tr>
<td>Ran into</td>
<td>1 (e.g., 박다)</td>
<td>1 (e.g., 접촉사고가 나타나)</td>
<td>1 (e.g., 꼬어들다)</td>
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<tr>
<td>Got in</td>
<td></td>
<td>1 (e.g., 탑승하다)</td>
<td></td>
</tr>
<tr>
<td>Stop</td>
<td>1 (e.g., 마다)</td>
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