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What is Missing in Interlanguage? Acquisition of Determiners by Korean Learners of English

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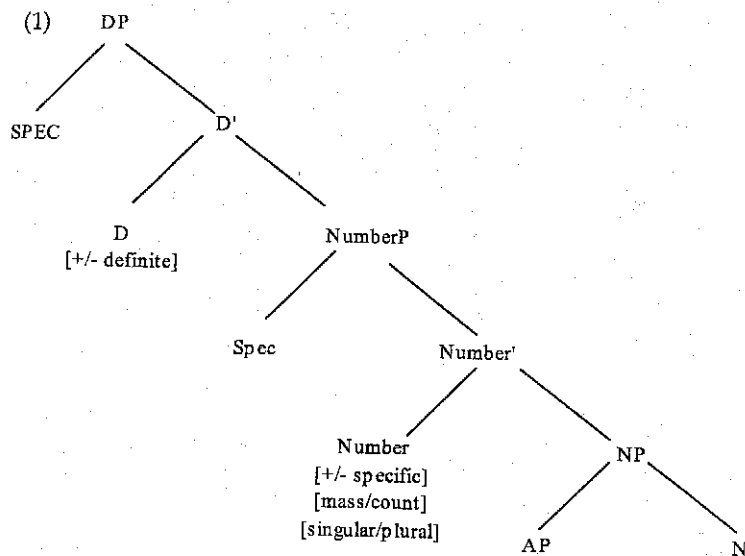
This study concerns the acquisition of a new functional category and its related features in the domain of DP (determiner phrase) in an advanced stage of interlanguage development (L1 Korean and L2 English). Two Korean post-critical-period subjects with advanced English proficiency participated in a grammaticality judgment task and their performances were compared with an English-native-speaking control. The results suggest that functional features present in the L1, but not in the L2, are absent in advanced learners' interlanguage. The implications of these findings for pedagogy are discussed in terms of provision of focused, explicit input, opportunities for output production, and timely feedback.

According to the Failed Functional Features Hypothesis (FFFH) (Hawkins & Chan 1997), new features of functional categories in a second language (L2) are not acquirable beyond the critical period, assuming full transfer of a first language (L1) and partial access to Universal Grammar (UG) in post-puberty L2 acquisition. In order to judge this hypothesis regarding learners' interlanguage representation, I will concentrate on two differences in the DP between English and Korean, assuming a functional category Number (NUM)¹ between Determiner (D) and Noun Phrase (NP): (1) [+/- Definite] on D (2) [mass/count] on NUM. While the two functional features are not instantiated in the L1 (Korean), they are present in the L2 (English). This study examines the presence or absence of the new functional features at a later stage of L2 acquisition by Korean learners of English so as to test the predictions of the FFFH.

DPs in English and Korean

The structure of the English DP is illustrated in (1):

¹ Researchers have discussed that NUMP in English carries features related to grammatical number, such as [singular/plural] and [mass/count] (MacLaughlin 1997).

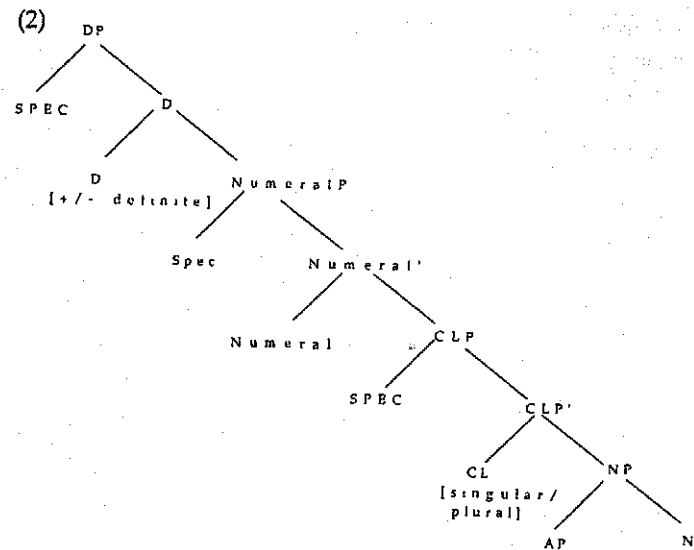


As shown in (1) above, according to the DP hypothesis, the functional head, D heads noun phrases in English (Abney 1987 cited in MacLaughlin 1997). It is assumed that the semantic notions of definiteness and specificity are represented on the D and the NUM head, respectively (Chomsky 1995), rendering three possibilities: (1) specific definiteness; (2) specific indefiniteness; and (3) non-specific indefiniteness. An additional functional category NUM is placed between D and NP, carrying features associated with grammatical number. The [mass/count] and [singular/plural] features are placed on the NUM in English.

As far as Korean noun phrases are concerned, Kim (2000) proposes that the D head is projected as a phonetically null D, carrying [+/-Specific], which derives the movement of noun phrases. Cheng & Sybesma (1999)² argue that noun phrases in Chinese-like languages (in terms of an extensive use of classifiers) are Numeral-projections, and that the classifier is the locus of grammatical number. Thus, it is assumed that a Number phrase and its associated features [mass/count]³ are absent in Korean noun phrases. In other words, the [mass/count] feature on the NUM is not activated in L1 Korean even though [singular/plural] is present on the Classifier head. The structure of Korean DPs is given as follows:

² Although they argue that Chinese noun phrases lack the D head in contrast to Kim's proposal, I will follow their proposal regarding the absence of the Number head and the presence of Number on the Classifier head.

³ Cheng & Sybesma (1999) propose that the Number feature is represented on the Classifier (CL) head in Chinese-type languages. Thus, it seems likely that in Korean noun phrases, [singular/plural] is located on CL, not on NUM as in English, and yet [mass/count] is absent.



Taken together, the comparison of the two languages with respect to the functional category and its related features within the domain of the DP is as follows:

Table 1. Comparison of Korean and English in terms of functional category and its related features in the DP

	Korean (L1)	English (L2)
Determiner Head	v (phonetically null)	v (overt)
[+/- Definite]	x	v (on the D head)
[+/- Specific]	v (on the D head)	v (on the Number head)
Number Head	x	v
[singular/plural]	v (on the Classifier head)	v (on the Number head)
[mass/count]	x	v (on the Number head)

Acquisition Theories: Full vs. Partial Access to UG

I will summarize two contrastive views in regard to the accessibility of UG at more advanced stages of interlanguage development. One is the full access position (Schwartz & Sprouse 1996; Vainika & Young-Scholten 1996). Although these two proponents of the full access hypothesis differ with

respect to the role of the L1 in the L2 initial state,⁴ they converge on the idea that UG is fully accessible in the course of L2 acquisition. That is, parameter resetting is possible and, thus, new functional categories and features, which are not instantiated in the L1, are acquirable.

There are some theorists, however, who advocate the partial access position (Hawkins & Chan 1997). Proponents of partial access argue that in post-childhood L2 acquisition, learners map morphophonological forms from the L2 onto L1 feature specifications and fail to acquire differently fixed functional features, establishing grammatical representations which diverge from those of native speakers, as well as from their L1s. This study is grounded in the partial access position, focusing on the presence or absence of the new functional features in the L2, such as acquisition of the new features, [+/-Definite] and [mass/count] in L2 English by Korean learners.

Research Questions and Hypotheses

On the basis of the FFFH and the differences between the L1 and L2 in the domain of DP, the following research question is formulated: Given the FFFH that L2 learners who started to be exposed to the L2 fail to acquire new features in the L2, if advanced L2 learners encounter new features in the DP domain that are absent in the L1, how would they handle the differences between the L1 and L2?

With the above research question in mind, the following hypotheses are made:

Hypothesis I: Post-childhood Korean learners may transfer the [+/-Specific] from the L1 to the interlanguage representation and yet cannot attain the [+/-Definite] in the L2 since it is not activated in the L1.

Under hypothesis I, it is predicted that Korean learners may use definite and indefinite expressions in specific and non-specific contexts, mapping the [+Specific] and [-Specific] in the L1 onto the definite *the* and indefinite *a* in the L2, respectively. However, Korean learners may encounter a problem with the specific indefinite article *a*.

⁴ Schwartz & Sprouse argue that the initial state of L2 acquisition is the final state of L1 acquisition, proposing the full transfer/full access (FT/FA) model, whereas Vainikka & Young-Scholten argue that L2 learners only transfer the lexical projections of L1 in the initial state and functional projections gradually emerge, independently of the L1. However, the contrast regarding the L2 initial state is beyond the scope of this study.

Hypothesis II: Korean learners may acquire plural marking in English since [singular/plural] is activated in Korean⁵ and yet they may fail to acquire the new L2 distinction between mass/count nouns and apply [singular/plural] to mass nouns.

Under hypothesis II, it is predicted that Korean learners may treat English mass nouns as the same⁶ as count nouns, applying [singular/plural] even to mass nouns. This will yield ungrammatical forms, such as *an equipment* or *equipments*.

Methodology

Subjects

The experiment was administered to two Korean learners of English (one female and one male), who are graduate students at a Canadian university. The experimental participants showed advanced proficiency⁷ on the Michigan Placement Test. Both of them were first exposed to English at the age of twelve in a foreign-language learning environment in Korea. The amount of exposure to English that they had had was fourteen and sixteen years, respectively. One American-English-speaking control subject participated in the test, and is also a (female) graduate student at the university.

Grammaticality Judgments: Rationale for Grammaticality Judgment

To avoid processing difficulties, such as slips of the tongue, memory, etc., often found in production tasks, Grammaticality Judgment (GJ) may be appropriate to tap into the L2 learners' implicit knowledge of the new functional features in the domain of the DP. The rationale for GJ is that if Korean learners have unconscious knowledge of [+/-Definite] in comparison to [+/-Specific] and of [mass/count], they will choose the correct forms of articles and mass nouns by imagining the context without visual clues.

Indeed, GJ is superior to picture description tasks in inferring the knowledge of the functional features associated with definiteness and specificity

⁵ As discussed above, the [singular/plural] feature seems to be placed in different functional heads in English and Korean. Whereas the feature is placed on the Number head in English, it is on the Classifier head in Korean. Despite the difference in its location, the feature is assumed to be available in the two languages.

⁶ In fact, both mass and count nouns require classifiers along with Number phrases in Korean, indicating that there is no distinction between the two in Korean.

⁷ The purpose of testing advanced learners is that it may be necessary to look at later stages in order to determine whether UG is fully or partially accessible in IL development. Investigation of an initial state may provide evidence as to whether L1 parameters are transferred in L2 acquisition but fail to provide compelling evidence as to whether UG is available in the course of IL development.

in the DP, in that a visual context may be a potential source for familiarity or uniqueness (Schafer & De Villers 2000). English mass nouns often refer to a total, such as traffic, money, etc. Thus, providing subjects with pictures of these mass nouns might mislead them to produce incorrect plural forms, thus obscuring their actual knowledge of the distinction between mass and count nouns. GJ may also be more appropriate than a storytelling production task in testing the DP structure of the interlanguage, in that it is hard to identify and deliver appropriate information regarding definiteness and specificity by means of actual stimuli. In sum, it seems that GJ is suitable for testing the presence or absence of the subtle functional features in the interlanguage grammar as long as possible drawbacks are carefully controlled, as described in the following section.

Task description

Since time on task is a crucial factor affecting the subjects' performance, the participants were instructed to take as much time as they needed to reach their decision with each item. Thus, they were exempt from time pressure. However, in order to exclude the learners' explicit or conscious knowledge of the L2, the participants were asked not to reflect on test items and not to return to questions on the task that they had already answered. Considering a response bias in judging the structures, the same number of grammatical and ungrammatical structures was provided along with distracters targeting different structures. In addition, for the purpose of avoiding guesswork on the task, the subjects were asked to correct ungrammatical or ill-formed structures.

Test Items

A total of 40 tokens were presented in the test along with 10 distracters: 10 tokens for each of four types (5 grammatical and 5 ungrammatical). All the test items were arranged in a way that no three consecutive items tested the same thing so as to reduce the chance of subjects becoming aware of the linguistic knowledge being tested (Hawkins & Chan 1997). Four different types were given: (1) Specific definite *the*; (2) Specific indefinite *a*; (3) Non-specific indefinite *a*; (4) mass/count nouns. Sentences designed to test each type were one or two sentences long. See selected examples below:

(1) Type 1. Specific definite *the*:

- a. Ed and Carol went to a French restaurant in Montreal. The restaurant is famous for its seafood.
- b. I saw a very interesting movie last night. The name of a movie is "The Mexican."

Questions of type 1 are concerned with the use of the specific definite article. (1a) is grammatical while (1b) is ungrammatical and *the* should have

been used before movie.

(2) Type 2. Specific indefinite *a*:

- a. I usually buy a lot of frozen food when I do grocery shopping, as I have a freezer at home that I put frozen food into.
- b. There was the very kind doctor in my hometown for whom everyone showed great respect.

Question type 2 is designed to test the specific indefinite article. (2a) is well-formed while (2b) is ill-formed and *a* should have been used. Based on the hypothesis that Korean learners may map [+Specific] in the L1 on to the definite article *the* in the L2, the definite article will be used in ungrammatical test items such as (3b) in order to test the learners' knowledge of [+/-Definite] in comparison to [+/-Specific].

(3) Type 3. Non-specific indefinite *a*:

- a. Jason was in the examination room but *all of a sudden* he finds out that he had forgotten to bring his pencil case. So he had to ask the invigilator if he could borrow a pen.
- b. Nick is going to the pond to catch some fish. He will need to buy the fishing rod.

Questions of type 3 are concerned with the non-specific indefinite article. (3a) is grammatical, but in (3b), the non-specific indefinite article *a* should have been used.

(4) Type 4. Mass/count nouns:

- a. To make pancake batter, you have to mix milk, eggs, and flour.
- b. The newlywed just bought basic kitchen equipments since they have to save money for housing.

Questions of type 4 pertain to the distinction between mass/count nouns in English. (4a) is grammatical while (4b) is ungrammatical since the mass noun cannot take a plural form. Based on the hypothesis that Korean learners transfer [singular/plural] in the L1 but cannot attain the new feature [mass/count], it is predicted that they may treat mass nouns as count nouns. Thus, in ungrammatical test items, either *a* or a plural marker has been added to mass nouns as in (4b) so as to test the participants' knowledge of the distinction between mass/count nouns.

Results

Acquisition of [+/-Definite] and [+/-Specific]

The aim of the GJ task was to test the absence or presence of [+/-Definite] and/or [+/-Specific] on DPs of Korean learners' interlanguage system, i.e. whether they can properly use the definite and indefinite articles in the required contexts in the L2. The results of this task are shown in Table 2.

Table 2. Mean percentages of correct responses in GJ task on [+/-Definite] and [+/-Specific]

	Def-Spec	Indef-Spec	Indef-Nonspec
L2 Advanced (n=2)	100%	70%	100%
Control (n=1)	90%	100%	100%

As seen in Table 2 above, the experimental participants were quite successful in judging the grammaticality of the specific definite and nonspecific indefinite articles, and somewhat successful in the case of the specific indefinite article. It was revealed that the two participants consistently overgeneralized the specific definite article *the* for specific indefinite context. The control subject showed an almost perfect performance across the three question types.⁸

Acquisition of [mass/count] and [singular/plural]

The results of the GJ task items that tested the advanced learners' use of English mass nouns in relation to the [singular/plural] feature are shown below:

Table 3. Mean percentages of correct responses in GJ task on mass nouns

	Mass Nouns
L2 Advanced (n=2)	75%
Control (n=1)	100%

As given in Table 3 above, the participants perform rather poorly in the use of mass nouns in the L2. It was found that they mistake mass nouns as

⁸It is acknowledged that the control subject made a mistake in the use of the specific definite article. However, her error was due to her failure to read the first part of the question, which actually appeared on the previous page. Thus, her error may be considered as a performance mistake.

countable nouns by adding a plural marker or by adding the article *a*. It seems that they misapplied the [singular/plural] feature to mass nouns, yielding incorrect use of mass nouns in the L2. This issue will be discussed in detail in the following section.

Discussion and conclusion

The hypotheses of the study grounded on the FFFH (i.e. full transfer and partial access) were tentatively supported in this experiment. As the full transfer position proposes (Schwartz & Sprouse 1996), formal features of functional categories instantiated in the L1 carry over to the interlanguage system. The partial access stance predicts that UG is accessible to L2 learners in some attenuated form, and that new L2 functional features, that were not activated in the L1 fail to be acquired in the course of post-puberty interlanguage development.

As far as the formal features of definiteness and specificity in the DP domain are concerned, [+/-Specific] activated in the L1 is present and yet [+/-Definite], which was not instantiated in the L1, is absent in the subjects' interlanguage representations. Post-critical-period Korean learners of L2 English performed fairly accurately on the specific definite and nonspecific indefinite articles of English, misapplying [+/-Specific] as [+/-Definite]. However, they seem to experience problems when they encounter the specific indefinite article, consistently overgeneralizing the definite article *the* in this context. It seems likely that the Korean learners of L2 English, lacking [+/-Definite] in the DP domain of their L1, resort to [+/-Specific] alone in selecting an appropriate article for the L2 context. This is divergent from English native speakers' strategy of choosing a correct article both in terms of [+/-Definite] and [+/-Specific] available.

As for the formal features of [mass/count] and [singular/plural], it was demonstrated in the GJ task that the two experimental participants showed rather low accuracy in comparison to the control subject, treating mass nouns as countable. Given the assumption that only [singular/plural] is present in the experimental subjects' L1, lacking [mass/count], it seems that the learners possess the [singular/plural] distinction in their interlanguage representation and yet fail to acquire the [mass/count] distinction in the course of post-puberty L2 acquisition. Such learners apply [singular/plural] to both mass and countable nouns, showing no ability to distinguish between the two types of nouns in the L2.

In conclusion, the 'no parameter resetting' or 'partial access' position was tentatively supported in this study. The new L2 functional features [+/-Definite] and [mass/count], which have not been activated during the critical period, are also absent during the later stages of the interlanguage representation, demonstrating a discrepancy between the native speakers' grammar and that of L2 learners. In selecting an appropriate article for a given context, the L2 learners resort to [+/-Specific], the only feature acti-

vated in the L1, and fail to apply the new feature, [+/-Definite]. In encountering mass or countable nouns in the L2, they consistently apply [singular/plural], treating mass nouns as countable.

Limitations of the study

As Hawkin & Chan (1997) point out, the FFFH provides an explicit and testable account of the observation that many adult second language learners, despite long exposure to an L2, never fully acquire the same syntactic representations as native speakers. This study, however, was restricted to the inaccessibility of UG in the acquisition of new L2 features. The study could not tell us anything about the assumption that the L2 learners' grammar is nevertheless a UG-constrained possible grammar. In addition, the results of the study could not offer us insights into the interrelationship between the acquisition of new functional categories and that of new functional features, which may be necessary to test Hawkins & Chan's (1997) prediction that new functional categories are acquirable while new functional features are not. In order to fully judge the FFFH and provide a clearer picture of post-puberty L2 acquisition, these two limitations may have to be overcome.

Pedagogical implications

The results that new functional features are absent in advanced learners' interlanguage systems indicate the importance of form-focused instruction⁹ in L2 learning. Taking into account the role of determiners as a functional category in a language, meaning-oriented communicative instruction may not be sufficient to lead L2 learners to pay attention to and acquire new functional features and to restructure their interlanguage.

There are two pedagogical implications that arise from the findings regarding advanced learners' interlanguage. First, there is a need for enhanced input through direct teaching of the discrepancies between L1 and L2 language structures. Intermediate/advanced learners have restructured an interlanguage system based on their L1 structure and their experiences in the L2. Focused explicit grammar instruction accompanied by negative evidence (i.e., information about what is not possible in a language) may play a role in helping L2 learners develop a more target-like interlanguage representation. Second, opportunities for output production and provision of timely feedback may be necessary for L2 learning. L2 learners may test

⁹ Spada (1997) made a distinction between focus on form and form-focused instruction as follows. The former was defined by Long as being restricted to meaning-based pedagogical events in which attention is drawn to language as a perceived need arises rather than in predetermined ways. The latter is used to refer to pedagogical events that occur within meaning-based approaches to L2 instruction but in which a focus on language is provided in either spontaneous or predetermined ways. The term, form-focused instruction is adopted in this study in that, given the absence of new L2 features in interlanguage, there is much need for instruction to draw learners' attention to accuracy and precision of form in predetermined ways as well as spontaneous ways.

their hypotheses on an L2 by producing output, which may trigger corrective feedback. Provision of correct forms via timely feedback may play a positive role in interlanguage development. Although they might reach an advanced level of proficiency, without opportunities for the appropriate input and output, L2 learners will hardly notice the presence of new functional features, and may fail to achieve accuracy and precision in form.

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Appendix

Grammaticality Judgment Task

Direction: Please use your intuition to evaluate the following sentences. Read each sentence and decide whether the underlined parts of each sentence are grammatical or ungrammatical. Correct all incorrect, ungrammatical parts. If you find correct, grammatical parts, circle them. (All words are spelled correctly.)

Example: I have brother — wrong

I have a younger sister — correct

Type 1 Specific definite – *the*

Ungrammatical

1. Chris went to see a doctor this morning for his headache. Doctor wrote a prescription for him to get medications.
2. I saw a very interesting movie last night. The name of a movie is "The Mexican."
3. When you turn onto Pine Avenue, you will see two houses, a blue one and a yellow one. I live in a blue house.
4. Steve has three animals at home, a dog, a cat, and a tortoise. A dog guards the house for him.
5. Holly bought two things yesterday in Eaton Center, an evening gown and a sports jacket. She is going to a party tonight and will put a long evening gown on.

Grammatical

6. Lesley has had very bad luck recently. She bought a computer and a VCR not long ago but last week both of them broke. Her essay is due next week and she barely has time to get the computer repaired.
7. Toni just bought two new pieces of furniture, a desk and a sofa. She likes sitting on the sofa.
8. Ed and Carol went to a French restaurant in Montreal. The restaurant is famous for its seafood.
9. Russell bought two Christmas gifts the other day, a ring and a watch. He is going to give the ring to his girl friend.
10. This morning I read a magazine and a newspaper, but now I don't know where the newspaper is.

Type 2 Specific indefinite-*a*

Ungrammatical:

1. This is the picture of an amoeba, and notice that the picture is magnified thousand times so that we can see the amoeba's structure.
2. My hair is wrapped in the towel, because I'd just washed it when you called
3. I usually buy a lot of frozen food when I do grocery shopping, as I have the freezer at home that I put frozen food into.
4. There was the very kind doctor in my hometown for whom everyone

showed great respect in the town.

5. Ben is the junior assistant attending in emergency medicine at the Montreal Central Hospital.

Grammatical:

6. A young woman and a tall man were talking outside my house. I think the young woman was Chinese and the tall man was Japanese.
7. Yesterday when I walked down on the street, I saw a police officer chasing your dog.
8. There used to be an oak tree on the corner of the street but now it is gone.
9. A dining table in a dining room is a place for a family to spend most of their quality time together, having meals together, doing kids' homework, etc.
10. The actress revealed in an interview with CNN's Larry King that she is battling breast cancer.

Type 3 Non-specific indefinite-*a*

Ungrammatical

1. Ally is going to the pond. She wants to catch some fish. She will need to buy the fishing rod on the way there.
2. If you want to buy a new car, consider buying a small one. The small car costs less.
3. Vicky was in the examination room but all of a sudden she found out that she had forgotten to bring her pencil case. So she had to ask the invigilator if she could borrow the pen.
4. Sora is the better learner of Japanese than Min since she loves Japanese food and is very interested in Japanese culture.
5. Sophie has ordered a beef steak but the waiter forgot to bring her the knife. She cannot cut the steak without it.

Grammatical

6. Ellen has just xeroxed a large pile of notes in the photocopy store. But, she couldn't find a stapler to staple them together.
7. Ron just found a large bottle of seven-up in the fridge. But he couldn't find a glass to drink some of it.
8. Junko was planning to watch a musical this weekend but forgot to buy a ticket in advance. When she went to the theatre, she found out that all tickets

were sold out.

9. There may be a more direct route to the top of the mountain.
10. There is a Korean student in trouble in the department.

Type 4 Mass/Countable Noun

Ungrammatical:

1. To make a pancake batter, you have to mix milk, eggs, and a pinch of baking soda along with flour.
2. The newlywed just bought some basic kitchen equipments.
3. The girl reading a newspaper in the cafe has a long blonde hair.
4. Molly realized that applying for the grant involves red tapes and almost gave it up.
5. Dogs need a balanced diet, not just meats.

Grammatical:

6. In a large saucepan over medium-high, heat oil and sauté onion and garlic until golden. Stir in curry powder and tomato paste, cook 2 to 3 minutes.
7. I usually have cream in my tea.
8. The whole city was covered with white snow on Christmas Day this year.
9. Defrost your fridge regularly to avoid a build-up of ice.
10. The eggs were packed in straw.

Distractors

Ungrammatical

1. Sooner or later, most people is plagued by arthritis, a disease that decreases the mobility of joints and inflames the lining around them.
2. At the end of the 1920s, world economies begin a downward spiral caused by a decade-long depression in the United States.
3. Courts maintains complete transcripts of judicial proceedings.
4. Ice Hockey is the professional sport that have been the most popular with Canadians over the past several decades.
5. Archeological remains prove that bands of Vikings explore parts of North America around 1100.

Grammatical

1. Agricultural science, which focuses on the development of edible seeds and plants, has benefited remarkably from recent advances in technology.
2. Most students are aware that mastodons formerly lived in what is now the Northeastern United States.
3. Alcoholic beverages are usually consumed in the evening or late at night.
4. The era when early man mastered stone tools is known as the Stone Age.
5. Jewelry is often fashioned from fourteen carat gold, a substance composed of roughly fifty percent pure gold.

Hyun-Sook Kang is a doctoral student in the Educational Linguistics program at the Graduate School of Education of the University of Pennsylvania. She is interested in ways of facilitating second language acquisition in classroom settings. For her future research, she would like to address pedagogical issues in relation to learners' interlanguage representation at the developmental level.