Accounting for L2-English Learners’ Article Choices

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Introduction

Teachers of English as a Second Language (ESL) are well aware that their students often fail to achieve native-like use of English articles. Even learners at higher levels of proficiency continue to make errors (Kharma, 1981; Master, 1997). They may substitute one article for another (e.g., the for a) or may omit articles entirely (e.g., book instead of the book). Research on ESL writing has found inaccurate article use to be one of the most frequent errors committed (Bardovi-Harlig & Bofman, 1989; Bitchener, Young, & Cameron, 2005). Learning to use articles appropriately is especially challenging for native (L1) speakers of article-less languages (Master, 1987). Whereas Spanish or German speakers may be learning the nuances that distinguish the uses of articles in English from those in their L1s, Korean and Russian speakers must learn this system without reference to comparable linguistic items in their own languages.

That second language (L2) English learners make errors with articles is unsurprising given the complexity of the English article system, which requires a number of factors be considered. Celce-Murcia and Larsen-Freeman (1999) stressed the importance of noun classification for article choice. As seen in Figure 1, appropriate article decisions are dependent on classifications of common versus proper1, count versus noncount, and singular versus plural.

Not only must learners determine the count and number status of a noun, they must also distinguish definiteness and indefiniteness as applied to noun phrase (NP) reference. Regarding reference, Bickerton (1981) proposed two universals: a semantic universal that differentiates a

![Diagram of Noun Classification](image)

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1 Figure 1. Celce-Murcia and Larsen-Freeman’s (1999) noun classification for article use (p. 272).
specific referent [+SR] from a nonspecific referent [-SR], and a discourse universal that differentiates a referent that is assumed known to the hearer [+HK] and a referent assumed unknown to the hearer [-HK]. There are thus four possibilities for NP reference as indicated in Huebner’s (1983) semantic wheel (see Figure 2).

English divides the above semantic fields in the following ways: the for [+SR,+HK]; a or Ø for [+SR,-HK]; and a or Ø for [-SR,-HK]. Underscoring the complexity of the article system, generic reference (or [-SR,+HK]) may take the, a, or Ø. Researchers have found it necessary to include a fifth category of idiomatic use (Butler, 2002; Thomas, 1989) as there remain article uses (e.g., all of a sudden and living hand to mouth) which Bickerton’s universals seem unable to account for. The idiomatic category, like generics, contains all three article choices: the, a, and Ø.

This paper investigates how advanced ESL learners with article-less L1s interpret (and misinterpret) English articles. It contributes to the body of previous research on article acquisition by placing particular focus on how learners’ determination of countability influences their article choices within different semantic contexts.

**Literature Review**

Much research on the acquisition and use of English articles by L1 speakers of article-less languages has focused on the semantic context of NP reference. In particular, studies have investigated learners’ sensitivity to the features of definiteness and specificity. Fewer studies have considered the role of countability on learners’ use of articles. This section briefly reviews some of the major findings from research undertaken with these foci (semantic context and noun countability).

For the analysis of NP reference, a number of studies have made use of Bickerton’s (1981) semantic universals (HK and SR). A common finding is the-flooding by learners at lower levels of English proficiency (Chaudron & Parker, 1990; Huebner, 1983; Master, 1987; Young, 1996). That is, learners overgeneralize use of the definite article, especially in [-HK, +SR] contexts. As proficiency increases, the choice of the in this semantic context becomes less likely. Whereas Huebner (1983) and Master (1987) argued that participants in their studies were correctly associating the with definiteness (i.e., [+HK]), other researchers suggested that learners may incorrectly associate the with specificity (i.e., [+SR]) (Chaudron & Parker, 1990; Lu, 2001; Parrish, 1987; Tarone & Parrish, 1988; Thomas, 1989). Examining the metalinguistic knowledge
behind nonnative speakers’ (NNS) article use, Butler (2002) found that L1-Japanese speakers at various levels of English proficiency exhibited problems correctly detecting both HK and SR in explanations for article choices on a gap-fill task.

That accuracy rates for indefinite NP contexts (i.e., [-HK]) lag behind those for definite contexts has been interpreted to mean definiteness is encoded before indefiniteness (Chaudron & Parker, 1990). As Lardiere (2005) pointed out, article choices in indefinite contexts are more complex decisions because they involve the determination of number and countability (see Figure 1). Learners appear to first use Ø in [-HK] contexts and only later begin to use a as they gain an understanding of countability (Chaudron & Parker, 1990; Master, 1987).

Recent studies have replaced the classification scheme of HK and SR with one of definiteness and specificity. Ionin, Ko, and Wexler (2004; henceforth referred to as IKW) defined the latter terms as follows: definiteness occurs when “the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP” and specificity occurs when “the speaker intends to refer to a unique individual in the set denoted by the NP and considers this individual to possess some noteworthy property” (p. 5). It has been claimed that article systems, across languages, encode either definiteness or specificity (Lyons, 1999). In English, it is definiteness that is marked. The following sentences illustrate this.

(1) Let’s take the new car and leave the old one behind.
(2) I am planning to buy a new car. It’s candy apple red and gets decent gas mileage.
(3) I am planning to buy a new car. Any car will do.

Because the hearer is assumed to know the unique car to which the speaker is referring, new car is definite in (1) and is preceded by the definite article. However, such a presupposition of uniqueness fails for the hearer in (2) and (3), resulting in use of the indefinite article. Note that new car in (1) and (2) is specific, but it is nonspecific in (3). It is, thus, possible to classify the above italicized NPs as: [+definite, +specific] in (1); [-definite, +specific] in (2); and [-definite, -specific] in (3). L1 speakers of article-less languages must determine the proper encoding feature for articles in the L2. IKW proposed the Fluctuation Hypothesis (FH), whereby learners will sometimes rely on definiteness and at other times on specificity until they settle on the correct feature.

To test this hypothesis, IKW asked L1 Russian and L1 Korean speakers to produce short written texts and to complete a multiple-choice elicitation task. On the elicitation task, the adult participants read short dialogues and chose between a, the, and Ø in order to complete a target sentence toward the end of each dialogue. These choices always occurred before singular nouns. The accuracy rates for target items with [+definite, -specific] and [-definite, +specific] contexts were significantly lower than for [+definite, +specific] and [-definite, -specific] contexts. The authors accounted for this result by suggesting that some of the learners had yet to settle on the feature of definiteness. Fluctuation between definiteness and specificity in article decisions has been identified for L1 Russian speakers in Ionin, Zubizarreta, and Maldonado (2008) and L1 Japanese speakers in Snape (2005). Zdorenko and Paradis (2008) also found variation between the and a in [-definite, +specific] contexts for children whose L1s lack articles as well as children whose L1s contain articles.
With the exception of Snape (2005), these recent studies investigating the Fluctuation Hypothesis have not considered article choices for uncountable nouns. Snape compared results of L1 Japanese and L1 Spanish speakers on an elicitation task similar to the one used in IKW. In addition to singular nouns, the task included plural nouns and noncount mass nouns in target NPs within [+definite, +specific], [-definite, +specific], and [-definite, -specific] contexts. As predicted by the FH, in the [-definite, +specific] context, the Japanese participants exhibited variation between the and a before singular nouns and variation between the and Ø before plural nouns. For uncountable mass nouns in this semantic context, however, Snape found variation between a and Ø. This result could be interpreted to mean that the learners correctly based their article decisions on [-definiteness] and that the variation was the result of learners’ uncertainty over count status. Yet, why would learners fluctuate between definiteness and specificity for article choices before singular and plural nouns but not before noncount nouns?

Interestingly, the Japanese participants in Snape (2005) showed variation between the and Ø in decisions before mass nouns within the [+definite, +specific] context. Snape accounted for this result as a sign of L1 interference, given that Japanese does not distinguish between count and mass nouns. If such interference leads to omission of articles (i.e., the choice of Ø) in definite contexts, then the same explanation could hold for omission in indefinite contexts. It is possible that uncertainty over noun countability could at times distract learners from considering the semantic context of a NP. The question of count status may take precedence: if a noun is deemed to be uncountable, no article is chosen. Thus, Ø choices in the [-definite, +specific] context may have had nothing to do with sensitivity to [-definiteness]. Rather, the variation between Ø and a in this context and between Ø and the in the [+definite, +specific] context could have been the result of participants’ fluctuation between exclusive attention to countability and attention to semantic context (as well as countability for choices of a).

Semantic context of the NP has been emphasized in efforts to explain omission, identified as the most frequent article error both for beginning-level learners (Master, 1987; Parrish, 1987; Thomas, 1989) and advanced learners (Leung, 2007; Robertson, 2000; White, 2003). For example, Jarvis (2002) considered use of zero article by the Finnish speakers in his study to reflect “the L1 Finnish convention of avoiding (what Finns perceive to be) redundant markers of definiteness and indefiniteness” when such features are salient in the discourse (p. 416). Utilizing variable rule analysis, Young (1996) found that Czech and Slovak speakers were likely to omit articles before NPs that appeared as rhemes, which were coded as [-HK], in the final position of an utterance. Young accounted for this result as a transfer effect of the pragmatic use of word order in Czech and Slovak. Working with Chinese speakers, Robertson (2000) found omission to occur in cases where the definiteness or indefiniteness of a NP was “recoverable from the context” (p. 135). Each of these explanations requires learners to be sensitive to definiteness (and indefiniteness).

Alternative accounts for article omission have been put forth. To name just two, Master (1997) claimed learners are responding to input (i.e., omission is the reflection of the high frequency of Ø in English), and Trenkic (2008) proposed that omission may be the result of NNSs misinterpreting articles as adjectives, which are omitted when understood to be pragmatically redundant. With a few
exceptions (Butler, 2002; Master, 1987; Snape, 2005; Young, 1996), most of the studies cited above did not give detailed consideration to countability and how it may influence learners’ choice of article.

Research which has addressed countability has shown that inaccurate identification of count status influences L2 learners’ production of articles (Butler, 2002; Hiki, 1991; Yoon, 1993). In fact, Master (1987) asserted that countability “appeared to cause the most persistent difficulty in article acquisition” (p.181). For L1 Japanese speakers with high English proficiency, Yoon (1993) found a correlation between intuitive countability judgments made for nouns presented with no context and article choices made later on a gap-fill task. No such correlation was found for native speakers (NS), who were more flexible when choosing articles before nouns in context. To illustrate, if life had been judged to be uncountable given no context, NSs were able to supply a when the context implied count status (e.g., It’s a wonderful life), whereas NNSs were more likely to choose Ø infelicitously (e.g., It’s Ø wonderful life). In an analogous finding, Butler (2002) reported that lower-level learners treated countability as “a fixed or static entity” (p. 466) and were unaware of the potential for nouns to be countable in one context and uncountable in another. In addition, participants across proficiency levels “often cited the difficulty of determining countability for indivisible entities” (p. 471) such as nouns like environment or culture. Similarly, Hiki (1991) found that L2 English speakers made the greatest number of countability misjudgments with abstract nouns on an editing task and were least accurate in article use with abstract nouns on a composition writing task.

Studies that have investigated countability have not focused on how it may influence article choice within definite contexts. For example, Hiki (1991) and Yoon (1993) analyzed article choices for indefinite contexts only. Although Butler (2002) discussed learners’ misdetection of countability, the semantic contexts for those count misdetections were not reported. Although Young (1996) found singular number status to influence the likelihood of NPs marked with a and noncount status to influence the likelihood of NPs marked with Ø, it is unclear if these influences were maintained across indefinite and definite contexts.

In summary, much research on L2 English article acquisition has considered the role of semantic context, including the features of definiteness (or HK) and specificity (or SR). There has been less consideration of the role countability may play in NNSs’ uses of articles. From previous research, it is evident that learners: (a) may choose the definite article based on the specificity of the NP, (b) often exhibit higher rates of accuracy for article choices within definite contexts than indefinite contexts, and (c) struggle to determine the count status of nouns in context. Given a lack of attention to the potential influence of countability on article choice across semantic contexts, it remains unclear if there is a link between learners’ determination of count status and article omission in definite contexts.

The Present Study

The current study investigates the influence of both countability and semantic context on NNSs’ article choices. To do this, a forced-choice elicitation task was created. Target NPs were comprised of three noun types (imaginable count, abstract count, and noncount) within six semantic contexts (the same used in IKW). Participants with article-less L1s completed the elicitation task, rated the confidence of their article
choices, and wrote explanations for those choices. The data from these three tasks were analyzed in order to answer the following research questions (RQs).

**Research Questions**

1. How do noun type and semantic context influence learners’ choice of the definite article, choice of the indefinite article, and choice of zero article?
2. How do participants rate confidence for article choices with imaginable count, abstract count, and noncount nouns?
3. When participants express awareness of countability, what patterns can be identified in their article choices?

**Hypotheses**

For RQ1, it was predicted that noun type would not influence choice of the definite article, as advanced learners should be aware that the can appear with each of the three noun types. Noun type, however, was predicted to influence choices of indefinite and zero article. Following Young (1996), imaginable count nouns should favor a and disfavor Ø; noncount nouns should favor Ø and disfavor a. Due to the anticipated challenge of determining countability for abstract count nouns, no prediction was made on how this noun type would influence the choice of a and Ø. Based on learners’ high rates of accuracy in [+definite, +specific] and [-definite, -specific] contexts (IKW; Ionin et al., 2008; Snape, 2005), the former context was hypothesized to favor the and disfavor a and Ø, while the latter context was predicted to favor a and Ø and disfavor the. Given fluctuation between definite and indefinite articles for [+definite, -specific] and [-definite, +specific] contexts in IKW, these contexts were not expected to favor any particular article choice.

For RQ2, given previous findings on learners’ difficulties determining countability for nouns in context (Butler, 2002; Hiki, 1991; Yoon, 1993), uncertainty over count status was predicted for both noncount and abstract count nouns. This uncertainty was expected to translate into lower confidence ratings for article choices before these noun types. Because imaginable count nouns would likely be construed as individuals and not as “indivisible entities,” participants were expected to determine these nouns as countable more easily, and thus be more confident in their article choices.

For RQ3, following Yoon (1993), it was expected that nouns (correctly or incorrectly) identified as countable in indefinite contexts would match choices of a, and nouns identified as uncountable in indefinite contexts would match choices of Ø. Given the above analysis of Snape’s (2005) results (i.e., that learners may at times focus on countability to the exclusion of semantic context, associating noncount status with no article), the choice of Ø was also hypothesized to appear frequently for nouns identified as uncountable in definite contexts.

**Method**

**Participants**

Participants were enrolled in four sections of an advanced ESL writing course at Michigan State University. Students had been placed into the course based upon their results on the Michigan State University English Language Test, which measures listening, reading, and writing skills. In order to restrict the target group to learners with article-less L1s, data from five L1 Arabic students were excluded from the present analysis because Arabic has a definite prefix and an indefinite suffix (Lyons, 1999). Remaining participants included 41 learners from five different L1 backgrounds (see Table 1). In order to create an accuracy baseline for the test instrument,
<table>
<thead>
<tr>
<th>L1</th>
<th>N</th>
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<tr>
<td>Korean</td>
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<tr>
<td>Chinese(^a)</td>
<td>4</td>
</tr>
<tr>
<td>Japanese</td>
<td>2</td>
</tr>
<tr>
<td>Thai</td>
<td>1</td>
</tr>
<tr>
<td>Turkish(^b)</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>19</td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 1 Participating Students

Average age 24
(Range: 18-49)

Average years of English study 7
(Range: 2-15)

\(^a\) Two participants listed Chinese as their L1 and two others listed Cantonese.

\(^b\) See White (2003) for discussion of lack of definite determiners and realizations of specificity in Turkish.

20 NSs of American English also participated by completing the forced-choice elicitation test.

**Test Instruments**

The test instrument, adapted from IKW, was constructed to elicit article decisions for target items which were controlled for noun type and semantic context (see Appendix). Through target items, participants were exposed to the issue of countability and the semantic features of definiteness and specificity. A forced-choice elicitation task was considered the best way to do this, given that learners are known to avoid problematic structures and uses in free production (Butler 2002; Kharma 1981; Mizuno 1985). In efforts to minimize the amount of class time required for the study, the test was limited to 18 short dialogues, which appeared in randomized order across four separate test forms. Each dialogue contained one target item, which always appeared near the end of the dialogue and in object position. Participants chose between *a*, *the*, and no article (–). In order to emphasize semantic over phonological features, no choice was required between *a* and *an*.

Each of the three noun types contained six target items. Noun Type 1 (imaginable count) was comprised of the following nouns: *book, creator, owner, girl, play, student*. These appeared in dialogues taken directly from IKW and were all in singular form. The term imaginable (see Trenkic, 2008, p.16) is here understood as a feature which signifies that the referent of a noun is clearly discernable as a discrete object or entity. For example, the edges of a book, the outline and movement of a person, the characters and plot of a play enable these objects and entities to be visualized as individuals. Such individuation is more difficult with the abstract items (*life, imagination, style, mood, atmosphere, environment*) comprising Noun Type 2. Of the six nouns in this type, five\(^3\) hold below-average concreteness ratings within the MRC Psycholinguistic Database (http://www.psy.uwa.edu.au/mrcdatabase/uwa_mrc.htm). As with most abstract nouns, depending on the context, these particular nouns may appear as countable or uncountable (Celce-Murcia & Larsen-Freeman, 1999). By including them as singular count nouns on the elicitation task, an opportunity was created in which to examine the article choices of participants who might mistakenly identify these nouns as uncountable. Given the tendency for abstract nouns to appear more often as uncountable (Biber, Johansson, Leech, Conrad, & Finegan, 1999) and previous research findings (Butler, 2002; Hiki,1991), such misdetections were expected. Finally, for Noun Type 3 (noncount), the items (*bread, water, sand, money, furniture, equipment*) were chosen from a recent grammar book (Maurer, 2006, p. 118), which lists each one as an uncountable noun.
The semantic contexts, controlled for definiteness and specificity, were the following:

- **Context 1**: [+definite, +specific]
  - Previous Mention

- **Context 2**: [+definite, +specific]
  - Explicit Speaker Knowledge

- **Context 3**: [+definite, -specific]
  - Denial of Speaker Knowledge

- **Context 4**: [-definite, +specific]
  - Explicit Speaker Knowledge

- **Context 5**: [-definite, -specific]
  - First Mention

- **Context 6**: [-definite, -specific]
  - Denial of Speaker Knowledge

IKW’s definitions were used to operationalize definiteness and specificity (see Literature Review above). It should be noted that Contexts 1 and 2 shared, as did Contexts 5 and 6, the same features. As in IKW, Contexts 1 and 5 were included since ESL grammar books often present the fundamental rule: use *a*/*an* for first mention and *the* for subsequent mention (Celce-Murcia & Larsen-Freeman, 1999).

Explanation sheets required participants to note their confidence levels for the 18 article choices. Confidence for each decision was expressed by checking off one of four possibilities:

- My answer is definitely right. I am completely confident.
- My answer is probably right. I am pretty sure about my choice.
- My answer might be right.
- My answer is a complete guess.

Below the confidence rating, space was provided in which to write an explanation for the particular article choice. Such a format, like Butler’s (2002) interviews, sought to encourage participants to reflect upon their own article choices and to express their strategies for article use.

**Procedure**

The research project was introduced by the researcher to each of the four sections of the ESL writing course. Before execution of the study, each of the section instructors admitted to spending no class time on articles. What little attention had been paid was limited to error correction of students’ writing. The project was carried out over four class periods, as may be seen in Table 2. Participating teachers were given a script with specific instructions for each day.

| Day 1 | Consent forms |
| Day 2 | Background questionnaires |
|       | Forced-choice elicitation test |
|       | Explanation sheets for homework |
| Day 3 | Explanation sheets collected |
| Day 4 | Review of NS-completed test |

On Day 2, pens and background questionnaires, which sought information on age, gender, country of origin, native language, and years of English study, were distributed. After finishing the questionnaires, participants were given 10 minutes in which to complete the forced-choice elicitation test. This period of time was determined through piloting of the test with international graduate students who were proficient and fluent in English. The average time it took these individuals to complete the activity was doubled for the learners in the study, as it was felt that reading the dialogues too quickly could yield faulty textual representations which could influence article decisions. Teachers reported that all students finished in the allotted time.
Explanation sheets, which sought confidence ratings and explanations for each article choice (see description of task above), were distributed to the students, who retained their elicitation tests. Participants were instructed to complete the sheets for homework. On Day 3, explanation sheets and tests were collected by the teachers. On Day 4, NS-completed test dialogues were distributed. Each article choice was coded for definiteness/indefiniteness and for countability in the indefinite contexts. The coded dialogues were meant to afford participants a learning opportunity. Teachers were given the option of discussing the dialogues in class or assigning them for outside reading. Because the study was carried out during regular class time, providing explanations for the article choices made by NSs was considered a step toward ecological validity.

Data Analysis

To compare the role of noun type and semantic context in predicting article choice (RQ1), variable rule analysis (VARBRUL) was employed. This type of probabilistic multivariable analysis, common in sociolinguistics (see Tagliamonte, 2006), utilizes logistic regression in order to compare factor groups and to weight individual factors within those groups. Although the present data were collected through an experimental forced-choice elicitation task and not through more natural language production (e.g., narratives told in an interview or writing produced in an essay), they meet the three key VARBRUL requirements set out by Sankoff (1988): choice, instability, and recurrence. In the present study, (a) article decisions were choices (participants could select from the options of the, a, or Ø), (b) these decisions were unpredictable in that learners did not converge on the same choices nor on the choices made by NSs, and (c) decisions occurred repeatedly across the elicitation task.

The decision to use VARBRUL, specifically Goldvarb 3.0, was made in recognition of Preston’s (1996) belief “that the discovery and weighting of influencing factors is the most valuable area of interaction between variation linguistics and SLA” (p. 25). The design of the elicitation task is well suited for the comparison of factor groups. It is possible to compare noun type (as one factor group) with semantic context (as a second factor group) in terms of their influence on participants’ article choices. Within each of these groups, individual factors can be weighted against one another. Thus for a particular article choice, it is possible to determine the strength with which the factors favor or disfavor that choice. As these factors are known, it is not suitable to apply an exploratory factor analysis, which identifies latent factors. Nor is a confirmatory factor analysis suitable given an absence of previous research identifying loadings for the various factors. Unlike MANOVA which requires subsequent statistical analysis in the form of univariate ANOVA or discriminant analysis in order to arrive at meaningful results, VARBRUL may be carried out in one step. Furthermore, VARBRUL does not require data to be normally distributed.

To address RQ1, three step-up/step-down VARBRUL runs were made: one for definite article choice, another for indefinite article choice, and a third for zero article choice. For the first run, each choice of the was coded as 1 and each choice of a or Ø was coded as 0. For the second run, a was coded as 1 and the and Ø as 0. For the third run, Ø was coded as 1 and the and a as 0. Two factor groups, one representing noun type and the other semantic context, were included in the analysis. The first group was comprised of three factors: imaginable
count, abstract count, and noncount. The second group was comprised of six factors: the six semantic contexts listed above.

To address RQ2, participants’ confidence ratings, which had been marked on the explanation sheets, were coded on a scale of 1-4. The following values were assigned:

4  My answer is definitely right. I am completely confident.
3  My answer is probably right. I am pretty sure about my choice.
2  My answer might be right.
1  My answer is a complete guess.

For each of the 18 items, a confidence score was computed by totaling the values for participant responses on that item and dividing by the total number of responses. In order to check for a significant effect of noun type on confidence, a one-way analysis of variance (ANOVA) was performed. The three noun types were the factors, and item confidence score was the dependent variable. Additionally, based on an individual’s ratings across the 18 items on the task, confidence hierarchies (by noun type) were established for each participant.

In order to address RQ3, participants’ explanations were coded for reference to countability. This included cases where any variation on the word countable (e.g., count, countable, uncountable, uncount, noncount, etc.) was written as well as cases where the number of the target item was mentioned (e.g., Participant 12 wrote “number of girl is one” for item 10, and Participant 46 wrote “there is only one owner of his store” for item 7). Explanations were further coded for correct and incorrect labeling of countability. There was the potential for the following labeling errors: [imaginable count → noncount], [abstract count → noncount], [noncount → count]. Additionally, all explanations that referred to countability were examined for reference to other factors and were coded for such reference (e.g., hearer knowledge, previous mention, etc.). Finally, article choices for both mislabeled and correctly labeled countability were tabulated across definite and indefinite contexts within each of the three noun types.

### Table 3 The Influence of Semantic Context on Definite Article Choice

<table>
<thead>
<tr>
<th>Semantic context</th>
<th>Corrected mean</th>
<th>Log likelihood</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+definite,+specific] PM</td>
<td>.84 (77%)</td>
<td>-367.418</td>
<td>123</td>
</tr>
<tr>
<td>[+definite,+specific] ESK</td>
<td>.82 (74%)</td>
<td></td>
<td>123</td>
</tr>
<tr>
<td>[+definite,-specific] DSK</td>
<td>.72 (63%)</td>
<td></td>
<td>123</td>
</tr>
<tr>
<td>[-definite,-specific] FM</td>
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<td>[-definite,+specific] ESK</td>
<td>.20 (14%)</td>
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<td>[-definite,-specific] DSK</td>
<td>.18 (12%)</td>
<td></td>
<td>123</td>
</tr>
<tr>
<td>Range</td>
<td>.66</td>
<td></td>
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</tbody>
</table>

### Results

**RQ1: How do noun type and semantic context influence learners’ choice of the definite article, choice of the indefinite article, and choice of zero article?**

When definite article choice was the dependent variable (see Table 3), only the factor group of semantic context was a significant predictor ($p < 0.001$); noun type was not significant. Within a factor group, individual factor weights closer to one encourage application and weights closer to zero discourage application (Young, 1996). From Table 3, it is evident that [+definite] contexts favored choice of the, whereas [-definite] contexts disfavored that choice.
When indefinite article choice was the dependent variable (see Table 4), both semantic context and noun type were significant predictors \((p < 0.001)\). The strength of factor groups relative to each other may be identified through a comparison of the ranges within each factor group: the higher the range, the more influence that factor group exhibits on variation within the dependent variable (Tagliamonte, 2006). For choice of the indefinite article, semantic context \((range = .67)\) was a stronger influence than was noun type \((range = .46)\). Contexts of [-definite, +specific] favored choice of a, while [+definite] contexts disfavored this choice. For noun type, imaginable count nouns favored a, whereas noncount nouns disfavored and abstract count nouns slightly disfavored this choice.

When zero article choice was the dependent variable (see Table 5), both factor groups were again significant predictors \((p < 0.001)\). This time, however, noun type \((range = .61)\) showed a stronger influence than did semantic context \((range = .50)\). Noncount and abstract count nouns favored choice of zero article, whereas imaginable count nouns strongly disfavored this choice. Although contexts of [-definite, -specific] favored and [+definite, +specific] contexts disfavored Ø, both [-definite, +specific] and [+definite, -specific] showed little influence in terms of favoring or disfavoring this choice.

**RQ2: How do participants rate confidence for article choices with singular imaginable, singular abstract, and noncount nouns?**
As one explanation sheet lacked both confidence ratings and article explanations, it was discarded from analyses addressing RQ2 and RQ3. Thus, data from 40 participants were considered in the analysis of confidence. Confidence scores for each item are found in Table 6. These individual item ratings resulted in the following average confidence scores by noun type: 2.96 for imaginable count, 2.31 for abstract count, and 2.66 for noncount. Results of the one-way ANOVA showed a significant effect of noun type on confidence ratings, $F(2, 15) = 10.04, p < .01, \omega = .71$.

Post hoc tests revealed a significant difference ($p < .01$) between ratings for imaginable nouns and abstract nouns; no other significant differences ($p > .05$) between noun types were found. On an individual level, nearly half the participants rated themselves least confident with abstract nouns and most confident with imaginable nouns. A full list of confidence hierarchies is presented in Table 7.

These results confirm the prediction that confidence would be higher for imaginable count nouns and lower for abstract count nouns. Although confidence was also predicted to be lower for noncount nouns, average confidence scores were not significantly different from the other two noun types.

**RQ3: When participants express awareness of countability, what patterns can be identified in their article choices?**

A majority of participants who completed the explanation sheets (34 out of 40) mentioned countability, and reference to countability appeared in 230 of 720 explanations. Two types of countability mislabeling occurred in the explanations. There were 13 instances where participants referred to noncount target items as countable and 45 instances where participants referred to abstract count items as uncountable. Furthermore, there were three cases (two for an abstract count noun and one for a noncount noun) where participants wrote that they were unsure if the target noun was countable or uncountable. No imaginable count items were identified as uncountable.

Of the 230 explanations that mentioned countability, 122 made exclusive

---

**Table 6 Item Confidence Scores**

<table>
<thead>
<tr>
<th>Test item</th>
<th>Noun type</th>
<th>Score</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Imaginable</td>
<td>3.38</td>
<td>(.85)</td>
</tr>
<tr>
<td>#2</td>
<td>Abstract</td>
<td>2.55</td>
<td>(1.00)</td>
</tr>
<tr>
<td>#3</td>
<td>Noncount</td>
<td>2.90</td>
<td>(1.03)</td>
</tr>
<tr>
<td>#4</td>
<td>Imaginable</td>
<td>2.76</td>
<td>(.83)</td>
</tr>
<tr>
<td>#5</td>
<td>Abstract</td>
<td>2.45</td>
<td>(1.06)</td>
</tr>
<tr>
<td>#6</td>
<td>Noncount</td>
<td>2.64</td>
<td>(.99)</td>
</tr>
<tr>
<td>#7</td>
<td>Imaginable</td>
<td>2.60</td>
<td>(.98)</td>
</tr>
<tr>
<td>#8</td>
<td>Abstract</td>
<td>2.34</td>
<td>(1.05)</td>
</tr>
<tr>
<td>#9</td>
<td>Noncount</td>
<td>2.30</td>
<td>(1.00)</td>
</tr>
<tr>
<td>#10</td>
<td>Imaginable</td>
<td>2.95</td>
<td>(1.05)</td>
</tr>
<tr>
<td>#11</td>
<td>Abstract</td>
<td>2.33</td>
<td>(1.01)</td>
</tr>
<tr>
<td>#12</td>
<td>Noncount</td>
<td>2.64</td>
<td>(.93)</td>
</tr>
<tr>
<td>#13</td>
<td>Imaginable</td>
<td>2.74</td>
<td>(1.00)</td>
</tr>
<tr>
<td>#14</td>
<td>Abstract</td>
<td>2.00</td>
<td>(.78)</td>
</tr>
<tr>
<td>#15</td>
<td>Noncount</td>
<td>2.85</td>
<td>(.90)</td>
</tr>
<tr>
<td>#16</td>
<td>Imaginable</td>
<td>3.35</td>
<td>(.86)</td>
</tr>
<tr>
<td>#17</td>
<td>Abstract</td>
<td>2.18</td>
<td>(.96)</td>
</tr>
<tr>
<td>#18</td>
<td>Noncount</td>
<td>2.63</td>
<td>(.94)</td>
</tr>
</tbody>
</table>

---

**Table 7 Frequency of Confidence Hierarchies by Noun Type**

<table>
<thead>
<tr>
<th>Hierarchy</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>I &gt; NC &gt; A</td>
<td>19</td>
</tr>
<tr>
<td>NC &gt; I &gt; A</td>
<td>5</td>
</tr>
<tr>
<td>I = NC &gt; A</td>
<td>4</td>
</tr>
<tr>
<td>I &gt; NC = A</td>
<td>4</td>
</tr>
<tr>
<td>I &gt; A &gt; NC</td>
<td>3</td>
</tr>
<tr>
<td>A &gt; I &gt; NC</td>
<td>2</td>
</tr>
<tr>
<td>NC &gt; A &gt; I</td>
<td>1</td>
</tr>
<tr>
<td>I = A &gt; NC</td>
<td>1</td>
</tr>
<tr>
<td>I = NC &gt; A</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. I = Imaginable Count, NC = Noncount, A = Abstract Count.*
reference to the countability status of the

target item (i.e., no other factors were noted

in the written explanations). For instance,

Participant 4 simply wrote “Atmosphere is

uncountable noun” for Item 17, and

Participant 17 wrote “I think style is not able
to count” for Item 11. The other 108

explanations made reference to the

following additional factors: first mention

(\(n = 24\)), previous mention (\(n = 7\)), speaker

knowledge (\(n = 5\)), hearer knowledge (\(n = 13\)), speaker and hearer knowledge (\(n = 17\)),
specific referent (\(n = 14\)), reader knowledge\(^{10}\) (\(n = 25\)), proper noun (\(n = 2\)), and preceding adjective (\(n = 1\)). Table 8

presents article choice totals for target items

where count status was accurately labeled,

while Table 9 presents the same for target

items where count status was mislabeled.

<table>
<thead>
<tr>
<th>Table 8 Article Choices where Countability Labeled Correctly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
</tr>
<tr>
<td>Article choice</td>
</tr>
<tr>
<td>the</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>Ø</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

*Note. Bold font reflects accurate article choices.*

<table>
<thead>
<tr>
<th>Table 9 Article Choices where Countability Labeled Incorrectly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
</tr>
<tr>
<td>Article choice</td>
</tr>
<tr>
<td>the</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>Ø</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

*Note. Bold font reflects accurate article choices.*

The numbers in these tables support the

hypotheses made for RQ3. For indefinite

contexts, it was predicted that nouns

identified as countable would match choices

of the indefinite article and nouns identified

as uncountable would match choices of zero

article. Results show that when count status

was correctly labeled countable (for

imaginable count and abstract count nouns),
a was chosen 92% of the time (47 of 51
choices) and when correctly labeled

uncountable, Ø was chosen 88% of the time

(45 of 51 choices). When participants

mistakenly identified noncount nouns as

count, they chose a at a rate of 100% (10 of

10 choices); when they misidentified count

nouns as noncount, they chose Ø at a rate of

81% (21 of 26 choices). The final prediction

was that nouns identified as uncountable

would also match choices of zero article in

definite contexts. For these contexts, of the

36 nouns correctly labeled uncountable, 22

(or 61%) were with choices of Ø; of the 19

incorrectly labeled uncountable, 12 (63%)

were with choices of Ø.

**Discussion**

VARBRUL results for choice of the
definite article (see Table 3) indicate that
this choice was favored for [+]definite

contexts and was not influenced by noun type. Thus, it appears participants were sensitive to the appropriate feature (i.e., definiteness) in their choice of the. For choice of indefinite article and zero article, noun type and semantic context were significant predictors (see Tables 4 and 5). Based on the VARBRUL results, a was clearly favored in [-definite] contexts and disfavored in [+definite] contexts. This again implies that participants were sensitive to the appropriate feature (i.e., indefiniteness) in the semantic context. Participants appear to have been less sensitive to semantic context in their choice of zero article. Although [-definite] contexts mostly favored Ø and [+definite] contexts mostly disfavored Ø, individual factor weights for semantic context produced a smaller range for Ø-application (.50) than for a-application (.67) and the-application (.66). Given this and the range of .61 for noun type on choice of zero article, it appears participants were more sensitive to noun type (and the issue of countability) than to features of definiteness and indefiniteness when choosing Ø.

An interesting finding in Tables 4 and 5 is the patterning of noun types. For both indefinite article and zero article choice, abstract count nouns pattern with noncount nouns. That is, both abstract nouns and noncount nouns disfavor a and favor Ø. The participants have it right for the noncount nouns, but they have it wrong for the abstract nouns, which – based on the design of the elicitation task – are countable and should be patterning exactly like imaginable count nouns. Instead of choosing a for singular abstract nouns in indefinite contexts, participants were inclined to choose zero article. These results suggest that the ESL learners in this study had trouble classifying abstract nouns as countable. Perhaps, the participants were sensitive to the tendency of abstract nouns to be uncountable (Biber, et al., 1999) and were resistant to considering them countable.

Confidence ratings reveal participants’ greater uncertainty in article decisions before abstract count nouns. Such uncertainty could arise from learners’ awareness that abstract nouns may appear as countable or uncountable, depending on context. Lower confidence for these items aligns with previous observations that learners find the determination of countability particularly challenging for abstract nouns (Butler, 2002; Hiki, 1991).

From the analysis of participants’ explanations for article choices, a clear pattern emerges. The determination of a noun as countable leads to the choice of the definite or indefinite article, whereas the determination of a noun as uncountable often leads to the choice of zero article. Consider that for the 95 cases where target items were identified as countable on the explanation sheets, Ø was chosen only twice. For the 132 target items identified as uncountable, Ø was chosen in 100 of these instances. In indefinite contexts, of course, zero article is the correct choice. Accordingly, it is possible that for the 66 choices of Ø for [-definite] items, participants were considering the role of countability and semantic context. Yet, it is equally possible that they only considered countability, if in fact they were following a strategy of noncount→Ø. For definite contexts (where the correct choice is the), Ø was chosen a majority of the time (34 of 55 choices). In these instances, it is possible that participants considered neither definiteness nor specificity of the target item context. Instead, they immediately sought to identify the count status of the target noun. Once that status was determined to be noncount, zero article was chosen.

Such a strategy would help account for the stronger influence exhibited by the
noun-type factor group than the semantic-context factor group on choice of Ø (see Table 5). Further support that participants were employing this strategy is found in the fact that the majority of the explanations which mentioned countability made reference solely to countability. Obviously, the participants in these instances could have considered other factors and simply not written those factors down on the explanation sheets. Rather than look at all references to countability, it is perhaps more constructive to examine those for target items in definite contexts where noncount status was assigned and where inaccurate article choice was made. In the 13 cases where inaccurate article choices coincided with incorrect labels of uncountable, 11 explanations mentioned only countability. In the 21 cases where inaccurate article choices coincided with accurate noncount labels, 20 explanations mentioned only that the noun was uncountable. That the was not chosen in these cases is a clear sign that participants failed to recognize the feature of [+definite]. Although not all participants exhibited this pattern, 18 (i.e., nearly half) did.

From the results discussed above, it is possible to posit that a major problem for some ESL learners is that they consider the count status of the noun without considering definiteness in the semantic context. Once they perceive a noun to be uncountable, they resort to the choice of Ø. This presents an alternative explanation for some cases of article omission. Disproportionate attention to countability leads to insensitivity (rather than sensitivity) to semantic context.

**Pedagogical Applications**

Based upon the results of the current study, the researcher proposes efforts at article instruction emphasize the following: (a) determination of definiteness before determination of count status, (b) consideration of discourse context to determine definiteness, and (c) conceptualization of countability.

Given that the question of count status may at times distract learners from considering the semantic context of a NP, learners should be encouraged to contemplate definiteness before countability. A definite context (with common nouns) will yield the definite article irrespective of the count status of the NP. Thus, teachers might guide their students to consider countability only after indefinite contexts have been determined.

To help learners more effectively determine the definiteness or indefiniteness of a NP, teachers may want to emphasize the discourse context, especially the perspectives of the interlocutors (i.e., the speaker and the hearer). Learners can be guided to consider the speaker’s presumptions about the hearer’s knowledge. Participants’ explanations in the current study that referred to reader knowledge (see Endnote 10) exemplify the need to place focus on the discourse participants. Trenkic (2008) suggested that learners with article-less L1s may understand the definite article as signifying that which is identifiable and the indefinite article as signifying that which is unidentifiable. The crucial question is how identification is determined. If learners seek identification outside the discourse situation (e.g., learners make article decisions based on their own ability to identify NPs rather than on the relevant interlocutors’ abilities), article errors may arise. Hence, pedagogical treatments that equate identifiability with the definite article (Master 1995, 1997; Yule, 1998) must make it clear that determination of identifiability is found in the speaker’s presuppositions about the hearer.

Finally, focusing on what it means conceptually for a noun to be count or noncount (Wierzbicka, 1988) can move learners away from inflexible classifications
of a word as either countable or uncountable and toward a richer and more detailed interpretation of texts and discourse. Yule (1998) proposed exposing learners to the concept of individuation. When a noun is preceded by Ø, its referent lacks clear boundaries and thus resists individuation. When a noun is preceded by a, its referent possesses boundaries and thus may be construed as an individual entity. The key in all this seems to be flexibility in conceptualization and sensitivity to context. Activities could lead students to consider the same noun across different contexts – where in one it is countable and in the next it is not. This could easily be done with the abstract nouns in the current study (e.g., It’s a wonderful life vs. Life is beautiful). Perhaps in implementing some of the above recommendations, teachers may improve their students’ understanding of English articles and thereby challenge the observation made by Gass and Selinker (2008) that “the English article system… appears to be virtually impermeable to instruction” (p. 383).

Limitations and Future Studies

Among the shortcomings of the current project was the limited amount of class time available for implementation of the study. Additional class time would allow for more target items to be included on the elicitation test. This would enable a more confident interpretation of the quantitative results. It is possible that participants’ article decisions for individual dialogues were influenced not solely by semantic features and noun types, but also by previous exposure to lexical chunks. For example, Participant 18 wrote in explanation of Item 14 that she often heard her roommate say “I’m not in a mood.” A greater number of target items across individual noun types and semantic contexts would allow for more certain conclusions regarding the influence of countability, definiteness, and specificity.

Another limitation may be found in the fact that participants wrote explanations for article choices in the target language. Instead, as in Butler (2002), explanations could be sought through interviews in the L1; another alternative is for participants to complete the elicitation task while following a think-aloud protocol (e.g., Leow & Morgan-Short, 2004). These measures would allow the researcher to have a better window onto learners’ thinking processes. As mentioned above, participants rated their confidence and wrote explanations for article choices at home. If researchers were interested in establishing the extent of learners’ metalinguistic knowledge, participants could be required to write explanations in class. Additionally, as pointed out by an anonymous reviewer, participants could be asked to rate their confidence levels immediately after choosing articles. That confidence was marked at home may have led participants to reflect in their ratings the confidence of explanations rather than of article choices per se. Asking participants to mark confidence directly after an article choice would most likely result in more intuitive ratings.

An invaluable perspective on learners’ understanding of the article system may be found in their actual article use. Thus, in future studies, it would be worthwhile to gather data through oral interviews or written compositions. Through VARBRUL analysis, the article choices participants freely produce could then be analyzed across noun types and semantic contexts. It would be interesting to see if, as in IKW, results of freely produced article use matched the patterns found in results on the forced-choice elicitation task employed here.
Conclusion
Having examined article choices made by advanced-level L2 English learners with article-less L1s, the present study has established that noun type and semantic context influenced choice of *a*, and choice of Ø. Only semantic context was a significant predictor of the. Analysis of participants’ confidence ratings and their explanations for article choices has revealed misdetections of count status for abstract count nouns and noncount nouns. Furthermore, the learners appear to have based some article choices on countability alone, choosing Ø for target nouns they believed to be uncountable. This suggests the question of countability is a factor not only for inappropriate omission of *a* but also for omission of the.
**References**


APPENDIX
ELICITATION TEST ITEMS

Unlike the random order which was used on the actual test forms, dialogues are presented here within the six semantic contexts. Please note for each context below, the noun type is always imaginable count in the first dialogue, abstract count in the second dialogue, and noncount in the third dialogue.

Context 1: [ + Definite, + Specific], Previous Mention

1. Vicky: Where were you yesterday? I tried to call you, but you weren’t home.
   Rachel: I went to a bookstore.
   Vicky: Oh, what did you get?
   Rachel: I got lots of things – several magazines, two red pens, and an interesting book. I really liked (a, the, – ) book.

2. Molly: What should we do for a vacation this year?
   Tom: Let’s go to Las Vegas. It’s supposed to have an amazing environment.
   Molly: Good idea. But I don’t care about (an, the, – ) environment. I want to spend time at the casinos.

   Claudia: Hey – that looks really good. And I’m hungry.
   Sarah: Let’s eat then. What should we have with (a, the, – ) bread?

Context 2: [ + Definite, + Specific], Explicit Speaker Knowledge

   Elise: Well, she is in luck! Tomorrow, I’m having lunch with (a, the, – ) creator of this comic strip – he is an old friend of mine. So I can get his autograph for Jeannie!

5. Andrew: The lectures in our history class have been very interesting.
   Nora: Yes, they have. I’m learning a lot about India.
   Andrew: So am I. But, unfortunately, I couldn’t come to class last week. What did the professor talk about?
   Nora: She talked about (a, the, – ) life of Gandhi. It was a great lecture.

6. Paul: Hi, Sheila! What are you doing in the park?
   Sheila: I’m just walking my dog around the little lake here.
   Paul: Then where is your dog?
   Sheila: Oh, there he is. He is swimming in (a, the, – ) water and chasing those birds.

Context 3: [ + Definite, - Specific], Denial of Speaker Knowledge

7. Bill: I’m looking for Erik. Is he home?
Rick: Yes, but he’s on the phone. It’s an important business matter. He is talking to (an, the, –) owner of his company! I don’t know who that person is – but I know that this conversation is important to Erik.

8. Mike: Have you seen that new building downtown?
   Angela: No, I haven’t. Is it impressive?
   Mike: I don’t know. But people seem to like it. They are talking about (an, the, –) imagination of the architect. However, because I haven’t seen the building, I don’t really know what to think.

9. Rose: I haven’t seen your sister in a while. How is she doing?
   Alex: Oh, she’s great. She’s in Hawaii right now.
   Rose: Wow! Hawaii – I’ve never been there.
   Alex: Neither have I, but I would love to go. My sister says she spends all her time at Waikiki Beach. She swims and lies on (a, the, –) sand. She’s really enjoying herself.

Context 4: [- Definite, + Specific], Explicit Speaker Knowledge

10. Gary: I heard that you just started college. How do you like it?
    Melissa: It’s great! My classes are very interesting.
    Gary: That’s wonderful. And do you have fun outside of class?
    Melissa: Yes. In fact, today I’m having dinner with (a, the, –) girl from my class – her name is Angela, and she is really nice!

11. Christina: Have you been to the restaurant next to our office recently?
    Rob: The last time I ate there was 2 years ago.
    Christina: It is better than it was. You should go again – they are changing everything. And they are creating (a, the, –) different style.

12. John: Hi, William! I haven’t seen you in a while. What are you doing in the market?
    William: Oh, just a little shopping. I am buying (a, the, –) special equipment for cooking a turkey. This recipe I am following tells me exactly what I need.

Context 5: [- Definite, - Specific], First Mention

13. Tom: How was your trip to New York?
    Susan: Great! I went to many museums, and ate in lots of wonderful restaurants. I also visited many friends. And I saw (a, the, –) play.

14. Judy: Last Saturday, I didn’t have anywhere to go, and it was raining. I was bored.
    Samantha: So what did you do?
    Judy: First, I cleaned my apartment. Then I read a book. And then I was in (a, the, –) good mood.
15. Mary: I heard your little brother got a lot of presents when he was in the hospital.
    Roger: Yes, he did. He got books from my Mom, a video game from my Dad, the
    neighbors gave him a coloring book, and my rich uncle gave him (a, the, – ) money.
    Mary: Really? How much?
    Roger: One hundred dollars!

Context 6: [ - Definite, - Specific], Denial of Speaker Knowledge

16. Professor Clark: I’m looking for Professor Anne Peterson.
    Secretary: I’m afraid she is busy. She has office hours right now.
    Professor Clark: What is she doing?
    Secretary: She is meeting with (a, the, – ) student, but I don’t know who it is.

17. Karen: Have you been to that new store?
    Anne: No I haven’t, but I have heard good things about it.
    Karen: Like what?
    Anne: People say it is developing (an, the, – ) interesting atmosphere, but I am not sure
    what they mean.

18. Clara: I need to find your roommate Jonathan right away.
    Chris: He’s not here – he left a few hours ago.
    Clara: Where did he go?
    Chris: He is moving (a, the, – ) furniture – but I don’t know whose. A friend of his is
    moving into a new apartment.
Endnotes

1 It may be noted that although the chart predicts Ø Mr. Ortiz is playing tonight, it does not predict The Mr. Ortiz that you picked to win the MVP last year is playing tonight or A Mr. Ortiz is playing tonight.

2 Examples from Butler (2002) include: Pass me the pen for referential definite [+SR,+HK]; I saw a strange man standing at the gate, and I keep sending Ø messages to him for referential indefinites [+SR,-HK]; I’m going to buy a new bicycle, and Ø Foreigners would come up with a better solution for this matter for nonreferentials [-SR,-HK]; A cat likes mice, The whale is a mammal, and Ø Language is a great invention of humankind for generics [-SR,+HK] (pp. 478-479)

3 Environment does not have a rating in the database.

4 It should be noted that the researcher was one of the instructors.

5 The decision to hand out pens, rather than to allow students to use pencils with erasers, was made in an effort to track any changes in article decisions. In fact, 65 out of a total of 738 item responses showed signs of being altered. Given the current design, however, there is no way to tell if these changes were made during the original administration or later at home.

6 In fact, one of the NSs did just this. When the researcher asked her about an article choice that differed from that of the other NSs, she reread the dialogue and admitted that she had misread one of the function words, thereby altering her interpretation of the target DP. Upon second reading, her article choice corresponded to that made by the other NSs.

7 The decision to have participants mark confidence ratings and write explanations at home was made to reduce the amount of class time required for the study. Unlimited time (at home) to complete the explanation task was considered acceptable because the goal was for participants to reflect on their article choices. There was the possibility that students might consult textbooks in search of rules to justify decisions made on the test. Again, this was considered acceptable. The focus of the project is on how learners attempt to make sense of the article system. Searching for rules in a grammar book is exactly what an advanced ESL student might do when writing an essay outside of class and considering where (or where not) to put an article.

8 This parametric test was chosen only after Kolmogorov-Smirnov and Levene’s tests revealed that item confidence scores met the assumptions of normal distribution and homogeneity of variance.

9 Tukey’s Honestly Significant Difference test was used for post hoc tests.

10 The reader knowledge category was comprised of explanations that made reference to knowledge outside the perspective of the speaker or hearer. For example for Item 1, Participant 28 wrote “Book is countable, and the object is already obvious.” Although it is possible that “obvious” could refer to the knowledge of the speaker or hearer within the dialogue, the phrasing of this explanation suggests reference is being made to the knowledge of the reader of the dialogue (i.e., the participant himself).

11 One wonders if the participant’s roommate regularly said “I’m not in the mood.” The participant may have misidentified the unstressed article the as a.

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