The Count/Mass Distinction and the English Article System at the Interface: On the Learnability of Interpretable Features by Persian-Speaking Learners

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Abstract

Problems in appropriately using the article system in English are globally known simply because they are observed in learners with different L1 backgrounds. The present study is dedicated to an investigation of the nature and degree of such problems when it comes to using articles for mass nouns by Persian-speaking learners. Data is elicited and analyzed from three proficiency groups. It is shown that even highly advanced learners do not have native-like mastery over the issue. It is also shown that L1 transfer is present in many cases of error. Explicit contrastive instruction based on the two languages is suggested as a more efficient way out. The results are also discussed within the framework of the Interpretability Hypothesis as they do not seem to support it.

Key words: Definite article, indefinite article, count/mass distinction, L1 transfer, interpretability hypothesis

Introduction

English and Persian are similar with respect to many grammatical aspects. One such aspect is the existence of an article system in both languages. By stating so, however, it is not implied that such systems are quite alike. For one thing, English enjoys both a definite and an indefinite article whereas only the indefinite article exists in Persian. There is, of course, controversy over a definite article which is used in spoken Persian. Ghomeshi (2003) brings evidence that definiteness is realized on an enclitic (*-e*) attached to the noun, (for example, *doxtær-e gerye kærd,* rendered into English as *The girl cried.*). However, she admits that this is not overtly used in the written formal Persian. For another thing, a very important aspect of the English article system is the

parametric distinction between count and mass nouns which exists in Persian as well. While the English definite article is not sensitive to the distinction, the indefinite article is (as it *cannot* precede mass nouns). The distinction also affects article use in Persian (as the indefinite article *can* precede mass nouns). So, from an acquisition perspective, the task of Persian learners would be remapping their knowledge of the article system and the count/mass distinction onto the surface forms of articles in English.

Absence of research on the acquisition of the English mass/count domain by Persian learners, at least to our knowledge, motivated the present study as it aims at seeking to know the extent to which these learners progress in correct article use for mass nouns. Performance on count nouns is not discussed here since we have previously dealt with the issue (Momenzade & Youhanaee, in press). Such performance is, of course, reported here for the sake of comparison. So, the article is developed as follows. In the next section, the interface between the article system and the mass domain in the two languages of concern is presented which is followed by the research question. The third part describes the methodology of the research and is followed by the results of the study which are discussed in part four. There is a conclusion and a few implications to end the paper.

Literature Review

According to Gordon (1985, 1988), the distinction between count and mass nouns arises from differences in how the two types of nouns denote things in the world. It is not derivable from ontological properties of the noun referents: count nouns can be both concrete and abstract, and so can mass nouns. On the other hand, while it is argued that all languages have a mass domain for noun denotations, this is not the case for a count domain (Chierchia, 1994). In other words, there are languages for which a count domain is not available. One such language is Chinese in which all nouns are considered mass (Hua & Lee, 2005). English and Persian, on the other hand, have both a count semantic domain and a mass semantic domain. The following provides more details on the form of mass nouns as they are used with articles.

Mass Nouns in English
Mass nouns in English can be considered of three types: concrete (water, beef, smoke), abstract (help, information, evidence), or collective (stationery, data, furniture). Such nouns can appear in two forms: with

'the', rendering a definite expression or with 'Ø', giving a generic or an indefinite meaning (White, 2008). The following are examples:

1. *The money* we borrowed from my father saved our lives. (definite)

2. *Money* can buy you a house, but not home. (generic)

3. John has gone out to earn *money*. (indefinite)

Unlike count nouns, mass nouns in English can appear in bare form as examples 2 and 3 show.

Mass Nouns in Persian

While the same distinction exists in Persian, there are differences in the way mass nouns can appear. In Persian, it is possible to use a mass noun in plural form in which case the resulting NP would necessarily be definite. An example is:

4. *gusht-ha*　ra　gozashtæm　　tu yæxchal.
 meat-Plu　Obj　put-Past-1SG　in fridge
 'I put the meat in the fridge.'

Furthermore, a mass noun can appear with the indefinite article like in 5:

5. *ye chai* be mæn bede.
 one tea　to　me　give-2SG
 'Give me a cup of tea.'

As the English translation reveals, such uses of mass nouns are not ungrammatical since the indefinite article is used with the container or an understood quantity. Finally, Persian bare mass nouns can be interpreted as definite, indefinite, or generic:

6. *pul*　　ra bede　　be　mæn
 money Obj give-2SG to　　me
 'Give me the money.'　(definite)

7. ræfte *shekær* bekhære
 gone sugar　buy-3SG
 'He has gone to buy (some) sugar.' (indefinite)

8. æz　*morgh*　bæd-æm　miyad

from chicken bad-1SG Dur-come
'I hate chicken.' (generic)

Research Question
Both English and Persian distinguish count and mass nouns so the relevant feature is not unfamiliar to the English learners who speak Persian. On such basis, one would expect that Persian-speaking learners have no problems with the distinction in English. However, since the feature is realized differently in the two languages, there might be some confusion on the part of the learners which would be of short duration. While mass nouns in both English and Persian can be used in a definite or generic sense, it is only in Persian that mass nouns can be pluralized. This distinction along with lack of a definite article in Persian are suspected to lead learners to mistakes which are expected to be overcome with more exposure to the L2 input. So, if such mistakes are made, they are supposed to be made by the elementary learners. On such basis, this study is aimed at arriving at an answer to the following question:
Are EFL learners at different levels of proficiency able to acquire the 'count/mass' distinction in English in the sense that they will be able to associate it with the use of articles?

Methodology

Participants
The sample taking part in the present study consisted of undergraduate and graduate learners and teachers of English. The undergraduates were students at the University of Sheikhbahaee, Isfahan. They were majoring in different branches of English translation, teaching, or literature. The graduate participants included MA students, MA graduates, PhD candidates, and PhD graduates. They were students at Sheikhbahaee University or graduates of Isfahan University.

Initially, the participants took the Oxford Quick Placement Test (2001) for the purpose of assigning them to three distinct levels. There were 20 learners at the elementary level, 18 learners at the intermediate level, and 15 learners at the very advanced level. Ten native speakers also participated in the study as the control group. They were originally Americans having had little contact with non-native speakers.

Instruments
Two tests were developed and used for the purpose of the present study: a grammaticality judgment test (GJ) and a test of translation. The

rationale for using the two tests was to obtain data on both comprehension and production of English mass noun phrases. The following provides a brief but thorough description of the instruments.

The Translation Test
This test was designed to elicit data on how the participants used their knowledge of English articles when producing mass NPs. The test was made up of 72 items. The purpose of developing the translation test was to detect possible L1 transfer effects in the production of learners. An example is given below:

9. nun-a ro koja gozashti?   نونا را کجا گذاشتی؟

The target in this sentence was a [definite, plural, mass] noun and the participants were supposed to use the definite article and the singular form of the noun in the English equivalent, rendering 'where did you put the bread?'

The Grammaticality Judgment Test (GJ)
To tap the participants' intuitions about grammaticality/ungrammaticality of the mass NPs associated with the English article system, a grammaticality judgment (GJ) test was developed and used for the purposes of this study. The test included 120 items including some fillers to distract the participants' attention from the point that was tested. To further disguise the points under investigation, all filler items were wrong and needed to be corrected by the participants.

Each item on the test composed of two sentences. The participants were supposed to judge the grammaticality or ungrammaticality of the second sentence in each pair in the context of the first one. One of the test items is given below as an example:

10. I'm fond of that Italian pizzeria. I love food it serves.   √
         *   ?

This item is related to the category of [definite, mass] nouns and includes omission of the definite article in the second sentence. The test takers were expected to circle the '*' symbol and supply the missing article in the second sentence.

Procedure
Three sessions were devoted to having the participants take the three tests used in the study. The OPT was run first and those who had been selected were invited to the next testing sessions. Besides providing written instructions and one example on how to do each test, the participants were also given clear oral instructions in Persian. As to the time needed for each test, two highly advanced Persian-speaking learners were asked to do the tests and the time was recorded. It was then decided that adding twenty minutes to the time a highly advanced learner needed would be sufficient for all participants across different levels. During the testing sessions, the participants were informed of the time limit and the majority of the participants did not take longer than expected to do the task. Those who were behind the time schedule were given a few extra minutes to finish the test.

For coding the data, accuracy scores on all the tests were calculated by giving a score of 'one' for each correct answer and a 'zero' score for each incorrect answer. The coded data were submitted to the Statistical Packages in Social Sciences (SPSS) software for the purpose of analysis. For each category on the tests, the mean percentage for each individual participant and later for each proficiency group was calculated. Since there were four groups of participants and one independent variable, one-way between groups ANOVAs were performed as the proper statistical procedure to see if inter-group differences existed with regard to those features in question. For detecting possible intra-group differences, paired-samples t-tests were also calculated.

Results

In each test, the mean accuracy performance of the participants in different proficiency groups was calculated. In the following, the results are presented on each test type.

Mass Nouns on the Translation Test
One can quickly discern the large gaps in the performance of the participants on mass versus count items by looking at Figure 1. The performance on mass nouns was so poor that even the advanced participants could not achieve a high mean score (just 73%) whereas the same group had a high percentage of correct article use for count nouns (91%).
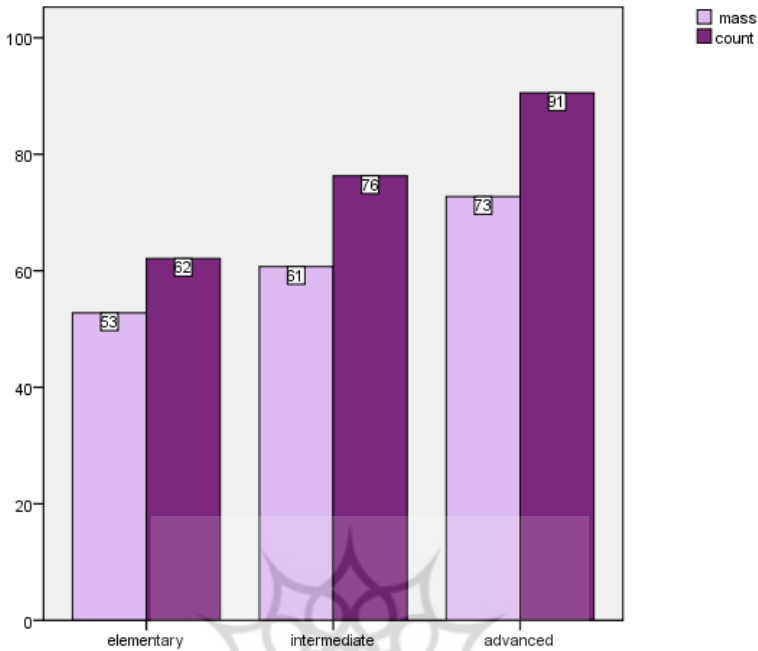
Figure 1. Mean accuracy scores (%) on the translation test

A one-way between-groups ANOVA was conducted to see if the differences between the groups were significant. The results showed that, considering mass nouns, no significant difference could be detected among the three groups ($F = 2.06$, $p = 0.14$).

Whether this superiority of 'count' over 'mass' for each group of participants was real or not was determined by running paired samples t-tests for the groups the results of which pointed to a statistically significant difference in the performance of the intermediate group (t (17) = 2.791, $p = 0.018$ (two tailed)) and the advanced group (t (14) = 2.961, $p = 0.014$ (two tailed)) in supplying the correct article for count vs. mass nouns. In both cases, there was a large effect size. It was .3 for the intermediate group and .4 for the advanced group calculated using eta squared.

Mass Nouns on the GJ Test
Generally speaking, the participants in different groups performed differently from each other (Figure 2). This conclusion was supported by

the one-way between groups analysis of variance (ANOVA) which showed that the results were significant ($F = 67.59$, $p < 0.0005$). It should also be added that there was a large effect size for mass nouns. It was calculated to be .7, using eta squared.
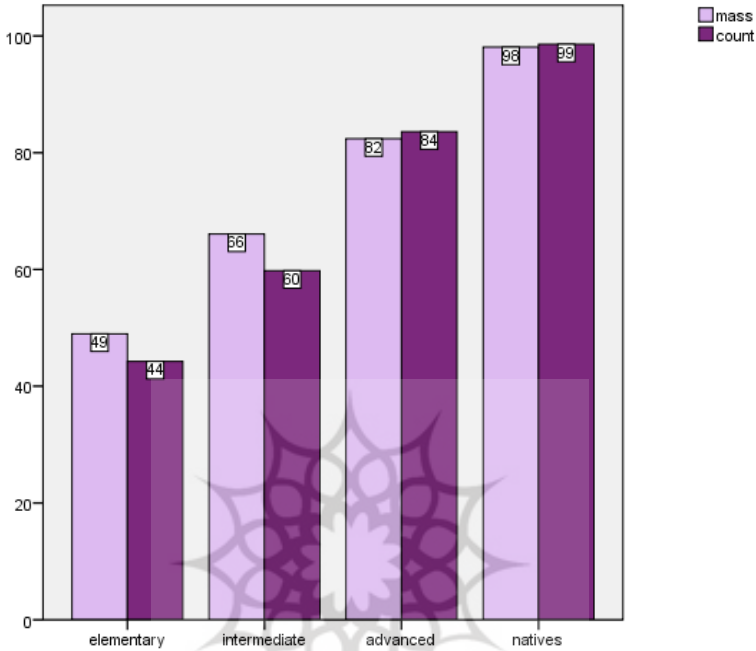

Figure 2. Mean accuracy scores (%) on the GJ test

Furthermore, post-hoc comparisons using the Scheffe test showed that all three proficiency groups were significantly different from each other and from the native controls in their performance on both count and mass nouns. In other words, even the highly advanced group could not conform to the native control group in their article use for count or mass nouns.

With regard to intra-group performance, paired-samples t-test results pointed to the fact that none of the groups performed significantly different on count vs. mass nouns. In other words, it seems that, in each group, the participants had similar knowledge of the two contexts.

Considering mass nouns, which are the main concern of this paper, more information can be revealed if one looks at the participants' performance on different types of mass NPs included in the test.

Table 1

Performance on different types of mass nouns on the GJ test

	Definite			Indefinite			Generic		
	the	Ø	a	the	**Ø**	a	the	**Ø**	a
elementary	47%	53%	0	48%	49%	3%	29%	51%	20%
Intermediate	64%	36%	0	34%	66%	0	24%	68%	8%
Advanced	80%	20%	0	18%	81%	1%	13%	85%	2%
Native	100%	0	0	2%	98%	0	4%	96%	0

It is obvious from the above table that in case of definite mass nouns (for which 'the' would be the target article), omission is the reason for non-native-like performance. For generic and indefinite cases where a 'zero' article would be the correct option, however, we still observe performance which is distant from native speakers' and the cause is article misuse (mainly misuse of 'the' and to a much lesser degree 'a'). This is certainly strange because if we suppose that Persian learners are transferring their knowledge of L1 (in which all three types of such NPs are bare), they would continue using 'zero' article for generic and indefinite nouns (in which case the resulting NP would be correct, of course). That they refuse to use 'zero' in those two contexts needs explanation.

Discussion

What can be concluded from the above figures is that our participants, even those who have highly advanced knowledge of English grammar, were not as proficient as native speakers in the control group. This provides a negative answer to the research question. The participants' performance on definite mass nouns can be explained by lingering L1 transfer effects which apparently has not been overcome even after years of exposure to English. One should not, of course, underestimate the role the English article system plays here as all Persian learners can easily recognize mass vs. count nouns. The problem here is they cannot recognize or produce such nouns with the appropriate article when needed. And it is acknowledged globally that the article system is perhaps the most notorious element of grammar to acquire (Atay, 2010;

Ekiert, 2005; Garcia Mayo, 2009; Ionin, Ko, & Wexler, 2004, among many others).

From a pedagogical perspective, one can come to the conclusion that article instruction as it relates to the count/mass domain seems not to have been efficient. One can be sure that highly proficient learners have the knowledge of the count/mass domain and they also have the knowledge of definiteness as it is realized on articles in English but the problem seems to be that they cannot bridge these two types of knowledge. The article system has been described as non-robust and non-salient (Avery & Radišić, 2007), complex, ambiguous, and highly variable despite high frequency (Goto Butler, 2002), and hard to perceive because of being unstressed (Master, 2002). Learning to use such a system in accordance with another grammatical parametric distinction needs fine tuning with help from instructors especially for adult language learners who are supposed to be analytic in their language processing (Hudson, 2000). What, then, seems to be helpful is providing explicit instruction on how the concept is realized in the two languages and highlighting the differences that exist between the two.

The results of the present study are also worth noting with respect to the Interpretability Hypothesis (IH) of second language acquisition (Tsimpli & Dimitrakopoulou, 2007) based on which only the uninterpretable features which do not exist in one's L1 would be unavailable in L2 acquisition. So, learners would be impaired in acquiring those features and their interlanguage would permanently deviate from that of the native speakers. Based on that hypothesis, interpretable features and those uninterpretable features that exist in one's L1 would pose no difficulty to language learners. This study, however, seems not to support the above-mentioned hypothesis. Based on the IH, it is presumed that the count/mass distinction as realized in article use would not be a heavy burden to Persian learners since it is interpretable in both languages. Contrary to this prediction, the participants in none of the groups could display native-like performance.

Conclusion

The data elicited from the advanced participants in the present study clearly indicated that mastery over the English article system as it is used with mass nouns is not an easy task for Persian speakers even when they have achieved the summit of grammatical knowledge with regard to other elements of grammar. What can be done on the part of teachers, it

is suggested, is to tease apart different features that are involved here and to explicitly show the learners the role each feature plays and contrastively analyze different forms such mass NPs can take in the two languages as the result of the interaction between those features. The results are also discussed within the framework of the Interpretability Hypothesis and it is concluded that they do not conform to the predictions of the IH.

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