Comparing Chinese, Japanese and Spanish Speakers in L2 English Article Acquisition: Evidence against the Fluctuation Hypothesis?

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1. Introduction

The main aim of our paper is to present new data in L2 English article choice in order to test the Fluctuation Hypothesis proposed by Ionin, Ko and Wexler (2004). The data collected comes from Japanese, Spanish and Chinese intermediate L2 learners. We firstly outline in section 2 the Article Choice Parameter and the Fluctuation Hypothesis. In section 3 we discuss the cross-linguistic variation of definiteness focussing on the L1s in our studies. Section 4 presents the current two studies involving Spanish, Japanese and Chinese speakers. Section 5 offers a different account of fluctuation in L2 article choice. Finally, Section 6 discusses definiteness in Chinese and concludes the paper.

2. The Fluctuation Hypothesis (FH) in L2 English

Languages with articles can either have the setting for definiteness (e.g. English, Spanish) or specificity (e.g. Samoan) as these are two options of an Article Choice Parameter (henceforth ACP) according to Ionin et al. (2004). Table 1 illustrates how definiteness cuts across specificity in English and how specificity cuts across definiteness in Samoan:

Article grouping by definiteness e.g. English				Article grouping by specificity e.g. Samoan		

	+definite	-definite
+specific		
-specific		

	+definite	-definite
+specific		
-specific		

Table 1. Article Grouping Cross-linguistically: Two-article Language (taken from Ionin et al. 2004, p. 13)

In the absence of L1 transfer effects, L2 learners have full access to UG and can access any possible parameter setting, including the Samoan setting, until the L2 input guides them to the appropriate setting, in this case the definiteness setting for English. It is predicted that L2 learners from articleless L1 languages will fluctuate between the two settings of the ACP, as shown in Table 2:

	[+definite] (target: the)	[-definite] (target: a)
[+specific]	correct use of *the*	**overuse of *the***
[-specific]	**overuse of *a***	correct use of *a*

Table 2. Article Grouping Cross-linguistically: Two-article Languages (based on Ionin et al. 2004, p. 19)

According to Ionin et al. (2004) the features [+definite] and [+specific] are discourse related. The crucial difference between the two features is that [+definite] is a shared state of knowledge between speaker and hearer and [+specific] is knowledge only held by the speaker. Their definition of specificity encompasses grammatical and pragmatic specificity and is based on Fodor and Sag's (1982) definition of 'speaker intent to refer'. Ionin et al. (2004) tested 30 L1 Russian speakers and 40 L1 Korean speakers on L2 English article choice. Both groups come from articleless L1s. They used a forced choice elicitation task containing 76 written dialogues in English. The L2 learners were asked to choose between the most appropriate article *a*, *the* and — (null article) to fill a gap in the dialogue, basing their choice on the preceding context. There are equal numbers of [+/-definite, +/-specific] combinations in the task. Some examples are below:

(1)   [+definite, +specific]
Conversation between two police officers

Police officer Clark: I haven't seen you in a long time. You must be very busy.
Police officer Smith: Yes. Did you hear about Miss Sarah Andrews, a famous lawyer who was murdered several weeks ago? We are trying to find (a, the, --) murderer of Miss Andrews, his name is Roger Williams, and he is a well-known criminal.

(2)   [+definite, -specific]
 Conversation between a police officer and a reporter

Reporter: Several days ago, Mr. James Peterson, a famous politician, was murdered! Are you investigating his murder?
Police officer: Yes. We are trying to find (a, the, --) murderer of Mr. Peterson, but we still don't know who he is.

(3)   [-definite, +specific]
 In an airport, in a crowd of people who are meeting arriving passengers

Man: Excuse me, do you work here?
Security guard: Yes.
Man: In that case, perhaps you could help me. I am trying to find (a, the, --) red-haired girl; I think that she flew in on Flight 239.

(4)   [-definite, -specific]
In a children's library

Child: I'd like to get something to read, but I don't know what myself.
Librarian: Well, what are some of your interests? We have books on any subject.
Child: Well, I like all sorts of things that move like cars, trains. . . . I know! I would like to get (a, the, --) book about airplanes! I like to read about flying!

They found as predicted that both the Russian and the Korean speakers fluctuated between definiteness and specificity because there is no L1 transfer but there is full access to UG. The findings support their claim for an ACP.

3. Cross-linguistic variation of definiteness

Our definition of definiteness differs to the one given by Ionin et al. (2004). We follow Lambrecht (1994) and Lyons (1999) and assume that 'identifiability' is a universal cognitive category and definiteness is a non-universal grammatical category. In other words, languages like Japanese and Chinese have semantic/pragmatic definiteness (i.e. topic markers, word order, classifiers) to mark something or someone as identifiable within discourse, whilst other languages like English and Spanish, according to Lyons (1999), have grammatical definiteness. Grammatical definiteness is a process in which a language grammaticalizes the concept of identifiability. Lyons' (1999) account of grammatical definiteness corresponds to articles as being prototypical exponents of this category. English articles *the* and *a* do not have a lexical entry for definiteness. They are always expletive (semantically vacuous) and only needed if a Determiner or Number Phrase is projected. Specificity is pragmatic or discourse specificity termed by Lyons (1999) as 'transparent contexts' (i.e. no scope ambiguities).[1] Under this account of definiteness we predicted that the Spanish L2 learners would behave like the English native controls as both languages have articles where definiteness is grammaticalized. The null hypothesis of the FH is that L2 learners from articleless languages such as Japanese and Chinese will fluctuate between the two settings of the ACP until the input leads them to correctly set it for definiteness.

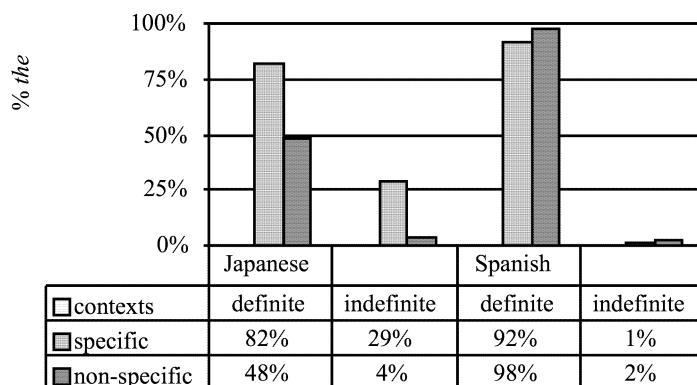## 4. Testing the Fluctuation Hypothesis

A study by Hawkins et al. (2006) found that intermediate Japanese L2 learners of English fluctuated between definiteness and specificity in [-definite, +specific] singular and plural count noun contexts. Another recent study by Reid et al. (2006) tested intermediate Japanese and Spanish L2 learners of English in both the [-definite, +specific] and [+definite, -specific] singular count noun contexts. Using the same forced choice elicitation task as Ionin et al. (2004) the objective was to test whether the intermediate Japanese L2 learners would fluctuate in the use of *the* and *a* in [+definite, -specific] contexts and [-definite, +specific] contexts. The Spanish L2 learners were not predicted to fluctuate as Spanish has articles and no fluctuation was found in previous studies (see Snape, 2005, Snape, in press). Reid et al. (2006) tested 14 Japanese and 9 Spanish speakers. All participants were instructed to take the Oxford Quick Placement Test (OQPT) (2001) before participating in the forced choice elicitation task. All participants were current students at the University of Essex, in the UK. The predictions for article choice are shown in Table 3:

|	[+definite] (target: the)	[-definite] (target: a)
[+specific]	correct use of *the*	**overuse of *the***
[-specific]	**overuse of *a***	correct use of *a*

Table 3. Predictions for Article Choice in Japanese L2 English

The results of the task are shown in Figures 1 and 2:

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[1] Specificity can be grammaticalized in the form of scope interactions with intensional operators, described by Lyons (1999) as 'opaque contexts'. See Ionin and Wexler (2003) for discussion of scope involving the de re / de-dicto distinction.

contexts	Japanese definite	indefinite	Spanish definite	indefinite
specific	82%	29%	92%	1%
non-specific	48%	4%	98%	2%

Figure 1. Intermediate Groups' *the* Response in Definite and Indefinite Singular Contexts

contexts	Japanese definite	indefinite	Spanish definite	indefinite
specific	13%	70%	6%	96%
non-specific	46%	94%	0%	96%
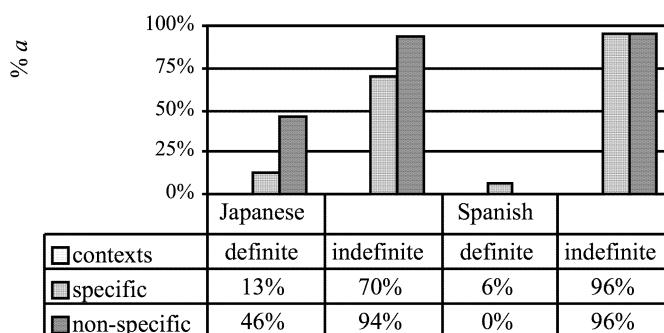
Figure 2. Intermediate Groups' *a* Response in Definite and Indefinite Singular Contexts

Though scope ambiguities were included, no significant differences were found between intensional (wide and narrow scope readings) and extensional contexts (no scope readings). For the Japanese group, the main interaction for choosing *the* or *a* in each context was between the semantic features [±definite, ±specific].[2] The findings support the FH as the Japanese group were fluctuating between definiteness and specificity as predicted in [-definite, +specific] and [+definite, -specific] contexts. The Spanish L2 learners performed as well as the native controls.
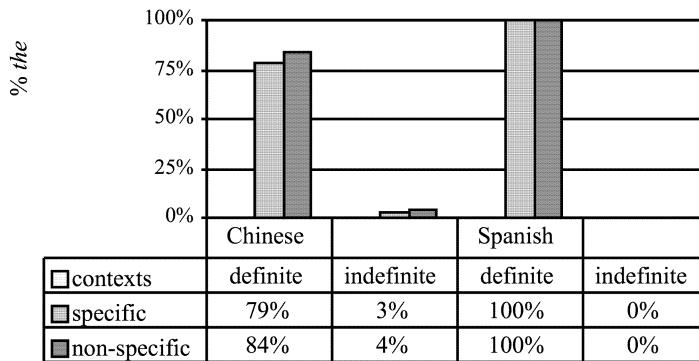
A similar study to Reid et al. (2006) was conducted by Ting (2005) which included 8 Mandarin Chinese and 5 Spanish L2 learners of English. The aim of her study was to find out whether or not Chinese L2 learners would fluctuate as the Russians and Koreans did in article choice. All participants were instructed to take the OQPT before participating in the forced choice elicitation task. We only discuss the intermediate L2 learners' results here. The same predictions were made for article choice as Ionin et al. (2004). Table 3 is repeated as Table 4 below for the Chinese L2 learners:

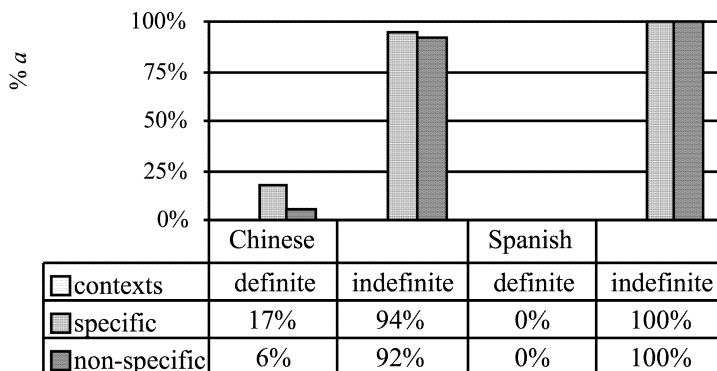|	[+definite] (target: the)	[-definite] (target: a)
[+specific]	correct use of *the*	**overuse of *the***
[-specific]	**overuse of *a***	correct use of *a*

Table 4. Predictions for Article Choice in Chinese L2 English

The results from the intermediate Chinese L2 learners are shown in Figures 3 and 4 below:

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[2] Ionin et al. (2004) also found that scope did not play a role in article choice.

contexts	Chinese		Spanish	
	definite	indefinite	definite	indefinite
specific	79%	3%	100%	0%
non-specific	84%	4%	100%	0%

Figure 3. Intermediate Groups' *the* Response in Definite and Indefinite Singular Contexts

contexts	Chinese		Spanish	
	definite	indefinite	definite	indefinite
specific	17%	94%	0%	100%
non-specific	6%	92%	0%	100%

Figure 4. Intermediate Groups' *a* Response in Definite and Indefinite Singular Contexts

The results revealed that the Chinese, unlike the Japanese L2 learners, did not fluctuate between definiteness and specificity in [-definite, +specific] and [+definite, -specific] contexts. In fact, overuse of *a* was found in [+definite, +specific] contexts (17%) which was unexpected. The Spanish L2 learners did not fluctuate in any context as predicted.

As there are certain patterns of use within groups which cannot be accounted for easily by the FH (i.e. partial fluctuation patterns and miscellaneous patterns of use) we follow Hawkins et al. (2006) in Section 5 by proposing a feature-based account of article acquisition.

5. A Feature-Based Account of L2 Article Acquisition

In their study of Russian and Korean L2 learners of English, Ionin et al. (2004) found that individual patterns of use of articles could not be accounted for under the FH. These patterns are shown in table 5:

Response type	No. of individuals	%
(a) Definiteness pattern	21/65	32
(b) Fluctuation pattern	20/65	31
(c) Specificity pattern	2/65	3
(d) Partial fluctuation pattern	9/65	14
(e) Miscellaneous patterns	13/65	20

Table 5. Russian and Korean L2 Learners: Individual Patterns of Use (adapted from Ionin et al. 2004, p. 39)

Hawkins et al. (2006) found no fluctuation within the Greek L2 learners of English (as expected)[3] but did find individual fluctuation patterns amongst the Japanese L2 learners of English. They argue that:

> the group pattern conceals some important individual variation, for which an account in terms of the Fluctuation Hypothesis offers only a rough approximation of what is going on. Furthermore, the Article Choice Parameter is stipulative and required only for the case of articles" (Hawkins et al., 2006, p.24).

Hawkins et al. (2006) offer a different account of the individual differences found among the Japanese speakers. The account differs to Ionin et al. (2004) because it does not require the postulation of a binary article choice parameter or that article choice is the result of individual ILGs fluctuating between parameter settings. Rather, a feature-based account using the Distributed Morphology model (Halle & Marantz, 1994) predicts that the difficulty lies between matching the features of vocabulary items (the phonological exponents) and the terminal nodes. For native English speakers the set of terminal nodes are as follows:

(5) [D, +definite, +singular]   (= 'the')
     [D, +definite, -singular]   (= 'the')
     [Num, -definite, +singular]   (= 'a')
     [Num, -definite, -singular]   (= 'Ø')

Phonological exponents of the vocabulary items (*the/a*) with their context of insertion are represented in (6):

(6) a   ↔   [-definite] [+singular]
     the ↔   [+definite]
     Ø   ↔   [Num]

The features for each exponent are unique in the sense that *a* only occurs with indefinite count singular Ns, *the* occurs with definite count singular or plural Ns and the phonologically null variant of Num is the elsewhere condition. It is selected when the terminal node requiring an article to be inserted is indefinite and plural. The articles then can be inserted in the context of a DP or NumP which has either a specific or non-specific reading:[4]

(7) a   ↔   [-definite] [+singular] where NumP $_{specific/non-specific}$
     the ↔   [+definite] where DP $_{specific/non-specific}$
     Ø   ↔   [Num] where NumP $_{specific/non-specific}$

The phonological exponents of the vocabulary items [±definite] match the syntactic terminal nodes. English does not select the features [±specific] for articles in English, but does select [+specific] for colloquial 'this'. The features [±definite] and [±specific] are part of the UG inventory and article use and misuse reflect full access to the features in L2 acquisition. The Japanese L2 learners select the incorrect features for articles in English or as there is full access to all features there is no immediate way of knowing whether English marks for definiteness or specificity. However, input from discourse triggers should lead learners to select the features for definiteness as English is a language with grammaticalized definiteness. Continuing problems in article acquisition could be the result of a lack of knowledge of the syntax-pragmatic interface rules (Bos , Hollebrandse & Sleeman, 2004).

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[3] Greek is a language with articles that encode definiteness like English and Spanish.
[4] See Hawkins et al. (2006) for a slightly different account based on Casillas-Navarro (2004) who argues for *context sensitive late insertion* by L2 learners and the proposal of the Contextual Complexity Hypothesis.

But, why is it the case that the Chinese L2 learners performed better than the Japanese L2 learners as the FH predicts that learners from both languages should fluctuate in the absence of L1 transfer. An explanation is offered in Section 6.

6. Definiteness in Chinese

From the results reported in this paper so far, the Mandarin Chinese native speakers in Ting's (2005) study outperformed the Japanese native speakers in both Hawkins et al. (2006) and Reid et al. (2006) in the use of English articles in that fluctuation does not seem to be operating in the Mandarin Chinese speakers' L2 English ILGs. This is surprising, given that traditionally linguists have grouped all articleless languages under the same umbrella and the implication for SLA irrespective of a theoretical framework has been that learners of L2 English who speak any articleless language as their L1 would essentially face the same problems of omission and commission in the acquisition of the English article system (cf. for instance the studies reviewed in Hawkins, 2001, p.236–240; Ionin et al., 2004 have taken a similar stance so far as their treatment of Russian and Korean native speakers are concerned.) Assuming that there are no extra-linguistic reasons behind the differential performance of the Mandarin Chinese and the Japanese speakers in the experiments reported above, in this section, we offer one possible solution based on grammaticalization and transfer, as an attempt to explain the interesting observation.

Li and Thompson (1981) pointed out long ago that although Mandarin Chinese does not have the equivalents of the English articles *the* and *a*, "[t]he demonstrative *nei* 'that' […] is beginning to function as 'the' if it is not stressed, and the numeral *yi* 'one', if it is not stressed, is beginning to function as 'a'." (p.131-2). Incorporating this idea into our feature-based account delineated in Section 5 above, in this paper, we shall argue that although Mandarin Chinese has no syntactic head D (cf. Cheng & Sybesma, 1999), the universal cognitive/pragmatic category of identifiability is in the process of being grammaticalized onto the lexical items which could be treated as equivalents of the definite and indefinite articles in English (i.e., *yi* 'one'= [-definite], *nei* 'that' = [+definite]); definiteness as a grammatical category in terms of the binary morpho-syntactic feature [±definite] is in the process of being fully developed in the Mandarin Chinese language/lexicon (as opposed to the case of Japanese). To take the English facts as a point of comparison, historically, the definite article derives from the demonstratives 'this' and 'that' and the indefinite article derives from 'one' and these develop over time (J. Hawkins, 2004), with phonological reduction of the demonstrative and the numeral as well as grammaticalization of the cognitive/pragmatic notion of identifiability (Lyons, 1999; J. Hawkins, 2004) (cf. also Section 3 above). Robertson (2000) has noted that "the Chinese language may be following a path which is prefigured in the development of English" (p.147). This is exactly what Gundel et al. (1993) and Chen (2004) have found. Gundel et al. (1993) proposed a so-called Givenness Hierarchy with six cognitive statuses in relation to referential expressions which are implicationally ordered. They analyzed data from five languages including Mandarin Chinese and Japanese, and concluded the Mandarin Chinese demonstrative *nei* 'that' and numeral *yi* 'one' have taken on the lower-end referential function of identifiability (uniqueness and type respectively) while Japanese is still using a bare NP to denote the same function(s); in other words, according to Gundel et al., the Japanese demonstrative(s) and numeral have shown no sign of being developed to bear the pragmatic function identifiability (yet), which the Chinese equivalents clearly do already, based on synchronic evidence presented in their paper. In a similar vein, Chen (2004) has surveyed some corpus data (source unknown) and argued that definiteness as a grammatical category is in the process of being fully developed in Mandarin Chinese, with the numeral *yi* having apparently reached the end point of grammaticalization regarding indefiniteness while the demonstrative *nei* is on its way to full grammaticalization of definiteness. What could be implicated from the brief exposition so far is that if we view transfer in the domain of article semantics as involving the non-universality of the morpho-syntactic feature [±definiteness] and the mapping of it onto corresponding lexical items, the better performance of our Mandarin Chinese speakers in the use of L2 English articles as attested by the experimental results reported in this paper could be accounted for by the argument that Mandarin Chinese is (well) ahead of Japanese in the process of grammaticalization of the universal cognitive category of identifiability and in the development of definiteness as a grammatical category (a morpho-syntactic feature in our interpretation.)

References

Bos, P., Hollebrandse B., & Sleeman, P. (2004). The pragmatics–syntax and the semantics–syntax interface in acquisition. *IRAL,* 42, 101–10.

Casillas-Navarro, G. (2004). The Contextual Complexity Hypothesis: An Alternative Account of the L2 Development of Tense and Agreement Morphology. *Essex Graduate Student Papers in Language and Linguistics,* 6.

Chen, P. (2004). Identifiability and definiteness in Chinese. *Linguistics,* 42, (6), 1129–84.

Cheng, L. & Sybesma, R. (1999). Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry,* 30, (4), 509–42.

Fodor, J. & Sag, I. (1982). Referential and quantificational indefinites. *Linguistics and Philosophy,* 5, 355–98.

Gundel J. K, N. Hedberg & R. Zacharski (1993). Cognitive status and the form of referring expressions in discourse. *Language,* 69, (2), 274–307.

Halle, M. & Marantz, A. (1994). Some Key Features of Distributed Morphology. In A. Carnie and H. Harley (eds.), *MIT Working Papers in Linguistics 21: Papers on Phonology and Morphology*, (pp. 275–88). Cambridge, MA: MITWPL.

Hawkins, J. A. (2004). *Efficiency and complexity in grammars.* Oxford; New York: Oxford University Press.

Hawkins, R. 2001: *Second language syntax: a generative introduction*. Malden. MA: Blackwell.

Hawkins, R., Al-Eid S., Almahboob, I., Athanasopoulos, P., Chaengchenkit, R., Hu, J., Rezai, M., Jaensch, C., Jeon, Y., Jiang, A., Leung, I., Matsunaga, K., Ortega, M., Sarko, G., Snape, N. & K. Velasco-Zarate. (2006). Accounting for English article interpretation by L2 speakers. In Foster-Cohen, S. H. (ed.), *EUROSLA Yearbook*, 6, (pp. 7–25). Amsterdam: John Benjamins.

Ionin, T., Ko., H., & Wexler, K. (2004). Article semantics in L2-acquisition: the role of specificity. *Language Acquisition,* 12, (1), 3–69.

Ionin, T. & Wexler, K. (2003). *The Certain Uses of the in L2-English.* In Proceedings of the 6th Generative Approaches to Second Language Acquisition Conference. In J. M. Liceras, et al. (eds.), Somerville, MA. (pp. 150–60.). Cascadilla Press.

Lambrecht, K. (1994). *Information Structure and Sentence Form.* Cambridge, UK: Cambridge University Press.

Li, C. & Thompson, S. (1981). *Mandarin Chinese: a functional reference grammar.* Berkeley: University of California Press.

Lyons, C. (1999). *Definiteness.* Cambridge, UK: Cambridge University Press.

Reid, J., P. Battaglia, M. Schuldt, E. Narita, M. Mochizuki & N. Snape (2006). *The article choice of learners of English as a second language*. Unpublished term paper, University of Essex, UK.

Robertson, D. (2000). Variability in the use of the English article system by Chinese learners of English. *Second Language Research,* 16, (2), 135–72.

Snape, N. (2005). The use of articles in L2 English by Japanese and Spanish learners. *Essex Graduate Student Papers in Language and Linguistics,* 7, 1–23.

Snape, N. (in press). L2 acquisition of definiteness and specificity in English by advanced Japanese and Spanish learners. *Language Acquisition and Development. Proceedings of the Generative Approaches to Language Acquisition Conference 2005*, (pp. 591–6). Cambridge, UK: Cambridge Scholars Press/CSP.

Syndicate, U. C. L. E. (2001). Quick Placement Test. Oxford: Oxford University Press.

Ting, H. C. (2005). *The acquisition of articles in L2 English by L1 Chinese and L1 Spanish speakers*. Unpublished MA dissertation, University of Essex, UK.

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