

The Role of the L1 in the Acquisition of English Articles by Spanish-Speaking Children

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1. Introduction

Over the last decade, features and their acquisition have played a central role in the generative framework. Acquisition studies within this theory are focused on identifying whether learners are able to acquire features of the second language (L2), and have tried to explain how access to the relevant features might affect learners' performance. For instance, recent work on the acquisition of the Determiner Phrase have examined whether learners have access to semantic features such as definiteness and specificity.

Studies on article acquisition have found that the acquisition of the English system of articles is difficult for second language learners. For instance, learners tend to omit articles and/or produce them in the incorrect semantic context (Hawkins *et al.*, 2006; Ionin, Ko, & Wexler, 2004; Ionin, Zubizarreta, & Salvador, 2008; Ionin, Zubizarreta, & Philippov, 2009; Zdorenko & Paradis, 2008). Even advanced L2 learners who have been exposed to English for a long period of time have persistent difficulties with article use. The L2 learner's problem with English articles has been shown to be linked to the learner's first language (L1) and his/her access to semantic universals. From this research on article acquisition comes an account proposed by Ionin and colleagues—the *Fluctuation Hypothesis* (FH); see Ionin (2003) and Ionin *et al.* (2004). This approach makes specific predictions about a learner's article choice according to the semantic context and it takes into account access to semantic universals as well as transfer from the learner's L1.

Studies that have tested the FH indicate that learners with an L1 with articles are more target-like than L2 learners with a non-article L1. These differences among learners have been attributed to the factor of transfer. Studies suggest that adult L2 learners with L1s that have articles are able to transfer their knowledge of the L1 article system, while learners with L1s that lack articles cannot rely on their L1 knowledge and instead show more variation in their article choice (Hawkins *et al.*, 2006; Ionin, 2003; Ionin *et al.*, 2004; Ionin *et al.*, 2008). The data also indicate that there might be differences between child L2 learners and adult L2 learners (Zdorenko & Paradis, 2008). Results of a study done by Zdorenko & Paradis (2008) suggest that child L2 learners exhibit variation in their article use regardless of their L1. The researchers claim that, in contrast to L2 adults—who rely on their L1 knowledge—, child L2 learners rely more on their access to Universal Grammar (UG).

Most previous studies that have examined the predictions made by the FH have been done with adult L2 learners (Hawkins *et al.*, 2006; Ionin, 2003; Ionin *et al.*, 2004; Ionin *et al.*, 2008; Ionin *et al.*, 2009). To the best of our knowledge, there are only two studies that have tested the FH predictions in child L2 learners (Ionin *et al.*, 2009; Zdorenko & Paradis, 2008), and only one of them has tested children with L1s that have articles (Zdorenko & Paradis, 2008). Ionin *et al.* (2009) examined cross-sectional written data from 58 child speakers between the ages of 10 and 12 whose L1 was Russian, a non-article language. All the children who participated in the study were learning English at a school in Russia at the time of the testing. Their length of exposure to English varied from 3 to 8 years (mean age 5.1 years). To access a learner's knowledge of English articles, researchers administered a fill-in-

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the-blank written task similar to the ones used in previous studies by Ionin and coauthors (Ionin, 2003; Ionin *et al.*, 2004; Ionin *et al.*, 2008). The researchers reported that children correctly used the article in 78% of the contexts and most of the errors were cases of overuse of the in indefinite contexts.

On the other hand, Zdorenko & Paradis (2008) analyzed longitudinal oral data from 17 children between the ages of 4;02 and 6;09. Participants were studied for approximately 2 years and the data was collected in 5 rounds. At the end of the study, the mean age of the children was 7;04 and the mean length of exposure to the target language was almost three years. Children who participated in this investigation were learning English in Edmond, Canada, and had different L1 backgrounds, with and without articles. Researchers analyzed the children's article use in narratives that were elicited through a picture description task. In this task, children were asked to tell a story based on the pictures they were shown. Pictures were only visible to the child and were turned away from the experimenter who asked the child to tell him/her what was happening in each one. All the children were reported to reach above 90% accuracy for the article *the* in Round 3. In Round 4, children from languages that had articles reached 90% accuracy with the article *a*, while children of non-article languages did not reach this level of accuracy by the end of the study. As for the types of errors, article omission was an error specific to the non-article L1 language group. However, misuse of an article was observed in both groups. Children incorrectly overused *the* in contexts that required the indefinite article *a*. Children with an L1 with articles showed an average of 25% overuse of *the*, while children of a non-article language had an average of 27%. The statistical analysis revealed that there were not significant differences between the two groups in the incorrect use of *the* in indefinite contexts. This finding led researchers to the conclusion that, in contrast to adults, children do not transfer their L1 knowledge, but instead use their access to the UG no matter their linguistic background. However, Zdorenko and Paradis' claims have been questioned in Ionin *et al.* (2009). Ionin and coauthors argue that the overuse of *the* in children that have an L1 with articles might be explained by the nature of the task used in the study. Ionin *et al.* (2009) point out that a child's response in an indefinite context might be related to the egocentricity that is common in children of the tested ages. It has been found that children around the ages of 5–9 (Warden, 1976) tend to be egocentric in their article choice and ignore the state of the listener's knowledge. In other words, when children were asked to tell what happened in the picture, they might not have taken into account the fact that the experimenter was not looking at the pictures. Children could then have used the article *the* assuming that they and the listener (the experimenter) had mutual knowledge of the pictures.

If the children's responses in Zdorenko & Paradis (2008) were possibly the result of a task effect, then we still do not know with certainty whether children whose L1 has articles would differ from their adult counterparts. Additionally, the question of whether the children would show variation in their article choice if tested with a task similar to the ones used by Ionin and coauthors remains unaddressed. The main objective of the study in this paper is to test the FH by verifying its predictions in children whose L1 has articles. In particular, the study considers Spanish-speaking children who are learning English as a second language. To access a child's article knowledge, we decided to use the task created by Ionin *et al.* (2004). Therefore, this study aims to contribute to a more comprehensive understanding of a child L2 learner's acquisition of English articles and the FH proposal.

2. Assumptions of the Fluctuation Hypothesis

The FH (Ionin, 2003; Ionin *et al.*, 2004) assumes that article systems in languages with two articles may distinguish articles on the basis of definiteness or specificity. In other words, articles may mark definiteness or specificity, but not both. For instance, the English article system has a definiteness setting, that is, articles *the* and *a* are distinguished on the basis of definiteness and not specificity. In contrast, in languages like Samoan articles are distinguished on the basis of specificity. For example, the articles *le* and *se* in Samoan mark specific and non-specific nouns, respectively, regardless of whether the nouns are definite or indefinite. In FH, article choice is assumed to be governed by a binary parameter, formulated by Ionin *et al.* (2004, p.12) in the Article Choice Parameter.

- (1) The Article Choice Parameter:
- a. The Definiteness Setting: Articles are distinguished on the basis of definiteness.
 - b. The Specificity Setting: Articles are distinguished on the basis of specificity.

The FH proposes that definiteness and specificity are semantic universals to which L2 learners have access. Thus, learners may be affected by the two settings when acquiring the target article system. But before discussing how learners are affected by definiteness and specificity, it is necessary to present the definitions adopted by Ionin *et al.* (2004, p. 5)

- (2) Definiteness and specificity: informal definitions:
- If a Determiner Phrase of the form [D NP] is...
- a. [+definite], then the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP.
 - b. [+specific], then 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.

Thus, in languages where articles encode definiteness, articles will be used to indicate whether the speaker is talking about a unique individual regardless of whether the individual has a noteworthy property. Namely, the English articles *the* and *a* will mark definiteness and not specificity. The difference between definiteness and specificity is better illustrated in the following example (3) taken from Ionin *et al.* (2004, p. 8)

- (3)
- a. I'd like to talk to the winner of today's race – she is my best friend!
 - b. I'd like to talk to the winner of today's race – whoever that is; I'm writing a story about this race for the newspaper.

In (3), the noun phrase *the winner of today's race* is definite in both sentences. The difference between the two, then, relies on the fact that in (3a) the noun is [+specific], whereas in (3b) the noun is [–specific]. In (3a), the winner of the race is the speaker's best friend, and therefore the individual the speaker is talking about has a noteworthy property. In contrast, in (3b), the noun does not possess any property that could be significant for the speaker.

Because English articles encode definiteness and not specificity, the article choice made by native English speakers will not be affected by the specificity of the noun. Thus, *the* will be used with definite specific and non-specific nouns; likewise, the article *a* will mark indefinite specific and non-specific nouns. However, in contrast to native speakers, an L2 speaker's article choice is expected to be affected by definiteness and specificity because, as mentioned earlier, it is assumed that L2 learners have access to both semantic settings. In light of this expectation, the FH posits the following (Ionin *et al.*, 2004, p. 16):

- (4)
- a. L2 learners have full access to UG principles and parameter-settings.
 - b. L2 learners fluctuate between different parameter-settings until the input leads them to set the parameter to the appropriate value.

Under the FH view, L2 learners of English are expected to use articles in inappropriate semantic contexts until they set the appropriate value for English and become aware that this language distinguishes articles on the basis of definiteness and not specificity. Such predictions were initially formulated for L2 learners of L1s that lack articles (e.g., Russian). In a later formulation of the FH, Ionin *et al.* (2008) included the factor of L1 transfer and considered two possibilities:

- (5)
- a. Possibility 1, Fluctuation overrides transfer: all L2 learners should fluctuate between definiteness and specificity in their article choice.
 - b. Possibility 2, Transfer overrides fluctuation: L2 learners with L1s that have articles should transfer article semantics from their L1 to their L2.

Ionin *et al.* (2008) tested these possibilities in L1-Spanish and L1-Russian adult learners of English. The authors found that Spanish speakers were accurate with the definite and indefinite articles, while Russian speakers had difficulty with both types of articles, resulting in higher rates of article misuse. The authors concluded that Spanish speakers were able to transfer their L1 knowledge to the L2 (possibility 2), whereas the Russian speakers, lacking such knowledge, relied on their access to the semantic universals and fluctuated between definiteness and specificity. The findings of Ionin *et al.* (2008) were supported in a study that compared the acquisition of English articles by speakers of Japanese, a language that lacks articles, and speakers of Greek, a language that has an article system based on definiteness (Hawkins *et al.*, 2006). These researchers reported that Japanese speakers showed fluctuation, contrary to Greek speakers, who showed L1 transfer.

Using the FH, Zdorenko & Paradis (2008) tested this hypothesis and its predictions in child L2 learners of English. They included children of L1s with articles (e.g., Spanish, Romanian, and Arabic) and without article systems (e.g., Cantonese, Japanese, and Korean). They also compared their findings with those reported in studies on adult L2 learners. Zdorenko and Paradis found that it was common for children to misuse *the* in indefinite specific contexts regardless of their L1, thus showing some kind of fluctuation. Zdorenko and Paradis' results for children of non-article L1s support the FH hypothesis. However, the results for children with L1s that have articles differ from what has been found for adult L2 learners. The findings indicate that child L2 learners of a language with articles are not able to transfer their L1 knowledge to the target article system as adult L2 learners do.

The present study tests the FH in children with an L1 that has an article system that encodes definiteness. Additionally, we use the fill-in-the-blank written task created by Ionin and coauthors, in contrast to the study by Zdorenko and Paradis. We tested four different semantic contexts including the two contexts where fluctuation is expected: [+definite –specific] and [–definite +specific]. If L2 child learners have access to the semantic universals of definiteness and specificity regardless of the L1, then we predict that children will overuse *the* in [–definite +specific] contexts and overuse *a* in [+definite –specific] contexts. However, if, like adults, children are able to transfer the semantic knowledge from their L1, we predict that children will be accurate in their article choice and will not show fluctuation between definiteness and specificity. As we will see later, our results suggest that child L2 learners of a language with articles are able to transfer the semantic knowledge from their L1 article system, and hence their production is not affected by the specific feature as it has been reported for children of non-article languages.

3. Method

3.1. Participants

The participants in this study were 30 Spanish-speaking children learning English as their L2 and a small control group of five native English-speaking children. All the Spanish-speaking children live in San Juan, Puerto Rico, and they all attend the same school. At the moment of the testing, the children were enrolled in an early total immersion program. All children had been raised in Spanish speaking homes. Their ages ranged from 8 to 10 years old (mean age 9 years old). For the selection of participants we adopted the definition of an *L2 child* proposed by Schwartz (2003, p. 1): an L2 child is a child “whose *initial* exposure to the nonnative language is between ages of, approximately, 4 to 7 years old”. We included children who had formally started learning English when they were 4 to 6 years old (mean age 4;05). We also selected children who, at the time of the test, had three or more years of English instruction. The length of exposure varied from 3 to 6 years (mean 4.6 years of exposure). Children in the control group were all residents of Illinois. Their ages ranged from 8 to 10 years old (mean age 9;02).

3.2. Instrument and Procedures

We used the task created by Ionin *et al.* (2004). Since we were testing children, we did not use all of the 76 items of the original task. Instead, we decided to include a total of 16 items. These items were distributed in the following categories: four [+definite +specific], four [+definite –specific], four [–definite –specific], and four [–definite +specific]. Instructions were given in the participant's native

language. They were told to write either the word they think best filled the gap or that they could leave it blank if necessary. There was no time limit for the completion of the test. In general, participants finished in 30 minutes or less.

4. Results

Children's accuracy in the use of definite and indefinite articles was measured and the percentage of *the* and *a* used in the four contexts was calculated. As expected, native English speakers performed at ceiling; see Table (8). They supplied the correct article in all four categories. None of the participants supplied another word or omitted the article.

(8) Gap-filling task results: Native speakers ($N=5$)

	[+definite]: target: <i>the</i>	[-definite]: target: <i>a</i>
[+specific]	100% <i>the</i> 0% <i>a</i>	100% <i>a</i> 0% <i>the</i>
[-specific]	100% <i>the</i> 0% <i>a</i>	100% <i>a</i> 0% <i>the</i>

We turn now to the results of the Spanish-speaking children. Seven words other than articles were supplied by these participants (e.g., their, you). However, since these were distributed in the four categories among the 16 items, we decided not to include these cases for further analyses. As for errors of omission, none of the participants omitted the article.

(9) Gap-filling task results: L1 Spanish speakers ($N=30$)

	[+definite]: target: <i>the</i>	[-definite]: target: <i>a</i>
[+specific]	92% <i>the</i> 8% <i>a</i>	86% <i>a</i> 14% <i>the</i>
[-specific]	92% <i>the</i> 8% <i>a</i>	91% <i>a</i> 9% <i>the</i>

Overall, children were successful supplying the correct article; see Table (9). They performed accurately with both [+definite +specific] and [+definite –specific] contexts; there were no differences between these two semantic contexts. They correctly used the article *the* in 92% of the cases. However, indefinites showed a different pattern. Results showed that the Spanish-speaking children were better at supplying the definite article in definite contexts than the indefinite article in indefinite contexts. Accuracy was poorer in the [–definite] contexts than in the [+definite] ones.

The FH predicts that L2 learners will show fluctuation in two contexts: [+definite –specific] and [–definite +specific]. Although the data show that children were highly accurate in all four contexts, it is worth noting that they did overuse the article *the* in [–definite +specific] contexts by incorrectly supplying *the* in 14% of the indefinite contexts. This may suggest that learners were affected by the specificity feature and that there were differences among the four semantic contexts. In order to understand whether these differences were statistically significant, a repeated-measures ANOVA was performed. The analysis revealed that the type of semantic context does not have a significant effect on a learner's article choice, $F(3,87)=1.139$, $p>0.5$. That is, children performed similarly in all contexts.

To make sure that specificity did not play a role in a child's article choice, another repeated-measures ANOVA was run with definiteness and specificity as within subject variables. The statistical analysis revealed that neither specificity ($F(1,29)=0.635$, $p=0.432$) nor the interaction between definiteness and specificity ($F(1,29)=1.000$, $p=0.326$) had a significant effect on a child's article use.

On the other hand, definiteness had a statistically significant effect regardless of whether *the* or *a* was measured ($F(1,29)=824.889, p=0.000$).

5. Discussion and Conclusions

The version of the FH formulated by Ionin *et al.* (2008) considers two possibilities regarding L1 transfer. Studies that have tested these possibilities in L2 adults have found that learners will transfer the knowledge from their L1 to the L2 article system. Zdorenko & Paradis (2008), in contrast, proposed that L2 children will have access to the UG semantic universals and therefore will show fluctuation regardless of their L1. We hypothesized that if, as proposed by Zdorenko and Paradis, L2 children rely on UG to acquire the target article system, they would overuse *the* and *a* in the context where fluctuation is predicted, as it has been reported for adult L2 acquisition. If instead, children are able to transfer their L1 knowledge, then they would be successful in their article choice and would not show fluctuation.

Overall, in the study presented in this paper, participants did better with the definite article than with the indefinite. These results are consistent with previous studies, in which a similar pattern has been found for L1 learners (Maratsos, 1976), adult L2 learners (Anderson, 1978; Ionin *et al.*, 2004; Lardiere, 2004; Robertson, 2000; White, 2003), and child L2 learners (Ionin *et al.*, 2009; Zdorenko & Paradis, 2008). In other words, the results suggest that indefinites are more problematic for learners than definites. A possible explanation, suggested by Lardiere (2004), is that the semantic characteristics of indefinites are more complex and therefore more difficult for learners to acquire.

Participants in this study did not show errors of article omission, a common error that has been reported in learners whose L1s have no articles. This suggests that Spanish-speaking children may not only transfer the semantic knowledge from their L1 article system, but they might also transfer the category Determiner from their L1 functional structure to the L2 as proposed by Zdorenko & Paradis (2008).

Results revealed that misuse of *the* in specific indefinite contexts was the most frequent error produced by the participants, similar to what has been found for child L2 learners with L1s that lack articles (Zdorenko & Paradis 2008; Ionin *et al.*, 2009). However, the statistical analysis revealed that the type of semantic context did not have a significant effect on the learner's article choice. That is, children performed similarly across all contexts. Moreover, specificity did not have a significant effect in any of the articles measured, in contrast to what has been reported for L1-Russian children (Ionin *et al.*, 2009). The results suggest that the child L2 learners in this study were only affected by definiteness in their article choice. This pattern was also reported for Spanish-speaking adults learning English (Ionin *et al.*, 2008). Taking these findings into account, we may conclude that Spanish-speaking children in this study were able to transfer their L1 semantic knowledge to the L2, thus resembling L2 adult acquisition.

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