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Spanish subjunctive instruction in the L2 classroom: Do textbooks reflect reality?

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Abstract

The Spanish subjunctive is very challenging to both teach and learn. Generally introduced at the intermediate L2 level, subjunctive use quickly becomes the emphasized grammatical feature under study. Our research shows that 76 (45%) out of 170 intermediate textbook chapters are dedicated to explicit subjunctive instruction. With such importance placed on this form, one would expect to find high frequencies of its use in Spanish, yet our data show that it manifests only 6.8% of the time among native speakers; and second-generation bilinguals still less, at 5.2%. These sociolinguistic data, which include over 43,000 inflected verbs, come from the natural conversations of 52 first and second-generation consultants, 26 from each, from the primary Spanish-speaking groups in NYC: Puerto Rican, Dominican, Cuban, Mexican, Ecuadorian, and Colombian. Why spend so much valuable time on such an infrequent feature? Indeed, is command of the subjunctive even necessary for successful communication? The present study does not aim to strike subjunctive education from L2 curriculum. Rather, I propose a realistic approach to its place in the classroom by showing where and how Spanish speakers, native and bilingual, actually use the subjunctive. Perhaps then we can dedicate more time to overall competence of the language.

Keywords Spanish Subjunctive, L2 Spanish, Sociolinguistics, Hispanic Linguistics, Language Pedagogy

1. Introduction

Both teaching and learning the Spanish subjunctive are extremely challenging for L1 English speakers because there is little symmetry between the two languages' grammatical mood systems (Rabadán, 2006; Whitley, 1986). Indeed, both languages have two grammatical moods: the indicative (I) and the subjunctive (S). Spanish mood manifests in the verb morphology, as in **Comes** (I) *una manzana* and *Quiero que **comas*** (S) *una manzana*, wherein *comes* represents the indicative form of the verb *comer*; the subjunctive is reflected by a change of morpheme *e* to *a*, i.e., *comes* (I) becomes *comas* (S). This is quite different from the use of the subjunctive in English, which is considerably rare nowadays, but is still observable in utterances such as “I insist he be on time”, wherein “he be” is the subjunctive form of the infinitive “to be”; the indicative would be “he is on time” (Berk, 1999; Harsh, 1968; Huddleston and Pullum, 2002). We note from the example that English uses an entirely different form, whereas

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Spanish changes the vowel of the same form. The dissimilarity between the syntax is an entirely different problem that we will consider later.

For the L1 speaker of English, the Spanish subjunctive proves to be quite a daunting obstacle to tackle, yet it has been documented that the Spanish subjunctive occurs very little in oral and written communication – ranging from 4%, to just over 7%, depending on the study (Moreno de Alba, 1978; Collentine, 2010; Torres, 1998).² Considering these real-world subjunctive use percentages, just how important is its place in the L2 classroom, and does college curriculum reflect this reality? This question is the crux of this paper and we aim to address it quantitatively. We will consider the following:

- a. Overall subjunctive use by native and bilingual speakers
- b. Tense and Contexts in which these speakers use the subjunctive
- c. All of this in order to compare to what we find in college/university-level textbooks (this can be applicable to high school as well if the Spanish class reaches an intermediate level)

2. Methodology

This study is centered on subjunctive use in Spanish and will analyze data collected from two primary sources: a corpus of natural conversation in Spanish and L2 Spanish textbooks. The former will be referred to as Actual Subjunctive Use (ASU), the latter Textbook Subjunctive Use (TSU).

2.1. *The corpus and data collection*

We use transcribed natural conversations from a total of 52 consultants as the corpus for data collection. The stratified corpus, commonly referred to as the *Otheguy-Zentella Corpus*, is a widely-used transcription of natural conversations with Spanish speaking New Yorkers of different generations and Latin American origins.³ Many projects have resulted from work with this corpus, such as investigations centered on obligatory subjunctive use (e.g., Viner, 2016), and patterns of pronoun usage (e.g., Otheguy and Zentella, 2012). Of these 52 consultants, we use a balanced total consisting of 26 consultants from two different generational groups: first-generation newcomers born in Latin America and second-generation consultants born or raised in New York City (NYC). The consultants represent the six primary Spanish speaking groups in NYC: Puerto Rican, Dominican, Mexican, Ecuadorian, Colombian and Cuban.⁴ The criteria and labels for the two generational groups are: Latin American Raised (LAR) arrived to NYC at age 16 or older; New York Raised (NYR) were either born in the city or brought there before age 3. Considering previous investigations on age of linguistic development, ages 0 to 13 are documented as being the range for command of advanced and complex grammatical features, such as the subjunctive (Mikulski, 2010; Montrul, 2009; Blake, 1985, 1980). Based on these age

² We discuss specific findings from each of these studies below in our section on this paper's findings.

³ For a detailed discussion of the stratification criteria, see Otheguy and Zentella (2012).

⁴ The nationalities are presented here according to the 2007 U.S. Census Bureau in terms of most to least inhabitants in NYC. Cubans are not specifically named in the census, but are situated in the 'Other Nationalities' category.

frameworks, our first-generation group reflects a fully developed mood grammar, i.e., the monolingual variety; whereas the second generation's command is questionable given their upbringing in a bilingual setting, thus perhaps exhibiting patterns similar to those of an advanced L2 Spanish language learner.

The first step involved collecting all inflected verbs in the corpus, irrespective of their context or mood, then quantifying the verbs by mood in order to determine overall usage percentages of subjunctives and indicatives for each generation. From there, each verb and context was analyzed for inclusion or exclusion according to the presence of subjunctive or indicative morphology in finite verbs.

2.2. Envelope of variation

Because this is a study centered on subjunctive use, all subjunctives and their corresponding contexts are included. Indicative forms, however, need to be in a variable environment in order to qualify, that is, indicatives must be considered inside the envelope of variation, which Otheguy and Zentella explain as "...the items that are legitimate candidates for coding and statistical treatment in the study of a linguistic variable" (2012:29). Examples will assist in clarifying this procedure:

(1) *que Dios **haga** (S) que él **pueda** (S) venir* -LAR

This example demonstrates two subjunctive verb forms (*haga* and *pueda*) that automatically qualify as being inside the envelope of variation by virtue of being subjunctives.

(2) *tal vez ellos **vienen** (I) mañana* -LAR

This is an example of a possibility clause, which is a context in which either mood is plausible (it could have been *tal vez ellos vengan mañana*, with subjunctive *vengan* instead of indicative *vienen*). This indicative verb form, *vienen*, is therefore included inside the envelope of variation.

(3) *Bueno hay (I) dos cosas que son (I), una es (I) el idioma* -LAR

This sentence has three indicative verbs (*hay*, *son*, and *es*) that are excluded because there is no syntactic, semantic or pragmatic reasoning that a subjunctive verb form could or would appear where the indicative form manifests. These three verbs are therefore tallied for overall mood comparisons, but they do not factor in with regard to specific contexts.

(4) *Si **hubiera sabido** (S) la fecha, **habría ido** (C)* -LAR

For this last example, both auxiliary verbs qualify as inside the envelope: *hubiera sabido* (protasis clause) because it is a subjunctive form; *habría ido* (apodosis clause), the conditional (C), because it manifests in a variable environment. That is, the subjunctive is also sometimes found in these

apodosis clauses, as in *hubiera ido*. Found here as well, as we shall see below, although far less common, is the indicative, i.e., *había ido* or *iba*.

2.3. Syntactic-semantic contexts

After the collection of the qualifying forms, the syntactic-semantic contexts were designated. There is a total of 19 syntactic-semantic contexts, 9 obligatory and 10 optional. The categories obligatory and optional are established based on the contexts in which the first-generation consultants produce at least 90% of the tokens in the subjunctive (obligatory), or where the subjunctive alternates with the indicative (optional), i.e., context with 89% or less of subjunctive occurrence. It could be argued that a 90% usage rate does not indicate a true obligatory subjunctive use. The decision to consider this percentage restriction is based on two thoughts: first, in Torres (1989), 90% was set as the confine for “subjunctive contexts” (i.e., obligatory subjunctive); second, the possibility of a margin of error. That is to say, although the dichotomy between subjunctive and indicative mood is grammatical, mood distinction is often based on a minimal phonological distinction, i.e., one vowel (e.g., indicative *habla* vs. subjunctive *hable*; indicative *hablaron* vs. subjunctive *hablaran* etc.). The possibility of a simple orthographical mistake in the transcription is, therefore, plausible. Nevertheless, the frequency of first-generation indicative verb forms situated in obligatory subjunctive syntactic and semantic contexts was extremely low and, therefore, inconsequential.

Based on natural conversation and authentic occurrences of subjunctive and indicative verb forms by the first-generation consultants, 19 contexts are identified as follows:

OBLIGATORY SUBJUNCTIVE CONTEXTS

- Discourse Marker: *sea* or *vaya*⁵
- Purpose / Contingency Adverbial clause: *para que vengan, a que vengan, con tal de que vengan* etc.
- Indirect Command: *que vengan, dijo que vinieran, ha pedido que vengan* etc.
- Volitional / Influential Noun clause: *quiere que vengan, espera que vengan, deseaba que vinieran* etc.
- Temporal Adverbial clause with Futurity: *cuando vengan, hasta que vengan, antes de que vengan* etc.
- Imperative in subjunctive: *vengan, no venga, no vengas*⁶
- Protasis clause in Hypothetical conditional sentence: *si vinieran, si hubieran venido*
- Hypothetical ‘*como si*’ clause: *como si vinieran*
- Causative clause: *hace que vengan, hacía que vinieran* etc.

⁵ These are the only two discourse markers found in our sample.

⁶ Affirmative *tú* command (e.g. *habla, come*, etc.), are excluded as they do not manifest in the subjunctive, whereas negated do (e.g. *no hables, no comes*, etc.). There were no cases of *vosotros* (plural informal) use in our data.

OPTIONAL SUBJUNCTIVE⁷

- Modal clause: *como quieran/en, lo que quieran/en, como que quieran/en* etc.
- Adjective clause of Nonexistent or Indefinite Antecedent: *busco un hombre que quiera/e* etc.
- Comment clause: *me gusta que quieran/en ir, es triste que quieran/en ir* etc.
- Apodosis clause in Hypothetical conditional sentence: *si..., quisiera/querría/quiero ir, si..., hubiera/habría querido ir*
- Negated Noun clause: *no es que no quieran/en, no digo que no quieran/en, no hay manera de que quieran/en* etc.
- Possibility clause: *es posible que quieran/en, tal vez/quizá quieran/en, a lo mejor quieran/en* etc.
- Protasis clause in Concessive sentence: *aunque quieran/en*
- Uncertainty clause: *no creo que quieran/en, no sé si quieran/en* etc.
- Locative clause: *una escuela donde quiera/e*
- Subordinate clause after ‘*depende*’: *depende de cómo quieran/en*

A note on these 19 contexts: they are based exclusively on the tokens and patterns of use observed in the corpus, not at all from prescriptive or traditional grammar books. The individual names for the contexts are comparable to those found in standard grammars, but this similarity is solely for ease of description of the contexts. That is, there is much variation concerning titles for the different syntactic and semantic contexts involved in mood selection. Thus, we use something of a blend and merger of common descriptive titles located throughout literature on U.S. based Spanish subjunctive use (e.g., Silva-Corvalán, 1995, 1994, 1991; Lynch, 2008, 1999; Lantolf, 1978).

2.4. Data collection from textbooks

A total of 17 textbooks are analyzed: 14 Intermediate and three Beginner-Intermediate. As an initial source of current intermediate-level textbooks used in the U.S., we are indebted to Ryan Eckerson (2014), *Spanish and the Subjunctive: An Analysis on Current Intermediate Level Spanish Curricula in Light of Past and Current Research on the Subjunctive*. Although we include more textbooks and our analyses of them differ considerably from that of Eckerson’s investigation, we acknowledge his substantial work on textbook collection.

Concerning the methods employed for determining textbook chapters, we first compiled a list of familiar/popular intermediate L2 Spanish textbooks, resulting in a total of 17 for the present study. Next, each textbook was analyzed with an eye on chapter sections reserved for explicit subjunctive instruction. Entire chapters were never found to be exclusively dedicated to grammatical mood, i.e., other topics typically found in L2 textbooks were observed throughout the chapters, for instance, vocabulary, cultural

⁷ Both subjunctive and indicative forms are found throughout the optional contexts, thus we present here examples in both, indicated in most by *-an/-en*.

considerations, as well as further grammar concepts such as the various verbal tenses, syntactic matters, prepositions, etc. Of course, we collected only data on grammatical mood in any given chapter. In other words, a subjunctive chapter means overt instruction of grammatical mood in that particular chapter is present. The final step in the chapter collection procedure consisted of quantifying the various sections dedicated to the teaching of the subjunctive, their tenses, and the syntactic-semantic contexts for subjunctive use.

3. Findings and discussion

3.1. Actual subjunctive use

We begin with Table 1 below, which presents the overall data for ASU by the two generations under consideration for this study.

Table 1

ASU Indicative and Subjunctive Verbs, by Generation

	LAR	NYR
N of Indicative Verbs	22,146	18,358
N of Subjunctive Verbs	1615	1009
Total Finite Verbs	23,761	19,367
Subjunctive % of Total	6.8	5.2

First, we take note of the large number of inflected verbs for each group: 23,761 for the LAR; 19,367 for the NYR. Next, concerning subjunctive use, we observe that the LAR group produced 6.8% of all finite verbs in the subjunctive, whereas the NYR group had a subjunctive output of 5.2%. As far as we know, Moreno de Alba (1978) was the first of its kind to present overall subjunctive-use findings, showing that 5% of all verbs in the oral conversation of monolingual Mexicans were subjunctive forms. Our data from the first-generation group is slightly higher than those results, by 1.8 percentage points. Yet our second-generation cohort appears to have a very similar overall subjunctive output to Moreno de Alba's Mexican monolinguals, with a very minor difference of +.2 percentage points. Percentages discovered in Torres (1989), whose investigation undertook a similar comparison to our own study, that is, analyzing data produced from oral conversations with first- and second-generation Spanish speakers, were slightly less - she found that 4.7% of all first-generation inflected verbs were in the subjunctive, and 4% for the second generation. Collentine (2010), however, found a higher percentage average, at 7.2%, but this study considered only native speakers and included written data as well. It appears, therefore, that our data sits right around the middle of the aforementioned studies.

We now consider the distribution of mood by generation for all qualifying verb tokens found inside the envelope of variation for our study. Tables 2a and 2b below show the numbers and percentages of verb tokens for each generation found within the two principal categories: obligatory and optional.

Table 2a

ASU Distribution of All Qualifying Tokens, by Category – LAR

	Subjunctive	Indicative
Obligatory	996 (99%)	9 (1%)
Optional	619 (64%)	347 (36%)
Total N	1,615	356

Table 2b

ASU Distribution of All Qualifying Tokens, by Category – NYR

	Subjunctive	Indicative
Obligatory	670 (92%)	62 (8%)
Optional	339 (49%)	359 (51%)
Total N	1,009	421

Generational differences in the use of mood begin to emerge once we look more closely at the obligatory and optional categories into which subjunctive verb forms are situated. Table 2a shows that the LAR group used a subjunctive verb form in 99% of the contexts in the obligatory category; no surprise given the fact that it was their subjunctive usage that determined these two categories. The second generation, however, drops seven percentage points within the obligatory category, to 92% – as shown in Table 2b. Another way to think of this difference is not in terms of the subjunctive, but rather the indicative. The LAR consultants used the indicative in only 1% of the contexts in the obligatory subjunctive category, with a total of nine tokens. The NYR group, on the other hand, produced 62 indicative verb tokens in the same environments, which is 8% of all of their qualified tokens. Even more striking is the use of the indicative in the optional category. While the first generation produced 36% of their tokens within optional subjunctive environments in the indicative mood, the second generation generated over half of their tokens in the indicative within this optional category, at 51% (a difference of 15 percentage points between generations). Indeed, the primary difference between the two groups manifests itself in the NYR's increased use of the indicative in both the obligatory and optional subjunctive categories. That is, when compared to the first generation, the NYR consultants decrease in their output of subjunctive verb forms in both categories, using the indicative considerably more often than does the LAR group.

3.2. *TSU and ASU compared*

Next, we examine the number of chapters dedicated to the explicit instruction of grammatical mood, across the 17 textbooks. We begin with the 14 textbooks specifically for an intermediate level, presented in Table 3 below.

Table 3
TSU - Intermediate Textbooks and Subjunctive

	N Chapters	N Subjunctive Chapters	% Dedicated to Subjunctive
<i>Alianzas</i>	6	4	67
<i>Identidades: Exploraciones e interconexiones</i>	10	6	60
<i>Rumbos</i>	10	4	40
<i>Imagina</i>	10	6	60
<i>Anda</i>	12	7	58
<i>Más allá de las palabras</i>	32	8	25
<i>Al corriente</i>	15	4	27
<i>Fusión</i>	6	4	67
<i>Enlaces</i>	6	3	50
<i>Fuentes</i>	12	6	50
<i>Interacciones</i>	12	6	50
<i>Así lo veo</i>	12	6	50
<i>Más allá de las palabras (rojo)</i>	15	5	33
<i>Más</i>	12	7	58
TOTAL	170	76	45

Table 3 shows the total number of chapters for each of the 14 Intermediate textbooks (N=170), along with the number of chapters where instruction of the subjunctive is present (N=76), and finally the percentage of all the chapters dedicated to the teaching of the subjunctive (%=45). We note that the average percentile of chapters where the subjunctive is included as a topic of study is 45%. This finding closely echoes that of Eckerson (2014), which found that 42.8% of a total of 154 chapters, i.e., 66 chapters, were reserved for subjunctive lessons. Naturally the question arises: does TSU mirror that of ASU? These findings show that they do not. Indeed, there appears to be a rather large discrepancy between uses of the subjunctive in the real world vs. extent of instructional efforts focused on its acquisition. Again, the findings for ASU show that the subjunctive is used on average 6.8 to 5.2% of the time in natural conversation; this opposed to what we find in textbooks with an average of 45% of their chapters dedicated to the instruction of grammatical mood. To be sure, we are not proposing that intermediate L2 textbooks should devote only 6.8 to 5.2% of grammar instruction to mood, strictly adhering to that which is found out there, in the real world; rather, we are merely pointing out the seeming disproportion between the two. We will return to this problem shortly, once we have considered all the data.

Additionally, we find a similar pattern in Beginner-Intermediate textbooks. Table 4 below presents the same categories as above, only this time the three textbooks are Beginner-Intermediate, as opposed to Intermediate only.

Table 4
 TSU - Beginner-Intermediate Textbooks & Subjunctive

	N Chapters	N Subjunctive Chapters	% Dedicated to Subjunctive
<i>Puntos de partida</i>	19	7	37
<i>Sol y viento</i>	10	3	30
<i>Rumbos</i>	16	5	31
TOTAL	45	15	33

One notes the percentage decrease in overall dedication to mood instruction, from 45% (Table 3), to 33% in Table 4. This finding is noteworthy because these texts are used primarily for Beginner’s Spanish, yet still we encounter 33% of their chapters reserved for the subjunctive. Let us now look at where ASU and TSU may agree.

3.3. ASU and TSU similarities

Tables 5 and 6 below display the distributional patterns of subjunctive by tense as per ASU and TSU, respectively.

Table 5
 ASU - Distribution of Subjunctive, by Tense

	LAR N Verbs	% Subjunctive Tense	NYR N Verbs	% Subjunctive Tense
Present	1330	82	825	82
Imperfect	234	15	162	16
Pluperfect	31	2	16	1
Present Perfect	20	1	6	1
Total	1615	100	1009	100

Table 6
 TSU - Distribution of Subjunctive, by Tense

	N Chapters Subjunctive Tense	% All Chapters Subjunctive Tense
Present	63	59
Imperfect	18	17
Pluperfect	13	12
Present Perfect	13	12
Total	106	100

We notice that the present tense is by far the preferred tense for both generational groups at 82% (Table 5). In fact, the findings are nearly identical for both generational groups down the line. Table 6 shows the numbers and percentages of the subjunctive tenses found throughout the 17 textbooks (here we include the Beginner-Intermediate textbooks as well). We note that the hierarchy of the TSU subjunctive tenses follows that of ASU, with the present tense dominating (e.g., *quiero que domines el subjuntivo*),

followed by the imperfect (e.g. ... *que dominaras/ases el subjuntivo*), pluperfect (e.g. ... *que hubieras/ieses dominado el subjuntivo*), and present perfect (e.g. ... *que hayas dominado el subjuntivo*), in that order. Yet, one could argue that because the three subjunctive past tenses (imperfect, pluperfect, and present perfect) are quite infrequent in ASU, it would seem logical that at the intermediate level the present tense should be the only tense studied, reserving the other tenses for the more advanced levels of Spanish. At the very least perhaps only the imperfect subjunctive could be introduced for hypothetical discourse and past tense triggers. For instance, how much semantic information would truly be lost if a student were equipped to say *dudo que ella viera esa película*, using the imperfect subjunctive *vierá*, but not *dudo que ella haya visto esa película*, with the present perfect? Ostensibly, very little would be lost. What is more, how often will an intermediate L2 student realistically need the use of the subjunctive pluperfect? Native speakers rarely use this tense (2% of all forms, as per Table 5 above), so why dedicate 12% of the subjunctive chapters to it alone? The textbooks seem to be accurate in their focus on the present tense of the subjunctive, but the appropriateness of instruction on the other tenses is questionable. For the final comparison, we consider the subjunctive syntactic-semantic contexts for both ASU and TSU.

3.4. ASU and TSU contexts

Table 7a below displays the distribution of all qualified verbs into the various syntactic and semantic contexts for ASU.

Table 7a

ASU - Distribution of Subjunctive, by Syntactic & Semantic Contexts

	% of		% of	
	LAR N Verbs	Subjunctive Verb Forms	NYR N Verbs	Subjunctive Verb Forms
OBLIGATORY				
Discourse Marker	434	100	231	100
Purpose / Contingency	134	100	80	90
Indirect Command	103	100	52	89
Imperative	77	100	105	100
Causative clause	9	100	3	100
Volitional / Influential	86	99	97	94
Temporal Adverbial clause	67	97	74	76
Hypothetical 'como si'	29	97	42	88
Protasis clause	66	92	48	60
OPTIONAL				
Comment clause	135	88	77	65
Adjective clause	160	84	86	64
'Depende'	13	77	13	8
Apodosis clause	34	77	28	39
Negated Noun clause	55	75	63	38

Locative clause	18	67	8	38
Modal clause	319	65	222	69
Concessive sentence	58	45	45	36
Possibility clause	82	27	45	18
Uncertainty clause	92	24	111	15
Total	1971	N/A	1430	N/A

The percentages observed in Table 7a are for the verbs in the subjunctive within the given context and are presented in hierarchical order as per LAR use, gradually decreasing down the list. The same is not the case, however, for the NYR consultants, who clearly do not follow the same distributional patterns as their first-generation counterparts. We note that the LAR group has five contexts with 100% subjunctive use, whereas the NYR group shows only three. In fact, there are a total of nine contexts with 90% or above subjunctive use in the obligatory category for the LAR speakers, but only five for the second generation. We provide below several examples of variation between the two generations.

- (5) *siempre nosotros esperábamos que Cuba cambiará (S)* –LAR 042U
 (6) *querían que religión era (I) una cosa grande* –NYR 233U
 (7) *para que coja (S) forma* –LAR 096P
 (8) *pa' que ellos piensen (S) más y pueden (I) aprender* –NYR 428P
 (9) *como si fuera (S) un álbum de fotografía* –LAR 427P
 (10) *como si estaban (I) en Puerto Rico* –NYR 401P

The six examples are from the obligatory category because mood variation in these specific contexts is more striking than variation in optional because both moods are expected to manifest in optional contexts. Each context is presented in pairs, that is, one LAR with a subjunctive use and one NYR with an indicative in the same context, and both from the same regional group. U is for Cuba and P is for Puerto Rico and the numbers are used for identification purposes whilst retaining anonymity. The four remaining regional identification letters are as follows: D for Dominican, M for Mexican, C for Colombian, and E for Ecuadorian. Examples 5 and 6 are volitional / influential noun clauses; 7 and 8 are purpose / contingency adverbial clauses; 9 and 10 are hypothetical 'como si' clauses. The use of the indicative in these particular contexts would certainly sound odd and/or incorrect to the native speaker of Spanish, yet here they are, produced by bilingual second-generation Spanish speakers. Indeed, example 8 is particularly interesting because we observe variation between the two moods in the same context – first with anticipated subjunctive *piensen*, followed by indicative *pueden*. Because *para que* serves as the matrix, one would expect both verb forms to manifest in the subjunctive.

Returning now to Table 7a, centering on the optional category, we notice a dramatic decrease in subjunctive forms by the second generation, particularly in the following contexts: subordinate clause after 'depende' with a percentage-point difference of 69 (77% LAR, 8% NYR); apodosis clause in hypothetical conditional sentence with a difference of 38 percentage points

(77% LAR, 39% NYR); and negated noun clause at 37 percentage points (75 LAR, 38 NYR).⁸ Indeed, those are the three contexts with over a 30 percentage-point difference; there are two others with over a 20 percentage-point difference, namely comment and locative clauses. The former is especially relevant given the large sum of qualified tokens, i.e., 177 for LAR and 77 for NYR. The point is, we see a clear change in mood-usage patterns by the second generation when the subjunctive is deemed optional. We shall take this observation into consideration later when looking at what intermediate L2 Spanish learners are expected to study, but first several examples of these contexts, presented with indicatives.

- (11) *es triste que uno se tropieza (I) con personas así* -NYR 317M
 (12) *me alegro de que no fue (I) así* -NYR 317M
 (13) *me gusta que no tengo (I) que manejar* -LAR 351M
 (14) *si fuera (S) ahora, no lo iba (I) hacer* -NYR 403P
 (15) *si no hubiera querido (S), igual regresaba (I) a la universidad* -LAR 308M
 (16) *creo que depende en la situación que están (I)* -NYR 322E
 (17) *depende en las clases que también tiene (I)* -NYR 311C
 (18) *no era porque yo era (I) malo* -NYR 329D
 (19) *no es que vamos a quedar (I)* -LAR 374D

Examples 11 through 13 are comment clauses; 14 and 15 highlight indicative use in apodosis clauses in hypothetical conditional sentences; 16 and 17 are subordinate clauses after ‘depende’; and 18 and 19 are instances of negated noun clauses. The subjunctive is of course found often throughout all of these contexts, and by both generations. We present the examples as such in order to emphasize what some might consider atypical or abnormal use of the indicative.

In order to approach an adequate comparison of the ASU contexts with those of TSU, we must further group our syntactic-semantic contexts into four clause subcategories, as shown in Table 7b. This categorization is necessary because textbooks are more often than not structured in such a fashion.

Table 7b

ASU - Clause Type by Generation

Clause Subcategory	LAR N Clause	% of All Clauses	NYR N Clause	% of All Clauses
Noun	575	50	461	52
Adverbial	288	25	241	27
Adjective	178	16	94	11
Hypothetical ‘s’	100	9	93	10
TOTAL	1141	100	889	100

⁸ The context apodosis clause in hypothetical conditional sentence is particularly difficult because there is variation between three verb forms: conditional, subjunctive, and indicative. In order to facilitate discussion, however, we focus on use of the indicative only.

Noun clauses include: indirect, causative, volition, comment, ‘*depende de*’, negated, possibility, and uncertainty; Adverbial clauses include: purpose, future, ‘*como si*’, and concessive; Adjective clauses include: indefinite and locative; Hypothetical ‘*si*’ include: protasis and apodosis. We leave imperatives out of the analysis because textbooks categorize them separately from the subjunctive. Furthermore, because we generally do not teach discourse markers or modal clauses at an intermediate level, these too have been excluded from this comparison. Paradoxically, those two areas happen to be where the subjunctive is used the most: LAR with 434 discourse markers and 319 modal clauses (38% of all subjunctives); NYR with 231 discourse markers and 222 modal clauses (32% of all subjunctives). Nevertheless, returning to Table 7b, the clause types are arranged in hierarchical order and we note that both groups show very similar distributional patterns.

Table 8 below displays the number and percentile of chapters reserved for the instruction of the four clause types shown in the table above.

Table 8
 TSU - Clause Type

Clause	Total N Chapters	% of All Chapters
Noun	40	37
Adverbial	31	29
Adjective	30	28
Hypothetical ‘ <i>si</i> ’	7	6
TOTAL	108	100

Number and percentage of chapters show the clauses in hierarchical order. Interestingly, as we observed with tense, TSU and ASU mirror one another with regard to importance of clause type. Indeed, the percentages are not identical between ASU and TSU, but the level of importance is distributed similarly in both. It would seem, however, that textbooks could significantly reduce the amount of instruction on adjective and adverbial clauses in order to increase instruction on noun clauses, which, according to ASU data, account for over half of all the subjunctive contexts (50% LAR, 52% NYR, Table 7b). In Blake (1985), indirect commands and adverbial conjunctions, namely *para que*, were found to be the most frequent triggers for the subjunctive (172). Those findings are in line with our own, wherein the former is situated in our noun clause subcategory, and *para que* in the adverbial subcategory. Furthermore, if we consider these two specific contexts individually, comparing them to Blake’s, we see even closer similarity: purpose / contingency adverbial clause had 134 LAR tokens at 100% subjunctive and 80 NYR tokens at 90% subjunctive output; indirect command was 103 LAR tokens at 100% subjunctive and 52 NYR tokens at 89% subjunctive (Table 7a above). Blake goes on to suggest that those two particular types of contexts, including subjunctive commands, i.e., *usted* and *ustedes* commands, should be the center of subjunctive study for beginning Spanish L2 students. We agree with this stance, but would nuance this position by further including volitional / influential noun

clauses, given their high occurrence rate in our own data (LAR 86 tokens, 99% subjunctive; 97 tokens, 94% subjunctive, Table 7a above), as well as the inherent importance of making requests appropriately in Spanish.

Yet an issue arises here: relying on a far-removed variety as the benchmark, instead of the Spanish spoken right here in the U.S. According to the most recent U.S. census information, the U.S. ranks number two for the largest Spanish-speaking population, Mexico occupying number one.⁹ Blake relies on studies realized in Mexico alone, and while there are certainly many Mexican-Americans in the U.S., there are also a number of other Spanish-speaking groups with other backgrounds, and thus potentially different patterns of subjunctive use. Moreover, because there is such a significant population of Spanish speakers in the U.S., it seems logical to utilize the U.S. variety of Spanish as the model for instruction. Indeed, if the L2 Spanish language student is to use their language skills in the U.S., it would make sense that it would be with Spanish speakers in the U.S., including second-generation bilinguals. As it turns out, several U.S.-based studies on generational Spanish subjunctive use corroborate the contexts we have identified above as being the most frequent with obligatory subjunctive use (e.g., Silva-Corvalán, 2001, 1995, 1994, 1991; Lynch, 2008, 1999; Torres, 1989; Gutiérrez, 2003; Ocampo, 1990; Martínez-Mira, 2009, 2006; Lantolf, 1978; Guitart, 1982; Montrul, 2009; Viner, 2016). We can therefore conclude with a fair amount of certainty that those three clause types (purpose, volition, commands) are essential and categorical in the Spanish spoken in the U.S.

As for the remaining contexts, we ask, would the communication collapse if our intermediate student were to say, for example, *busco un gato que no maúlla* in an adjective clause with indicative *maúlla* instead of the expected subjunctive form *maúlle*; or *voy a vivir en España cuando tengo 65 años* in an adverbial clause with indicative *tengo*, as opposed to the anticipated *tenga*? We believe the utterance would be successful. In fact, according to our findings presented in this study, the indicative occurs in both of these clause types, particularly in those of the NYR group (LAR 3% indicative for this type of adverbial clause, and 24% NYR indicative use; LAR 16% indicative for this type of adjective clause, and 36% NYR indicative use). Even though use of the subjunctive in these remaining contexts is not categorical, it is often taught as if it were. Furthermore, although there is no consensus among the various U.S. studies cited above regarding optional contexts, those wherein the indicative manifests most frequently, including in our own data, are the following:

- Uncertainty clause
- Possibility clause
- Protasis clause in Concessive sentence

⁹ <https://www.census.gov/newsroom/facts-for-features/2015/cb15-ff18.html>

We provide below examples of these three contexts as bulleted above, centering on indicative use.

(20) <i>yo no pienso que <u>somos</u> (I) así</i>	-NYR 326E
(21) <i>no creo que <u>se puede</u> (I) enfatizar</i>	-NYR 092P
(22) <i>yo no creo que <u>he gastado</u> (I) como 40 dólares</i>	-LAR 323E
(23) <i>no creo que <u>todo el mundo va</u> (I)</i>	-LAR 373P
(24) <i>tal vez ya no <u>le importa</u> (I) tanto</i>	-NYR 367E
(25) <i>a lo mejor <u>vienen</u> (I) por acá a visitar</i>	-NYR 401P
(26) <i>tal vez porque <u>estoy</u> (I) alrededor de tantas personas</i>	-LAR 021C
(27) <i>a lo mejor le <u>da</u> (I) una medalla</i>	-LAR 422P
(28) <i>aunque no <u>está</u> (I) tan cerca</i>	-NYR 340M
(29) <i>aunque ella <u>tiene</u> (I) su esposo</i>	-NYR 086P
(30) <i>aunque uno no los <u>va</u> (I) a conocer totalmente</i>	-LAR 038C
(31) <i>aunque también aquí <u>hay</u> (I) policías un poco malos</i>	-LAR 003U

It is important to recall our findings regarding these three contexts: the LAR cohort used the indicative in 76% (70 tokens) of the verbs situated in the uncertainty clause; the NYR group 85% with 94 tokens in the indicative. Noteworthy of this finding is the fact that not one textbook we analyzed made any reference to the use of the indicative in this context, in fact, the exact opposite was stated – uncertainty clauses go with the subjunctive, an unsubstantiated assertion that contradicts that which has been found in ASU. As for the other two contexts, possibility clause and protasis clause in concessive sentence, textbooks address mood choice in them, though again it is interesting to consider our findings: LAR used the subjunctive in only 27% of the 82 tokens in the former (60 indicatives), and 45% of the 58 tokens in the latter. The NYR cohort produced less with 18% and 36% subjunctive use, respectively (37 indicative tokens for possibility, 29 for concessive). In other words, with such an infrequent subjunctive occurrence in these contexts, 26% the highest and 8% the lowest, are these essential at the intermediate level, or do they merely complicate further an already complicated grammatical concept?

4. Conclusions

The findings and discussion presented above raise important questions regarding the Spanish subjunctive and its place in the classroom. To recap, we compared three areas:

- Overall subjunctive use
- Subjunctive tenses
- Contexts of use

Of the three, overall subjunctive use seems to be the most notable. That is, the amount of time and energy dedicated to the explicit instruction and study of the Spanish subjunctive appears to be disproportionate to its authentic use in natural conversation. We remind the reader, less than 7% of verbs in spoken Spanish manifest in the subjunctive; this versus 45% of textbook chapters reserved for its instruction. Naturally this raises

questions: why, at an intermediate level, is so much time dedicated to such an infrequent grammatical form? Might rigid language ideologies (linguistic ideologies) and/or dated language pedagogy be involved? What about textbook sales? Definitive answers to those complex questions, if they even exist, are not within the bounds of this paper, but they are certainly worth bearing in mind when discussing textbook content.

Grammatical command across the various contexts where the subjunctive manifests should not be the goal at this level because, with the exception of the few contexts mentioned above, successful communication is not contingent on mastery of mood selection. Being conversational in the L2 is a more realistic aim, which can be achieved with little, or even perhaps, zero knowledge of the subjunctive. For example, an intermediate student states, *quiero que vas (I) a la fiesta*, which certainly sounds odd to the native or bilingual Spanish speaker, and likely even more so to the Spanish teacher; yet the utterance is understood nonetheless. In fact, even if modeled entirely after English syntax, as in *quiero tú ir a la fiesta* → ‘I want you to go to the party’, the communicated message is still probably understood, albeit ungrammatical and inarticulate to the initiated ear. To be sure, we are not advocating that we simply strike the subjunctive from L2 intermediate Spanish curriculum. Rather, we propose a reduction in the quantity of overt instruction dedicated to this elusive form, focusing instead on more frequent grammatical concepts, such as the preterite-imperfect problem, which also tends to be extremely difficult for L2 students; or perhaps simply more time centered on vocabulary building and lexical expansion. After all, a well-developed grammar is futile in the absence of a diverse lexicon.

Concerning subjunctive tense and context rankings, our findings indicated that the textbooks do in fact mirror ASU, at least in the ranking of importance. We did note, however, that much of what the textbooks cover is slightly disproportionate to what we find in ASU. For instance, we found that 29% of the subjunctive chapters covered adjectival clauses, and 28% adverbials, both of which often permit the use of either mood, with a nuanced semantic change depending on the mood selected, as in *quizá vengo (I) / venga (S)* or *aunque está (I) / esté (S) enfermo*. Yet is comprehension and output ability of subtle differences between adverbials such as these a realistic goal for the intermediate L2 Spanish learner? At an intermediate level this type of complicated grammar seems unnecessary. As we discussed above, even the NYR consultants, who are fluent Spanish speakers (they had to be determined as such in order to qualify for the study), scarcely use the subjunctive with *quizá* or *aunque* (18% and 36% of the time, respectively). Furthermore, even where the subjunctive is considered the norm for adjectival clauses, e.g., *no hay nadie que sepa (S) hablar francés*, we find 36% of NYR verbs are produced in the indicative (*sabe* for this adjectival example). Of course, many would attribute the NYR’s increased use of the indicative to incomplete acquisition or attrition, an argument far outside the scope of this article.¹⁰ The point is this: fluent bilinguals in the U.S. use the subjunctive a mere 5% of the time, yet we devote nearly half of our instruction to the subjunctive for L2 Spanish

¹⁰ For a detailed discussion of these notions with regard to the NYR cohort, see Viner (2016).

learners. Does this seem to reflect logical, not to mention efficient, language pedagogy? The textbooks appear to be on the right track regarding subjunctive tense and general clause subcategories, but there is plenty more work to be done surrounding this problem.

We acknowledge that this paper has not contributed much regarding possible solutions to these discrepancies, if only because our primary purpose has been to present the facts and expose the issues. Furthermore, many of the bigger questions here (e.g., linguistic ideology, dated language pedagogy, textbook sales, incomplete acquisition, and attrition) require more research and much thought. We leave these tasks, for now, to future projects and/or interested scholars.

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Exploring the relationship between letter knowledge and environmental print recognition in English Language Learners

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Abstract

Environmental print recognition develops early in childhood much before the commencement of formal education. Reading acquisition models of alphabetic language propose logographic stage as the initial stage in the developmental continuum and environmental print recognition as a concurrent skill acquired in this stage. Though logographic stage is well established in alphabetic languages, literature on non-alphabetic languages reveal inconsistent results. The current study investigated the development of environmental print recognition, letter name knowledge and letter sound knowledge in preschool ELL's with Malayalam as native language. The study also aimed to identify the relation among these measures on 90 typically developing preschool children from 3-6 years. Results revealed a developmental trend in the acquisition of the above three skills. In addition, it was also observed that in the lower Grades environmental print recognition showed strong relation with letter name while in higher Grades with letter sound. Regression analyses revealed letter sound knowledge as a good predictor of environmental print recognition. The results provide insight into the logographic stage in ELL's with Malayalam as native language. Implications for the use of environmental print in facilitating literacy development by parents are discussed.

Keywords Environmental print, Letter knowledge, English Language Learners, Malayalam

1. Introduction

Environmental prints (EP) are the prints found in everyday life - in home, in stores, on the road, and on the labels and logos that appear on food, packaging, clothing, and billboards. Environmental prints are seen in our immediate surroundings and are used in our everyday lives. In contrast to standard print, environmental prints are designed deliberately to draw attention and to communicate the message quickly, like logos of different food items, and community signs. They are typically unique, colorful, and non-continuous (single or multiple words). The ubiquitous nature of environmental print provides uniform availability (Neumann & Celano, 2001) and knowledge (Korat, 2005) of environmental print for preschool children from low and high socioeconomic backgrounds. Therefore, environmental print acts as a natural resource for learning to read. Horner (2005) identified three types of environmental print; community signs (e.g. STOP, ENTER);

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labels on house hold items (e.g. Coca Cola, Colgate) and child- directed prints (e.g. Barbie, crayons). It has also been reported that preschool children recognize child directed print easily than the other two types of print (Horner, 2005; Bhuvanewari & Prakash, 2017) and as they get older environmental print knowledge also expand. Environmental print helps children to understand that print conveys meaning, prior to actually reading print (Harste, Woodward, Burke, 1984). It has been documented in literature that environmental print recognition facilitate further reading skills (McGee & Richgels, 1989; Reutzel, Fawson, Young, Morrison & Wilcox, 2003; Vera, 2007; Vukelich, Christie & Enz, 2008). While environmental print enhances children's encounter with letters, it has also been argued that the colours and logos may distract children and provide little benefit for conventional literacy skills (Ehri & Roberts, 2006).

Environmental print awareness is defined as the ability to recognize signs, symbols, and word that occur frequently in the environment and the knowledge that print carries meaning (Westwood, 2004). Everyday engagement with environmental print in their natural surroundings helps children develop concepts and construct knowledge about the functions and use of print. Therefore, as evidenced in the literature, children can recognize environmental prints much earlier to reading prints in books (Whitehurst & Lonigan, 1998). Whether preschool children are actually reading when they read environmental, print is skeptical. Most of the researchers are in agreement that during environmental print reading children are not properly decoding words. Whitehurst and Lonigan (1998) considered environmental print recognition as an emergent reading skill where the child pretends to read. They propose that children when encountered with a sign, label or logo, use their existing knowledge of environment to understand the context of the print they see and pretend to read it. The authors also state that, the ability to read environmental prints should not be misconstrued as the ability to read. In agreement with this, Bialystok and Martin (2003) also found that children consider print as a reflection of context rather than knowing print as a symbol having meaning. In addition, semantically related errors made by children when the environmental print was presented in full context and increase in difficulty when it was presented out of context support the notion that children depends more on contextual cues than actually decoding (Kassow, 2006).

1.1 Environmental print reading in models of reading acquisition

Developmental models of reading acquisition explain the different stages involved in the process of becoming a fluent reader. Frith (1985) and Ehri (1998) in their models mention the first stage of learning to read as *logographic* and *pre-alphabetic* phase respectively. Both these models propose that during this initial phase, children attempt to read by recognizing the contextual cues or non-alphabetic visual cues such as colours and pictures in which the print is embedded. Consequently, logographic stage is considered as the onset of reading acquisition, i.e. it occurs very early in the hierarchy of emergent literacy skills and solely a visual recognition process. Most children in the initial stage of reading acquisition learn to extract meaning from environmental print using logographic skills than using alphabetic decoding (Bowman & Trieman,

2004; Ehri, 1998; Frith, 1985). In logographic reading conventional decoding of words does not occur as the children don't have proper alphabet knowledge. At this stage, children use salient visual cues and logos in environmental print to decode it rather than relying on letter knowledge. Increased difficulty in reading environmental print words when contextual cues are removed or given in standard print format and failure to detect the spelling errors in environmental print, confirms that children at younger age read environmental prints logographically (Masonheimer, Drum, & Ehri, 1984). While recognition of environmental print is a developmental accomplishment of literacy acquisition (Snow, Burns & Griffin, 1998), it has not found to be strongly related to later reading (Whitehurst & Lonigan, 1998). Though, it has been reported that environmental print identification is better in elder children compared to younger children, both were better at identifying environmental print in typical format i.e. in full context (Hiebert, 1978).

Socio-cultural experiences are reported to have a strong influence on the development of these skills (Neumann, Hood, Ford & Neumann, 2011). Literature suggests that environmental print awareness develops in all children from literate cultures, and existing research is inconclusive on age of acquisition of logographic reading skill. Typically, children begin to recognize environmental print in context around 3 years of age. According to Pelatii, et al. (2014), environmental print awareness develops as a continuum with children first exhibiting an interest for print and its meaning and eventually learning that print units are related to each other. However, in the current scenario, irrespective of the socioeconomic status, most children are exposed to these logos through different media and hence it is expected that environmental print awareness develop very early in life.

Existence of logographic stage in the reading acquisition of non-alphabetic languages and validity of the models developed on alphabetic languages to explain reading acquisition in such languages is a matter of debate for several decades. Few researchers suggest logographic stage just as a stage in reading acquisition whereas others consider it as detrimental to learning process (Bradely, 1988; Ehri, 1998). Bastien-Toniazzo and Jullien (2001) reported that existence of logographic stage is questioned due to language specific effects; and even for a given language, individual variation might exist. Logographic stage is not supported in transparent orthography such as German (Wimmer & Goswami, 1994), in bilingual children (Rickard Liow, 1999) and in alphasyllabic language like Kannada (Karanth & Prakash, 1996). They suggest that logographic stage does not exist in transparent orthography and alpha syllabic languages.

Jagadish (1991) and Akshay (2012) found that in alpha syllabic language like Kannada children passes logographic stage quiet early and these skills do not pertain to any preschool age group. Bhuvanewari and Parakash (2017) reported that children start to recognize environmental print in context around 3 years of age and the developmental trend continues beyond 4 years and is evident until 6 years. They also report that environmental print recognition in English was better than Tamil and it could be due to the increased prevalence of English environmental prints. Research also evidence that duration of logographic stage differs with the literacy

environment of the child, i.e. children from literacy rich environment have a short period of logographic stage, whereas children from poor literacy background or with certain disorders may have long period of logographic stage (Bastien-Toniazzo & Jullien, 2001). This variable length of logographic stage would have driven researchers to address the presence of this stage in different languages other than English.

1.2 Role of environmental print on later literacy skills.

Literature on the role of environmental print on emergent literacy skills or later conventional reading skills reveals inconsistent findings. Few researchers have found out that environmental print knowledge has less significant role in later literacy skills (Lonigan, Burgess & Anthony, 2000). Masonheimer et al. (1984) reported that environmental print reading is not a precursor of conventional reading skills as it depends on familiarity with the context cues and not on alphabetic cues. In consensus with this, Dickinson and Snow (1987) also pointed out that environmental print is a poor predictor of later reading achievement. The ability to identify environmental print is not related to the ability to read words fluently using letter sound analysis skills. In sum, environmental print knowledge itself may not be sufficient for standard literacy skills.

In contrast to these findings, some researcher's state environmental print helps children to develop the understanding that print conveys meaning and is functional (Goodmann, 1986). In a review study, Neumann, Hood and Ford (2012) attempted to explain the role of environmental print in emergent literacy skills. They proposed a model to explain the link between environmental print, emergent literacy skills, socio cultural experiences, and visual skills. They reported environmental print to facilitate the development of logographic reading using contextual cues and emergent literacy skills. Robin and Trieman (2009) suggest that some deep features of language and writing can be achieved through environmental print.

In recent years, researches in the area of early childhood education are more focused towards emergent literacy skills, as these skills are significant predictors of conventional reading and writing skills (Whitehurst & Lonigan, 2008; Snow, Burns & Griffin, 1998). Many emergent literacy assessment tools use environmental print as a measure. In addition, few researchers have included environmental print for classroom instructions and report significant improvement in emergent literacy skills like letter writing, letter sound knowledge, and print reading (Prior, 2003; Salewski, 1995; Vera, 2011; Wepner, 1985). Neumann, Hood and Ford (2013) used environmental print as intervention strategy and found better performance in this children than those who used standard print and no intervention. Thus, although environmental print does not automatically lead to conventional literacy skills, it may support the development of such skills, when included as a part of instructional strategy. Hence, it has been recommended to include familiar environmental print in classroom instruction.

1.3 Role of letter knowledge and letter sound knowledge in EP recognition

Though, environmental print reading is mainly considered as a logographic skill, recent research also evidences that letter knowledge and phonemic

awareness ability contributed to environmental print reading in pre-readers (Bowey, 1994; Johnston, Anderson & Holligan, 1996; Stahl & Murray, 1993). Reutzel et al. (2003) reported that letter recognition, phonemic awareness and word recognition influences environmental print reading in and out of context in children from 4-7 years. They also found that visual skills used in environmental print reading is similar to conventional reading and therefore training the child to attend to environmental print would facilitate further reading skills. Therefore, in the current era, where early childhood education is more emphasized and focused, environmental print reading could not be considered as an exclusive logographic reading skill. Conversely, Blair and Savage (2006) studied the association between phonological awareness, letter sound knowledge, and environmental print recognition. They found that phonological awareness and letter sound knowledge were not related to environmental print recognition supporting the logographic stage of using contextual cues. As reviewed above, most of research pertaining to early reading acquisition is focused on alphabetic language and on monolingual speakers and it evidences the existence of logographic reading stage as the initial phase. The current study is conducted in Kerala, a southern state in India, where the native language is Malayalam. Malayalam is a Dravidian language following Brahmi script. It is an alpha syllabic language with syllables as well as phonemes representing the individual orthographic units named as 'akshara'. The existence of logographic stage in alpha syllabic language like Malayalam and the awareness of environmental print in ELLs with Malayalam as native language are not yet studied. Majority of children in India begin literacy instruction in English not in their respective native language. As they are not proficient in English, they are considered as English Language Learners (ELL's) in the current study. ELL's refers to children who are exposed to English in their school and any other language in the home environment. ELL literature on emergent literacy shows that developmental pattern in two languages are influenced by typological as well as script similarity between languages (Anthony et al., 2009; Chan & Sylva, 2015). Also, in Indian scenario environmental prints are mostly available in English language. Hence, a study of environmental print awareness and its association with letter name and letter sound knowledge in preschool children would help in better understanding of the early stages of reading acquisition in English language learners with Malayalam as native language. Purpose of the current study was to find out the development of environmental print recognition, letter knowledge, and letter naming in preschool ELL's with Malayalam native language. The study also focused on finding the relationship among these measures and to also to find whether letter name and letter sound knowledge could predict environmental print recognition in these children. The research questions addressed in the present study are, in ELL children

1. Is there a developmental trend in environmental print recognition, letter sound knowledge, and letter name knowledge?
2. Is there a relationship among letter name knowledge, letter sound knowledge, and environmental print recognition? /

3. Do letter name knowledge and /or letter sound knowledge predict environmental print recognition?

Hence, in the current study, we expect a developmental trend in environmental print recognition, letter name knowledge, and letter sound knowledge. Further, we hypothesize that environmental print recognition would correlate with letter name and letter sound knowledge across the grades and that letter name and letter sound knowledge would predict environmental print recognition in preschool children who are ELL's.

2. Methodology

2.1 Participants

In the current study, children who are native speakers of Malayalam attending preschools with English as the medium of instruction were selected as participants. They were selected from 10 English medium preschools of South Kerala, India. The current study was conducted as a part of doctoral research on profiling bilingual emergent literacy skills in these children. The sample consisted of 90 preschool children attending Pre-kindergarten (PKG), Lower kindergarten (LKG), and Upper kindergarten (UKG) with 30 participants in each grade. To ensure uniform literacy environment a survey of teachers and parents was conducted as part of the main study. Therefore, children whose parents and teachers scored more than 80% on the survey questionnaire were considered for the current study. Further, WHO ten questions disability screening checklist (Singhi, Kumar, Prabhjot, & Kumar, 2007) was administered to rule out developmental delay, language delay, or other sensory issues. NIMH Socioeconomic status scale revised by Venkatesan (2009) was used to select children from upper and middle socioeconomic background. Table 1 represents the demographic details of the participants.

Table 1

Demographic details of participants

Groups	Number of participants	Age range in months
PKG	30(M=13; F=17)	41-56
LKG	30 (M=18; F=12)	52-64
UKG	30(M=16; F=14)	62-74
TOTAL	90 (M=47; F=43)	41-74

Note. PKG- Pre -Kindergarten, LKG-Lower Kindergarten, UKG- Upper Kindergarten, M- Male, F- Female.

2.2 Measures

Test stimuli used in the current study were developed as part of a doctoral research on profiling emergent literacy skills. Measure considered in the current study were, Environmental Print recognition (EP), Letter Name knowledge (LN), Letter Sound knowledge (LS).

1. *Environmental print recognition (EP):* As there are no standardized measures available at present to assess the environmental print recognition, investigator selected a few commonly occurring environmental prints as

stimuli. Thirty commonly seen environmental prints were selected initially and was given for rating to five preschool teachers. The selected environmental print included product logos, road signs, institutional labels, TV shows etc. Preschool teachers were instructed to rate the environmental prints based on familiarity and frequency of occurrence on a 4 point rating scale. Environmental prints which were rated as very familiar/ familiar and commonly seen by minimum three teachers were considered for further study. Finally, 15 commonly occurring environmental prints were considered to assess environmental print recognition in preschool children. Colour logos of product labels and familiar signs, which were either photographed or captured from website, were used. Community logos and child friendly logos were included in this set. Environmental prints were either in full natural context i.e. picture + word, with same color, print style & symbols, or partial contextual cues i.e. only the logos without pictures. The environmental prints were presented in the increasing order of complexity i.e., environmental prints with full contextual cues were presented initially followed by those with partial contextual cues. Nine stimuli were presented in full contextual cues, for e.g. picture of Maggie, Horlicks, toilet etc., whereas 6 items were with only logos, for e.g. logos of dairy milk, stop, Colgate tooth paste etc. Two practice trials were given to familiarize the task. As most of the environmental prints available in the immediate environment in the current scenario are in English and children perform better in English than native language (Bhuvanewari & Prakash, 2017), environmental prints in English was only considered for the current study. Two environmental prints were presented in a single card of A4 size with each having a size of 7×5 cm. Each card was shown to the child and asked, “what does it say?” If the child was not able to name it, clues like “where you have seen this”, “what we do here” etc were asked depending on the stimuli. Single cue was given for a particular item. Even after giving cues if the child was not able to name the print, investigator moved on to the next item. The responses were recorded verbatim. Response was considered correct if they were the same as written word or semantically related. For e.g. most of the children responded to the picture of ‘HP’ (Hindustan Petroleum) by saying ‘petrol/ diesel’. Hence, responses similar to this were considered semantically related and correct. Score ‘1’ was given for exactly reading the written words, 0.5 for semantically related responses and ‘0’ for incorrect response/unrelated responses/ no response. No feedback or explanations about the accuracy of responses were given.

2. *Letter name knowledge (LN)*: Ten letters were randomly selected from uppercase and lower case English alphabets. Each letter was presented along with three other letters in an A4 size card. Each letter was printed in Times New Roman with font size 40. Investigator named the letter and the child was instructed to point to the corresponding letter from a group of four. Score ‘1’ was given for correct response and ‘0’ for incorrect response.

3. *Letter sound knowledge (LS)*: Ten letters or letter combinations were used to assess letter sound knowledge. Each letter/ letter combination was presented in a single card with three other choices. Child was instructed to point to the letter or letters, which makes the sound which investigator said.

For e.g. “Show me the letter which makes the sound ‘sss’”. All letter/ letter combinations were presented in uppercase format.

2.3 Procedure

Children were tested individually in an ambient condition in their school premises. Parents and teachers were informed about the purpose of the study and informed consent was taken from the school authorities and parents. Children were seated comfortably and were instructed to listen carefully and to name the picture or point to the correct letter. Testing was completed in a single sitting and each session extended for 15 minutes. Responses for environmental print recognition were recorded in verbatim for further analysis.

3. Findings

Mean and standard deviation of each measure in PKG, LKG and UKG were computed and shown in Table 2. As expected, the measures showed improvement across grades i.e. an increase in performance was observed on environmental print recognition, letter name knowledge and letter sound knowledge from PKG through UKG. However, Letter name scores of LKG ($M = 10$, $SD = 0$) and UKG ($M = 10$, $SD = 0$), was found to be reaching the ceiling. This indicates that children master letter names in LKG itself. Shapiro-Wilks test of normality was done and it revealed that the data did not follow assumptions of normality ($p < .05$). Therefore, nonparametric Kruskal-Wallis H test was carried out to compare the measures across Grades. Mann-Whitney U test was also carried out to find out pair wise grade difference if any.

Table 2

Mean, median and standard deviation of environmental print recognition, letter name knowledge, letter sound knowledge across Grades

Measures	N	PKG			LKG			UKG		
		M	Median	SD	M	Median	SD	M	Median	SD
EP	30	5.80	6.00	1.54	8.50	9.00	1.94	12.46	12.00	2.02
LN	30	7.80	8.00	1.39	10.00	10.00	0.00	10.00	10.00	0.00
LS	30	2.96	3.00	1.99	6.46	6.00	2.08	9.37	10.00	1.03

Note. N= Number of participants, PKG= Pre -Kindergarten, LKG=Lower Kindergarten, UKG= Upper Kindergarten, EP=Environmental print recognition, LN=Letter name knowledge, LS = Letter sound knowledge.

Results of Kruskal- Wallis H test revealed significant difference across Grades on environmental print recognition ($\chi^2(2) = 62.23$, $p < .001$). Further, pair wise comparison was done using Mann-Whitney U test and the results indicated that environmental print recognition was significantly better in UKG than LKG and PKG. This indicates that from LKG through UKG children showed a developmental progression on environmental print recognition. Table 3 represents the results of Mann-Whitney U test on environmental print recognition, letter name knowledge, and letter sound knowledge in PKG, LKG and UKG. Analysis of letter name knowledge showed

significant difference across Grades ($\chi^2(2) = 70.03, p < .001$). Post hoc pair wise comparison of letter name knowledge showed no significant difference between LKG and UKG ($p > 0.05$). Similar to environmental print recognition and letter name knowledge, significant difference was seen on letter sound knowledge across Grades ($\chi^2(2) = 63.17, p < .001$). Pair wise comparison of letter sound knowledge demonstrated significantly better performance in UKG as compared to LKG and PKG. Also, significant difference was observed between LKG and PKG on letter sound knowledge.

Table 3

Results of pair wise comparison across Grades on environmental print recognition, letter name knowledge, and letter sound knowledge

Pair wise comparison	EP		LN		LS	
	z	p-value	z	p-value	z	p-value
PKG vs LKG	4.78	<0.001	6.43	<0.001	5.19	<0.001
LKG vs UKG	5.57	<0.001	0.00	>0.05	5.43	<0.001
PKG vs UKG	6.64	<0.001	6.43	<0.001	6.68	<0.001

Note. PKG= Pre -Kindergarten, LKG=Lower Kindergarten, UKG= Upper Kindergarten, EP=Environmental print recognition, LN=Letter name knowledge, LS= Letter sound knowledge.

3.1 Relationship among environmental print recognition, letter name knowledge, and letter sound knowledge

Spearman rank order correlation was done to find out the relation between environmental print recognition, letter name and letter sound knowledge. Environmental print recognition revealed a strong statistically significant positive correlation with letter name knowledge ($r_s = 0.69, p < .001$) and letter sound knowledge ($r_s = 0.83, p < .001$). However, a Grade wise correlation among these measures was also done, as the letter name scores reached ceiling by LKG. The results revealed that environmental print recognition was correlated with letter name only in PKG ($r_s = 0.42, p < .05$), whereas, environmental print recognition was related to letter sound in LKG ($r_s = 0.54, p < .05$) and UKG ($r_s = 0.46, p < .05$). These results indicate that environmental print recognition showed association with letter name in PKG and letter sound in LKG respectively. In UKG, though environmental print recognition showed significant correlation with letter sound knowledge, it was weaker compared to LKG.

In order to address the last research question i.e. to check whether letter name and letter sound predicts environmental print recognition, a linear regression analysis carried out. Regression analysis to predict environmental print recognition based on letter sound resulted in deriving a significant regression equation ($F(1, 88) = 155.62, p < .001$) with an R^2 of .64. The final model was $EP = 3.69 + 0.84(LS) + e$, where 'e' is the error factor. Therefore, it may be interpreted that for every one score increase in letter sound, environmental print recognition is expected to increase by 0.84. Similarly, regression analysis of letter name and environmental print recognition in PKG was done and the model derived was $EP = 2.70 + 0.40(LN) + e$, where e is the error factor. Significance level of letter name in the regression model was poor, $F(1, 28) = 4.30, p = .05$, with $R^2 = 0.13$. This low R^2 value implies that changes in environmental print recognition are not strongly related to

changes in letter name and hence LN cannot be considered as a good predictor for environmental print recognition in the current study.

Finally, though not the main concern of current study, an attempt was made to compare the performance of children between two types of EP, i.e. EP with full contextual cues and with only logos. Significant difference in performance was found for children in PKG ($z = 2.14$, $p < .05$) with better scores for environmental prints with contextual cues than with only logos, i.e. they rely on contextual cues for recognition. Though difference was observed on recognition of environmental print with and without contextual cues in LKG, the difference was not statistically significant ($p > .05$). Likewise, children in UKG did not show significant difference between two types of EP.

4. Conclusions and Discussion

Results of the current study revealed that there was significant difference in environmental print recognition, and letter sound knowledge across Grades indicating a developmental progression of these skills from PKG through UKG. Whereas, no significant difference was observed between LKG and UKG on letter name knowledge, as the scores reached ceiling suggesting that LN knowledge is mastered by LKG itself. These findings indicate that mastery of letter name knowledge occurs earlier than letter sound knowledge in preschool ELL children with Malayalam native language. These findings also points to the fact that preschool instructional strategies in Kerala focus on letter names prior to letter sounds. This is in accordance with the instructional strategies recommended for teaching preschool children (Kaul, Bhattacharjea, Chaudhary, Ramanujan, Banerji & Nanda, 2017) and the curriculum followed in most preschool textbooks. Studies on alphabetic script suggest that letter name knowledge facilitates letter sound knowledge (Foy & Man, 2006; Share, 2004). It has been reported in literature that teaching letter sounds only is not beneficial, as several graphemes in English represent more than one phoneme (for e.g. /c/ and /s/) and therefore, reading unknown words might be difficult for new readers (Adams, 1990). Accordingly, most preschool children receive literacy instructions on letter name (English) initially followed by letter sound. This pattern of instructional strategy would have resulted in the discrepancy in letter name and letter sound scores across Grades

As expected, though association was observed among measures (letter name, letter sound and environmental print recognition), grade wise differences were observed. That is environmental print recognition was related to letter name in PKG and letter sound in LKG and UKG respectively. These findings suggest that to decode environmental print, in PKG children use letter name knowledge whereas in LKG and UKG they use letter sound knowledge. This was further strengthened by the findings that the relation between environmental print recognition and letter sound knowledge was stronger in LKG ($r_s = 0.54$) than in UKG ($r_s = 0.46$). Previous studies indicate lack of consensus on the role of letter name or letter sound knowledge on environmental print recognition. Masonheimer et al. (1984) and Blair and Savage (2006), reported that children use contextual cues while reading environmental print and neither phonological awareness nor letter sound knowledge is related to environmental print recognition. In contrast, Bowey (1994), Stahl and Murray (1993) and Johnston et al. (1996) reported a

relation between environmental print and letter sound knowledge. Also, it has been reported that children communicate with their parents and peers about environmental print using their letter name knowledge much earlier (Velutino et al., 2003). Our findings support the role of letter name and letter sound knowledge in environmental print recognition. In view of the relation observed between letter name/ sound knowledge and environmental print recognition, the premise that environmental print recognition is exclusively based on contextual cues is not supported in the current study. As discussed earlier, children with knowledge of letter name start developing letter sound knowledge by LKG, and begin decoding / reading environmental print/ familiar words using their letter sound knowledge. Whereas, the less strong relation between letter sound knowledge and environmental print recognition in UKG could be due to emergence of automaticity in word recognition, which in turn would have developed with repeated exposure to environmental print.

Use of contextual cues during environmental print reading implies the existence of logographic stage/pre- alphabetic phase as explained by most of the models of reading acquisition of native English speakers (Ehri, 1998; Frith, 1985). Pre-alphabetic phase involves use of visual and contextual cues and are linked to word meaning than pronunciations (Byrne, 1992; Ehri, 2005). Whereas, use of letter name or letter sound knowledge implies the emergence of partial alphabetic phase wherein children read words using phonetic connections. Though many theories support the idea of logographic stage in reading acquisition, Stuart and Coltheart (1988) reject this concept, stating that visual and contextual cues per se do not enable the child to read. Literature on existence of logographic stage in transparent writing systems (Wimmer & Hummer, 1990; Cardoso Martins, 2001) and in non alphabetic languages are however inconclusive to date. Karanth and Prakash (1998) could not find any evidence of logographic reading in Kannada, which is an alpha syllabic language. Whereas, Jagadish (1991) and Akshay (2012) assert that logographic stage do exist in alpha-syllabic language like Kannada, but occurs at a very early age. In the current study, participants were native Malayalam speakers exposed to English as second language at school. Findings of this study further raises the debate of existence of logographic stage in non-alphabetic language especially alpha-syllabic language. Similar to English speaking children, ELL children in the current study were also expected to use only logographic stage in preschool. Nevertheless, in the current study an association of letter name knowledge with environmental print recognition was observed indicating the emergence of alphabetic stage in this Grade. In PKG, ELL children started using phonetic cues for recognizing environmental print instead of contextual cues. The current study also evidence that in PKG, children could recognize environmental print with contextual cues better than those without cues. These findings pave way to the understanding that, in PKG, children rely on letter knowledge and contextual cues as well. Combining the above two contradicting findings, it could be inferred that logographic stage occurs in preschool children but at a very early stage of learning to read, probably before three years. This could be attributed to the influence of Malayalam, which is an alpha-syllabic language. This finding is in concurrence with the

report of early occurrence of logographic stage in Kannada languages, another alpha-syllabic language (Jagadish, 1991; Akshay, 2012). During PKG, children are in the transition stage from logographic to partial alphabetic stage as they learn letter name knowledge through school instructions. As this study included children in 3-6 years, it is unfair to assume that such stage does not exist. Hence, our findings partially support the assumptions that logographic stage occur very early or lasts for a short duration similar to that seen in Kannada language learners (Jagadish, 1991; Akshay, 2012). A possible explanation for the early occurrence of logographic stage could be the influence of instructions or native language. Cardoso Martins (2001) reported that instructional method influence the duration and speed of acquisition of reading. These findings are in consensus with the findings of Toniazzo & Jullien (2001) wherein they propose that duration of logographic reading varies with environment. Children from literacy rich environment develop reading skills earlier than expected due to repeated exposure of environmental print. Supporting this Neumann et al. (2012) in their model emphasize the importance of socio cultural factors, in facilitating logographic reading skills which in turn facilitates the emergent literacy skills.

The findings of the current study suggest that, reading acquisition in ELL's follow the same developmental trend seen in native English speaking children (Robins & Treiman, 2009; Share, 2004) except for the clear cut emergence of logographic stage. The difference in early stage of reading acquisition may also be due to the influence of native language structure. It is very likely that ELL's embrace the same cognitive linguistic resources for processing second language, which is wired for processing native language suggesting that models developed for native English speakers may not be appropriate for English language learners.

Regression analyses revealed LS knowledge as a good predictor of environmental print recognition than letter name knowledge, highlighting the importance of phonics in the early stages of reading acquisition in ELL's. Hence, findings of this study suggest the use of letter sound correspondence to facilitate word reading in ELL's. This study also implies that environmental prints could be used as a mode of training emergent literacy skills as the findings indicate that children in the current study are familiar with and could recognize the print available in their surroundings. Parents may support children's early acquisition of letter names and letter sounds by directly using environmental print. Such adult scaffoldings are essential to encourage children to read environmental print and further to facilitate emergent literacy skills.

5. Limitations and future directions

Though this study is first of its kind in literature on preschool ELL's with Malayalam native language it has few limitations. As the current study was done on ELL children, assessing these measures in both languages would have resulted in better understanding of the cross language transfer of these skills if any. Validation of the measures used in the current study is required for generalization of the results. Study on much young children, less than three years would have probably provided a better insight into the existence of logographic stage. Our study did not investigate the role of instruction on

the acquisition of these measures, so future studies incorporating this aspect may lead to better understanding and generalization.

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