



Portuguese as a heritage
language in Finland –
The impact of linguistic
and sociolinguistic
factors on the
acquisition of articles

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Abstract Understanding how sociolinguistic factors affect language acquisition and development is essential to promote the maintenance of minority mother tongues, nowadays denominated Heritage Languages (HLs). In the present study, linguistic and sociolinguistic data collected through an online experiment connecting questionnaires and a written image-based task was compared with the pupils' performance using articles whenever the context required it, i.e., to refer to specific referents appearing in the images used as stimuli. My focus is on certain linguistic and sociolinguistic factors such as age, the variety of the heritage language, the language most spoken at home, and the use of HL to access media. I examine how these factors impact the acquisition of articles in Portuguese as a HL in contact with Finnish, which is a language that does not use articles. The participants of the study were 20 Portuguese-speaking children aged from 7 to 14 years. 10 participants were heritage speakers of European Portuguese, and 10 were heritage speakers of Brazilian Portuguese. Both groups were attending Portuguese classes offered weekly by municipal schools or educational institutes. The written task was conceived to elicit Portuguese Noun Phrases (NPs) with articles. In this task, the participants needed to write two short stories about sequences of images. Among other remarks, this study found that speaking the HL consistently at home seems to be the most influential variable accounting for article acquisition, promoting target-like use of articles in Noun Phrases with specific readings.

Keywords heritage language, language acquisition, Portuguese in contact with Finnish

Introduction

Despite Finland being one of the few countries financing the teaching of minority mother tongues at school, the study of Heritage Languages (HL) in the Finnish context is still incipient. In particular, the study of morphosyntactic variation in HLs in contact with Finnish has received little attention. One exception is Piippo (2016), who focuses on Spanish and Portuguese as HLs in Finland. The mother tongues spoken by minority groups are nowadays denominated HLs (Valdés *et al.* 1999, Rothman 2009, Flores 2015, Barbosa *et*

al. 2018). This term will also be adopted in the present paper, being presented more in-depth in section 1.1.1.

In a small-scale pilot study (Ribeiro 2021), I observed that pupils for whom Finnish is an environmental language¹ tended to omit articles in contexts where they are mostly required in Brazilian Portuguese (BP). The present paper is part of a PhD dissertation focusing on the use of articles in narratives written by children aged from 7 to 14 years old, speaking either European Portuguese (EP) or BP as a HL, and attending Portuguese classes offered weekly by municipal schools or educational institutes in different countries with different environmental languages.

In the project, I analyze a) possible Cross-Linguistic Influence (CLI) from the environmental language over the heritage language; b) the possibility of language-internal variation in the use of definite articles in BP; and c) the influence of sociolinguistic factors, such as the use of the heritage language to access media, in formal education, in everyday communication, and reading activities.

In the present article, I analyze a portion of the data that I have collected in Finland. My focus is on certain linguistic and sociolinguistic factors such as age, the variety of the heritage language, the language most spoken at home, and the use of HL to access media. I examine how these factors impact the acquisition of articles in Portuguese. This study is conducted in a context where Portuguese is a heritage language that is developing in contact with Finnish, which is a language that does not use articles.

The present article is organized as follows: in section 1, the theoretical background supporting this study is presented; there, I explore concepts related to HL and the context of Portuguese as a HL teaching in Finland, as well as a set of studies concerning the acquisition of articles by speakers of article-less native languages. This section also describes the use and omission of articles in Portuguese as well as the strategies available in Finnish to mark definiteness and indefiniteness. In section 2, the objectives and research

1 The term environmental language is used in this paper to refer to the language which is dominant in the environment the speaker is living. For example, Finnish is the main environmental language for a speaker living in Finland, even though that speaker uses another language with relatives or friends from a minority group.

questions of this study are defined, followed by section 3, where the data and the methodological aspects of the study are described. In section 4, I proceed with the data analysis, where the linguistic and sociolinguistic variables studied here are scrutinized. Lastly, in section 5, I conclude the paper, discussing the results and presenting the concluding remarks.

1. Theoretical background

The theoretical background supporting this work consists of three different aspects: a) heritage language acquisition; b) article use in Portuguese versus the strategies used in Finnish to mark definiteness and indefiniteness without having an article system; and c) acquisition of articles in a second or third language by speakers of article-less native languages.

1.1. Heritage language acquisition

In this subsection, I sum up previous research concerning the acquisition and development of Heritage Languages (HLs), as well as the context of HLs instructions in Finland.

1.1.1. What is a HL?

One of the essential tasks of every research on HL is to define what can be considered a HL. After more than two decades of studies dedicated specifically to HL acquisition and development, the definitions of the concept have become more flexible.

According to Valdés *et al.* (1999), earlier studies on HL in the USA focused on languages other than English that were spoken in the country. In that sense, the concept of HL was simple: any non-English language used in the USA where the dominant and official language is English.

As the HL studies traversed the frontiers of North America and gained relevance in other contexts, new issues were included to build a concept that could aggregate questions related to e.g., the way the language was acquired, the relation the language establishes with other languages, the speaker's proficiency, or social status.

The present study adopts the definition proposed by Rothman (2009):

A language qualifies as a heritage language if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not a dominant language of the larger (national) society. Like the acquisition of a primary language in monolingual situations and the acquisition of two or more languages in situations of societal bilingualism/multilingualism, the heritage language is acquired on the basis of an interaction with naturalistic input and whatever in-born linguistic mechanisms are at play in any instance of child language acquisition. (Rothman 2009: 3–4)

In this definition, Rothman emphasizes **when** the HL is acquired - in early childhood, **in which context** it happens – in a linguistic context where the HL develops in coexistence with another most used and officially recognized language, and **how** it happens – in a naturalistic way.

Another important aspect to consider is the identity of the speakers of HL, i.e., **who** speaks a HL – most of the time, it is a person who is part of a minority group, sometimes with an immigrant background. Hence, in this study, we also use the concept of HL as defined by Barbosa *et al.* (2018: 125), which states that a HL is “the language of origin of bilingual speakers who grow up in the context of migration with exposure to the HL and the dominant language of the host country”. In that sense, the context of migration can mean either that the HS was born in the host country, even though in a family with a history of migration, or that the HS arrived as a migrant in childhood.

1.1.2. Heritage Speakers (HSs)

The criteria to define who qualifies as a HS was frequently elaborated by comparing HSs with other categories of speakers, such as native speakers, second language speakers, monolingual speakers, bilingual speakers, and so on. Even though these comparisons were important for the definition and delimitation of HSs, they may confound more than explain.

In order to be clear about these concepts, it is important to understand that these categories of speakers are not necessarily opposed to each other,

but many times overlap with each other. For example, we can define HSs in opposition to monolingual speakers since the former group acquires more than one language, and the latter acquires only one. Otherwise, as recent research claims, HSs are also native speakers of their HL, since the stages of HL acquisition are equivalent to those that characterize monolingual L1 acquisition (Kupisch & Rothman 2018, Barbosa *et al.* 2018, Rinke & Flores 2021).

However, not all native speakers or bilinguals are HSs, as there are conditions in the process of acquisition that are specific to the HL context. For instance, several speakers of a HL live in a context of immigration where they have access to a small and heterogeneous group of speakers of that language. In addition, access to formal teaching in the HL is in general restricted or nonexistent in this context. Lastly, the variety of the language spoken by the family can be divergent from what is considered the standard language back in the home country, as claimed by recent studies (Kupisch & Rothman 2018, Flores & Rinke 2020 Polinsky & Scontras 2020, Rinke & Flores 2021, among others).

In sum, besides the factors that affect language acquisition in bilingual contexts generally, some factors are specific to the HL context, such as reduced input, divergent input at home, and lack of formal education (including literacy) in the HL, can cause different outcomes between monolingual speakers, HSs, and other type of bilingual speakers (for a broad overview about these factors, see Ortega 2020).

While evaluating the relevance of language-internal variation in predicting HL grammars, based on results found by their studies on Portuguese as a Heritage Language (PHL) in contact with German, Flores & Rinke (2020) argue that “heritage speakers may boost and further develop tendencies of language (internal) evolution inherent to variable phenomena”. For example, Rinke *et al.* (2018) studied object realization in PHL in Germany. In their corpus study with first and second-generation migrants and two age-matched generations of monolingual speakers of Portuguese, they found that heritage speakers from the second generation tended to produce more null object constructions, which is in line with the diachronic evolution of Brazilian Portuguese, as attested by Cyrino *et al.* (2000). These results show that bilingual speakers may develop the variable phenomenon according to

a diachronic path that may be triggered by reduced input, divergent input, and language-internal variation.

1.1.3. Context of HL instructions in Finland

The section of the Finnish population having a mother tongue other than the official languages Finnish, Swedish, and Sami, is quite small: only 8.9%. According to the website Statistics of Finland, 4,063 people reported to be Portuguese speakers living in Finland². The website of the Brazilian Embassy in Finland reports 2,466 citizens registered as Brazilians in Finland, with the community concentrated mainly in the metropolitan area. The Embassy of Portugal in Finland reports 681 Portuguese citizens living in Finland³.

The HL teaching in Finland is optional and complementary to the national curriculum. In the metropolitan area of Helsinki, which includes the cities of Helsinki, Espoo, Kauniainen, and Vantaa, the teaching of the pupils' HL is offered at some schools on a weekly basis and with classes after regular school hours. In municipalities of other regions, classes can also be offered if there is a minimum number of pupils (it can vary from 5 to 10 pupils, depending on the municipal rules) (Piippo, 2016, Piippo, 2017).

In general, the HL classes in Finland gather pupils of different ages (normally, pupils from 7 to 15 years of age), showing different levels of proficiency in their HL. Due to the heterogeneity of the groups, the teachers used to create their own materials, using more traditional methods, such as vocabulary learning, or more creative methods, such as drama, games, and arts and crafts (Ansó Ros *et al.* 2021). Regarding the teaching program, Opetushallitus (Finnish National Agency of Education)⁴ provides a standardized curriculum with evaluative guidance for the teaching of HLs in Finland, but following the curriculum is not mandatory due to the already

2 http://vertinet2.stat.fi/VERTI/graph/viewpage.aspx?ifile=quicktables/Maahanmuuttajat/kieli_2&lang=1&gskey=2 (accessed on 6.11.2023)

3 <https://portaldiplomatico.mne.gov.pt/relacoesbilaterais/paises-geral/finlandia> (accessed on 7.11.2023)

4 <https://www.opih.fi/fi/koulutus-ja-tutkinnot/oman-aidinkielen-tukeminen> (accessed on 7.11.2023)

mentioned diversity of ages, proficiency levels and language varieties which are present in several classrooms.

Most PHL courses are available in the capital metropolitan area and are taught by Brazilian teachers. In these classes, speakers of various Lusophone varieties, mostly Portuguese, Brazilian, and Angolan heritage language learners, are grouped into the same classrooms. For more details on the specific context of the teaching of Portuguese and Spanish as HLs in Finland, see Piippo (2016).

Besides the school system, some institutions are fostering the acquisition and maintenance of PH in Finland, such as the embassies of Brazil and Portugal, the Association of Portuguese Language Teachers in Finland (APPF), and the European school, all of them situated in the capital city of Helsinki.

Despite being a relatively heterogeneous minority group, the Lusophone community is quite active in organizing or collaborating in events for Portuguese-speaking children and families, whether through the direct action of individuals, associations, or diplomatic organizations.

1.2. Article system in Portuguese, lack of articles in Finnish, and the study of article acquisition

This section presents the differences between the two languages studied here regarding the use or absence of articles to mark definiteness and indefiniteness in NPs. In addition, a summary of several studies concerning article acquisition by speakers of article-less native languages is presented.

1.2.1. Article use and omission in Portuguese

There are nine member-states comprising the organization called *Comunidade dos Países de Língua Portuguesa (CPLP)*⁵. Thus, as Portuguese is a language spread across four continents – Europe, America, Africa, and Asia – it has a diverse character, with the possibility of showing variation at different levels, such as semantic, phonetic, and syntactic.

5 For more information about the CPLP, check: <https://www.cplp.org/id-2597.aspx>

Portuguese is a Romance language that has a robust article system with definite (*o, a, os, as*) and indefinite articles (*um, uma, uns, umas*) that agree with nouns in gender and number. There is space for some variability in the use of articles, but in general countable nouns in argument position (subjects, direct objects, and prepositional objects) must be preceded by an article or other determiners such as possessives or numerals. Thus, in standard Portuguese, the use of bare nouns, i.e., nouns lacking any determiner, is very restricted.

Regarding the use of bare singulars, EP works similarly to Italian and other Romance languages, which do not allow bare singulars in argument positions. Conversely, in BP both bare singulars and bare plurals are allowed to occur more freely as arguments (Müller & Oliveira 2004, Wall & Kabatek 2013, Ferreira 2021), especially in spoken language. In standard BP, bare nouns with specific readings are not considered felicitous.

However, although unexpected for a Romance language, the use of bare singulars with generic readings is widespread in BP. The following examples extracted from Müller & Oliveira (2004) - all of them considered felicitous in BP - briefly illustrate this flexibility regarding the use of bare nouns in BP:

1.	<i>Menino</i>	<i>não</i>	<i>pode</i>	<i>entrar</i>	<i>aqui.</i>
	Boy	NEG	can-PRS.3SG	enter-INF	here
	'Boys can't come in here.'				
2.	<i>Tem</i>	<i>criança</i>	<i>na</i>	<i>sala.</i>	
	have- PRS.3SG	child/children	in:the	room	
	'There is a child/ there are children in the room.'				
3.	<i>Terremoto</i>	<i>dá</i>	<i>medo.</i>		
	earthquake	give- PRS.SG	fear		
	'Earthquakes are scary.'				

In example number 1, the Noun Phrase (NP) *Menino*, refers to boys in general, meaning that boys are not allowed to enter the place. The case in example 2 is more specific since the reference concerns specifically the child or children

which are present in the room. Even though one can argue that the NP *criança* refers to a kind, still the NP refers to specific referents present in a specific room. In the last example, the NP *Terremoto* is a bare singular that takes a generic reading since it refers to earthquakes in general.

Thus, since BP is so flexible in the use of bare nouns in generic contexts, one might expect that children acquiring the variety can generalize the use of bare nouns to other contexts where article omission would be considered improper, as to refer to referents already mentioned in discourse.

1.2.2. Strategies to mark definiteness and indefiniteness in Finnish

Finnish is a Finno-Ugric language which lacks an article system to differentiate definiteness from indefiniteness. However, other strategies such as case alternation, word order, and the use of other determiners, such as pronouns and numerals, can be used to determine a noun (Juvonen 2000, Nyqvist 2016, Dal Pozzo *et al.* 2015, Dal Pozzo 2022). The following examples collected from Dal Pozzo (2022) illustrate case alternation and word order marking definiteness in Finnish:

4.	<i>Opiskelijat</i>	<i>kävelivät</i>	<i>kadulla.</i>
	student-NOM.PL	walk-PTR.3PL	street-ADE
	'The students walked on the street'		
5.	<i>Opiskelijoita</i>	<i>käveli</i>	<i>kadulla.</i>
	student-PTV.PL	walk- PTR .3SG	street-ADE
	'(Some) students walked on the street'		
6.	<i>Kadulla</i>	<i>käveli</i>	<i>opiskelijoita.</i>
	street-ADE	walk- PTR .3SG	students-PTV.PL
	'There were (some) students walking on the street'		

It is important to mention that, in informal contexts, speakers of Finnish may use pronominal forms to express definiteness. For example, the demonstrative pronoun *se* 'it/this', which seems to be undergoing a process of grammaticalization from a demonstrative pronoun to an article-like

determiner (Laury 1997, Juvonen 2000), is frequently found in spoken language. Also, the numeral *yksi* ‘one / a’ and the indefinite pronouns *joku / jokin* ‘a / any / a certain’ can be used as indefinite markers in non-standard Finnish (see Dal Pozzo & Matteini 2016).

1.2.3. Acquisition of articles by speakers whose native language is article-less

Chinese, Japanese, and Korean are the most common article-less languages studied in contexts of L2 or L3 learning. The doctoral research conducted by Kim (2005) described the process of article acquisition by Korean students learning BP in Brazil. The results of Kim’s (2005) study showed that the lack of articles was dominant in the productions made by students attending the intensive course for beginners. The students with more proficiency in Portuguese used slightly more articles, but still showed a low rate of use when compared with the baseline group composed of native speakers of BP.

Similar results were found by Hawkins, *et al.* (2006) and Snape (2005) who studied the performance of L2 learners of English whose L1’s were Japanese compared to other speakers whose languages presented an article system. The Japanese speakers displayed deviation in article choice indicating that the L1 plays a role in L2 development in this domain. However, while Hawkins *et al.* (2006) found that speakers of article-less languages pass through a developmental stage of article acquisition that would occur only in the early stages of the learning process, Snape (2005) attested that the advanced Japanese L2 learners continued showing deviation in article choice even though they had years of exposure to English.

Zdorenko & Paradis (2008) conducted a large-scale study with a longitudinal corpus of narratives from English L2 children (mean age of 5;4 years old) whose L1s were Chinese, Korean, and Japanese (article-less languages) versus another group of speakers whose languages were Spanish, Romanian, and Arabic (languages with an article system). Among other tendencies, the results showed that children with article-less L1s omitted more articles in contexts where they would be grammatically required than children whose L1s had articles, but only at the early stages of acquisition (as attested by Hawkins *et al.* 2006). Also, as all informants produced more

grammatically target-like uses of the definite article than the indefinite one, Zdorenko & Paradis (2008) concluded that article type was a more important factor than L1 background in acquisition patterns and rates.

Although article type is an important variable, it can interact with L1 background as shown by three more recent studies on L2/L3 acquisition. The first study observed the marking of definite and indefinite articles by Chinese learners of Portuguese as a L2 (Zhang 2010), the second one focuses on the acquisition of articles in L2 speakers of Angolan Portuguese whose native language was Kikongo, an article-less Bantu language (Marimba 2016), and the third work studied the acquisition of definiteness and article use in written Swedish (a language with an article system) by teenagers speakers of Finnish (an article-less language) (Nyqvist 2016). Besides finding that the article-less L1 speakers faced more difficulties with the use of indefinite articles, tending to an overuse of definite articles in cases it would be considered ungrammatical for native speakers, these three studies also confirm the probable influence of the L1 on the L2/L3 acquisition, since they found that speakers of article-less L1 tend towards simplification of NP structure and article omission or replacement with other determiners (numerals or pronouns).

Dal Pozzo *et al.* (2015) investigated article use by near-native bilingual speakers of Italian, having German, Spanish, or Finnish as a mother tongue. The study applied different types of tasks created by specialists to assess the proficiency of three groups: 1- native speakers of Italian; 2- near-native speakers of Italian having Finnish (article-less); and 3- near-native speakers of Italian having German or Spanish as L1. The results showed that both the mother tongue and the nature of the task may have affected the performance of the participants regarding article choice.

Despite the extensive research summarized in this section, it remains to be studied how the process of article acquisition occurs under the special circumstances of HL acquisition and development which, in general, is characterized by little or no formal instruction, a small speaker community, and lack of perspective in using the HL in professional life.

1.2.4. Cross-Linguistic Influence on language acquisition

The study of language variation due to language contact can be carried out by analysing different linguistic phenomena from diverse linguistic frameworks. One phenomenon of language variation is the study of language acquisition in a bilingual context.

Since the work of Hulk & Müller (2000), the concept of Cross-Linguistic Influence (CLI) has been applied to investigate the influence from one language to another in the process of language acquisition by bilingual speakers. Using the theoretical framework of generative linguistics, Hulk & Müller (2000) advocate that CLI can occur in structures located at the interface level between two modules of grammar, for example between syntax and pragmatics.

For instance, if there is a particular structure partially overlapping at the surface level between two languages, it is possible that language A provides more than one grammatical analysis of that syntactic structure, while language B reinforces specifically one of these grammatical analyses. In that case, cross-linguistic influence can motivate the use of structures that are syntactically correct, but pragmatically unexpected. CLI from language B could then motivate and extend the use (or the omission) of forms in structures which can be considered ungrammatical in certain contexts for language A.

Regarding article use or omission and the notions of specificity and genericity, Serratrice *et al.*, (2009) found that although bare plural NPs with a generic reading are not found in subject position in Italian (in contrast to English), English–Italian children accepted them as a grammatical option, especially when English was their community language. This result was confirmed later by Kupisch (2012) who found that German-dominant speakers, who differed from bilinguals with Italian as the strongest language, faced more difficulties in rejecting bare NPs when judging and interpreting nominals in generic contexts. In addition, they showed more of a tendency to interpret definite-marked DPs (which were ambiguous in terms of a specific or generic reading) as specific.

2. Objectives and research questions

The general aim of my research project is to identify which factors potentially affect the learning of Portuguese as a Heritage Language (PHL) in contact with Finnish.

In this study, I investigate how Portuguese-speaking children in contact with Finnish use articles in specific Noun Phrases (NPs) in subject position, such as in:

7.	<i>A</i>	<i>família</i>	<i>está</i>	<i>na</i>	<i>sala.</i>
	ART	family	to be-PRS.3SG	in:the	room
	'The family is in the room'				
8.	<i>Vimos</i>	<i>a</i>	<i>família</i>	<i>na</i>	<i>sala.</i>
	see- PTR .1PL	ART	family	in:the	room
	'We saw the family in the room'				

Example 7 shows the NP *a família* in the subject position. In case of article omission, example 7 would be ***Família*** *está na sala*, which would be an unexpected use when referring to a specific family. In example 8, the NP *a família* appears in object position. In case of article omission, example 7 would be *Vimos* ***família*** *na sala*, also an unexpected construction to describe a context in which a specific family was seen in the room.

Furthermore, I explore which linguistic and sociolinguistic factors seem to influence the performance of the informants. More specifically, I intend to describe which kind of structures they prefer to use regarding the expression or omission of articles in NPs, when telling a story in writing.

I intend to reach these objectives using the following research questions:

1. Is there variation between HSs of BP and EP in the use of articles with specific NPs?
2. Do the following linguistic and sociolinguistic factors affect the acquisition of articles in specific NPs in PHL?
 - a. Age
 - b. The variety of the HL
 - c. Most spoken language at home
 - d. HL use in media

3. Data and methodology

This section describes the subjects participating in this study, as well as the instruments used to collect data.

3.1. Participants

The total number of participants in this study is 20, consisting of 10 bilingual Brazilian Portuguese-speaking children and 10 bilingual European Portuguese-speaking children, all living in Finland at the time of data collection. From the total of 20 participants, 13 were born in Finland (BP=6; EP=7) and, based on self-report, could be considered simultaneous bilinguals. The 7 participants left were born outside of Finland (BP=4; EP=3) and could be considered early or late bilinguals, depending on how long they had been living in Finland.

The participants were recruited in collaboration with the teachers of PHL working in four cities in Finland: Helsinki, Espoo, Vantaa, and Tampere. Thus, the participants were pupils attending Portuguese classes in public schools or educational institutions.

The decision to recruit the participants attending Portuguese classes was made based on the opportunity to study HL acquisition in a context where the speakers have access to formal education in the HL. Since most of the studies focus on contexts where the input the speaker receives comes mostly from the family and the contact with a small community, the context of acquisition presented here can contribute to bringing new information regarding HL learning. More information about the teaching of PHL in Finland is presented in section 2.3.

The age of the informants varies from 7 to 14 years of age (standard deviation of 1 year and 10 months). The mean age in the two groups is similar (BP: 10 years and 7 months; EP: 10 years and 9 months).

Because participation was voluntary, I decided to collect data from respondents who spanned a wide age range, requiring only that the participants be able to read and write independently. In addition to the pupils, one guardian per pupil was also asked to answer a short questionnaire with a few questions on children's age, place of birth, and time of arrival in Finland.

In the next section, I present more details about the questionnaires and the narrative task applied in this study.

3.2. Instruments of data collection

Due to the Covid-19 pandemic, the data were collected through an online experiment. Using the experiment builder Gorilla (Anwyl-Irvine *et al.* 2020), I combined two questionnaires and one written task in a single experiment.

The structure of the experiment can be summarized in the following steps: 1) One of the child's guardians accesses the link and gives consent for the pupil to participate in the study; 2) the guardian answers a short questionnaire about the pupil's country of birth and time of arrival in Finland; 3) after a disclaimer, the guardian passes the device to the pupil, who answers a questionnaire about the languages she/he speaks; and 4) the pupil performs a written narrative task.

3.2.1. Questionnaires

The questionnaire was available in both BP and EP so that the children would encounter the variety most familiar to them.

I collected responses from the guardians regarding: a. Kinship with the child; b. Child's month and year of birth; c. Country where the child was born; and d. Date of arrival in Finland (when born abroad).

The translation of the questions issued to the pupils is as follows:

- a. What language do you speak the most at home?
- b. What other languages do you speak at home?
- c. What language do you use most at school?
- d. Have you ever traveled to a country where Portuguese is spoken?
- e. Do you speak Portuguese (via video or phone) with your grandparents, cousins, or other relatives?
- f. Do you play in Portuguese with other children?
- g. Mark the things you do using the Portuguese language (related to media use).

In the present study, the linguistic and sociolinguistic information collected through the questionnaires was compared with the pupils' performance using articles whenever the context required it, i.e., to refer to the specific referents which appeared in the images.

The main objective of the present analysis is to evaluate to what extent the identified linguistic and sociolinguistic factors are related to the pupils' performance using articles in the narrative task.

3.2.2. Narrative task

The task was conceived to elicit Portuguese Noun Phrases (NPs) with articles. In this task, the participants needed to write two short stories about sequences of images created by the Multilingual Assessment Instrument for Narratives (MAIN)⁶.

Since the present work investigates article production in contexts where their use would be required in Portuguese, I designed a narrative task in which the participants were asked to refer to the referents presented in a sequence of images. In this context, the referents are specific. Since the task used a sequence of images, the participant had to refer to already mentioned referents, which would promote article use in the NPs.

I used a written task because studies on HL writing are still scarce. Also, since the HL classes are highly heterogeneous in Finland, grouping children with different ages, different levels of proficiency, and speaking different HL varieties, the written text, which generally uses the language in a more standardized way, makes the data more comparable. Lastly, a written task would give the participants more time to think about the sentences they want to use, exploring better their linguistic repertoire in the HL.

To engage the participants in the task, I used a character called *Maria* who is a little girl asking for help in writing texts for two books for which she only has the images.

6 <https://main.leibniz-zas.de/> (accessed on 9.1.2024)

4. Data analysis

In this analysis, NPs with grammatical functions of subject and object were selected from the text produced by the participants in the narrative task. The presence or absence of articles was registered for each NP, regardless of problems with agreement (gender or number) and orthography, as the following examples from the data illustrate:

9.	<i>Uma</i>	<i>casorro</i>	<i>viu</i>	<i>uma</i>	<i>gato.</i>
	ART	dog	see- PTR.3SG	ART	cat
	'A dog saw a cat'				
10.	<i>u</i>	<i>gato</i>	<i>tira</i>	<i>peishes</i>	...
	ART	cat	take-PRS.3SG	fish	
	'The cat takes fish out...'				

In example 9, the feminine article *uma* does not match the masculine nouns *casorro* (*cachorro*) and *gato*. In example 10, the orthography of the article *o* is represented as *u*. However, in both cases, the presence of the articles was counted.

Cases such as the next two examples were rare in the sample, but it is interesting to explain how I dealt with them here:

11.	<i>o</i>	<i>moço</i>	<i>esta</i>	<i>indo</i>	<i>comprar</i>	<i>coisas</i>
	ART	guy	to be-PRS.3SG	go-GER	buy-INF	things
	'the guy is going to buy things'					
12.	<i>um</i>	<i>homem</i>	<i>achou</i>	<i>seu</i>	<i>balao</i>	
	ART	man	find- PTR.3SG	his	balloon	
	'a man found his balloon'					

Example 11 shows a bare plural in object position. In such cases, similarly to what happens in 10 with the noun *peishes* (*peixes*), article omission is acceptable in both varieties of Portuguese, since it can have a generic reading

(*coisas* can mean things, in general, and *peixes* can mean some fish), or it can have a specific reading (*coisas* would mean the things which appear in the image, and *peixes* would mean the fish which appear in the image). In such few cases, article omission was marked, since the preferred uses among BP speakers and EP speakers are relevant for this study.

The same decision was made in the few cases in which the noun was preceded by another determiner, such as *seu* in example 12. In such cases, article use is optional in BP, but not in EP. The uses and omissions were then registered according to the participant's choice, aiming to see if the differences between both groups would appear in the narrative task applied here.

In the majority of the NPs, article use was expected in both varieties of Portuguese, since the participants needed to refer to specific referents appearing in the sequences of images. Thus, I assumed article use to be target-like for virtually all of the NP tokens that our respondents produced.

In the next subsections, more details about the coding and the variables are presented.

4.1. Coding

I included as a token to the dataset each instance of a subject or object NP produced in the narrative task. Each entrance then was coded based on certain characteristics of the NP, such as article use or omission, grammatical function of the NP, grammatical gender of the article, as well as the classification of the articles as definite or indefinite.

From the children's written production in the narrative task, a total of 431 NPs were tokenized; 84% of them occurred with articles, and 16% without. The code for article use was defined as Y, and the code for article omission was defined as N. Then, for each participant, a hit percentage was established by dividing the number of Y by the total number of NPs produced.

The information collected by the questionnaires was coded in spreadsheets, where data related to age, most spoken language at home, HL use to access media, etc. were registered for each participant.

4.2. Variables

For the analysis presented in this paper, the program RStudio was used to conduct descriptive statistical analysis, including means, standard deviation, and percentages. I also used R to visualize the relationships among the variables, making it possible to compare the data from the questionnaires with the data from the narrative task.

As mentioned before, a hit percentage was set for each participant and this number was interpreted in the light of the following demographic and language-background variables: age, variety of the HL (BP or EP), most spoken language at home; and HL access to media.

4.2.1. Age

As explained above, the age of the participants varied from 7 to 14 years old, with similar means between the two groups. The standard deviations for each group differed: 1 year and 6 months for the BP group, and 2 years and 3 months for the EP group.

As can be seen in Figure 1, the ages in the BP group varied from 8 to 13 years. In this group, age does not seem to correlate with participants' use of articles. Of the 10 participants in the BP group, one outlier omitted articles in all NPs; another participant used articles in approximately 50% of the NPs produced, and the other 8 used articles in more than 90% of the NPs, irrespective of their age. In future studies, the case of the outlier should be explored, but according to their answers to the questionnaires, scarce access to input in the HL seems to be the reason why they patterned apart from the others in the group.

There was a wider 'spread' of the data in the EP group since there was more variation in age range and rate of article use in this group. The age range in this group varies from 7 to 14 years. Here, the youngest participant used articles in 100% of their NPs, however, they acquired Portuguese in Portugal and had only been living in Finland for 7 months (see Fig. 2). In this group, age also did not seem to correlate with article acquisition, since the highest rates of article use were among participants of different ages. Indeed, the participant with the lowest rate of article use is at the mean age of the

group (10 years), and the oldest participant in this group performed worse than most of the younger participants.

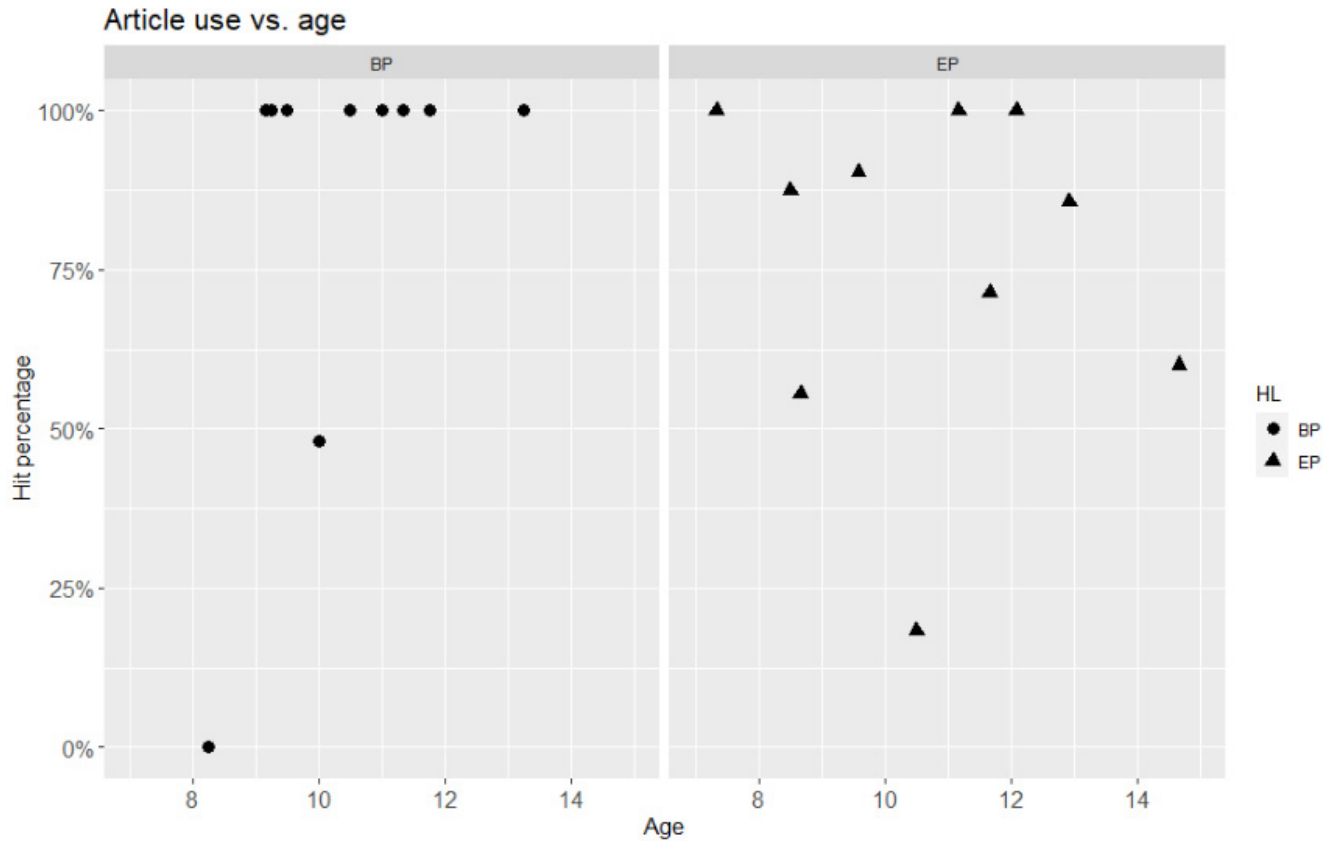


Figure 1: Article use and age.

When considering the time of arrival in Finland (Fig. 2) - and, consequently, the age of onset in the environmental language – for both groups, all the participants in this sample who are likely late bilinguals⁷ in Finnish (n=4) used articles in 100% of their NPs. This indicates, as hypothesized, that late bilinguals with less time of contact with the environmental language will show less or no effects of CLI from that language. However, since several early bilinguals performed similarly to the late bilinguals, and the number of late bilinguals and early bilinguals is not equivalent here, it is difficult to make comparisons between them.

⁷ Since these participants were born abroad and moved to Finland after early childhood, possibly they are late bilinguals.

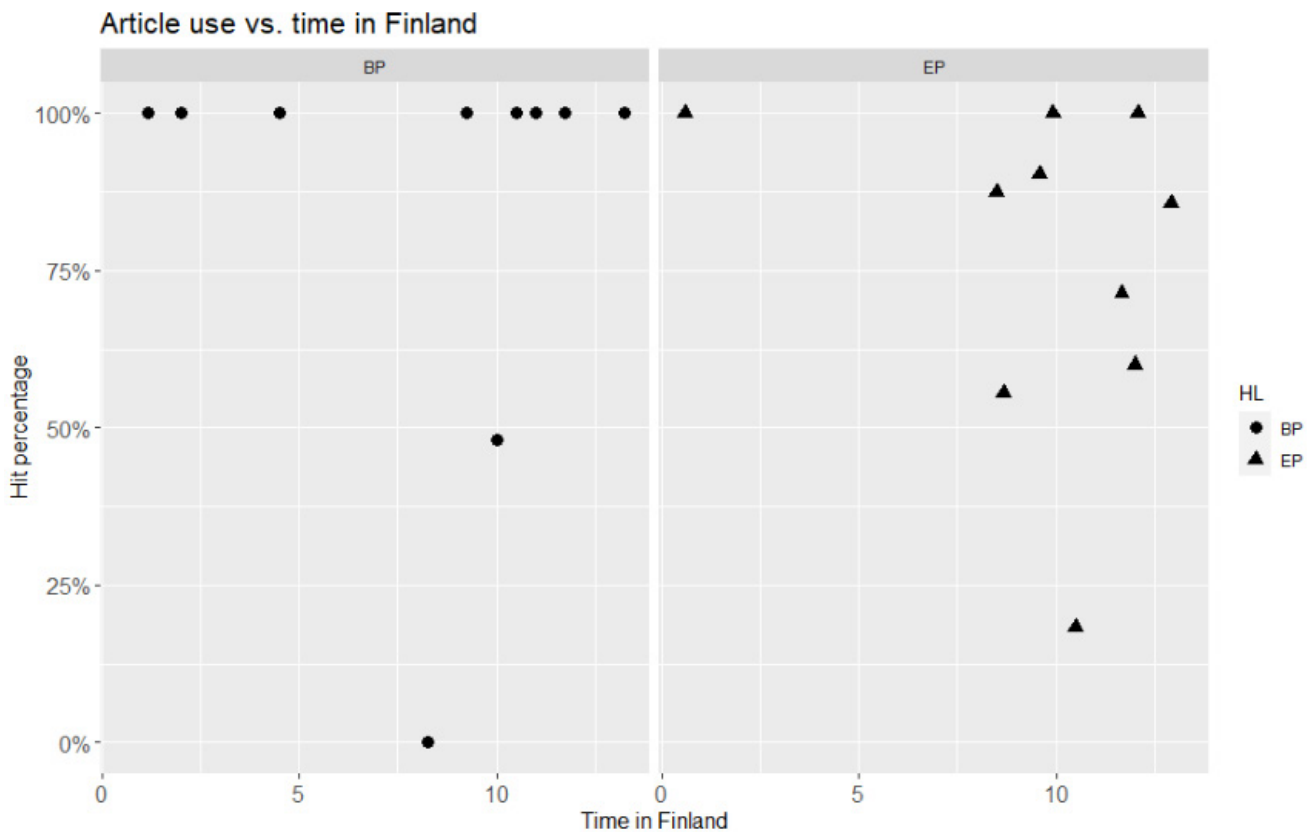


Figure 2: Article use and time in Finland.

4.2.2. The variety of the HL

As previously mentioned, in this study, the participants were divided into two groups, according to the variety of the Portuguese they speak, BP or EP. The objective was to observe if children acquiring BP would be prone to generalise the use of bare nouns to the context of a narrative task, where article omission in NPs would usually be considered non-target-like.

In this sample, most of the BP speakers used articles in approximately 100% of the NPs ($n=8$), one participant used articles in almost 50% of the NPs, and 1 participant omitted articles in all NPs (Fig 3).

In the EP group, the rate of article use was more variable (also in Fig 3): no participant omitted articles from all NPs, one participant used articles in approximately 20% of the NPs, and the rest of the participants used articles in a range that varies from 50% to 100% of the NPs, with 3 participants using articles in all NPs.

of CLI from Finnish (an article-less language) to Portuguese (a language with articles).

Even though the size of the sample here is small, this result is in line with previous studies showing that speaking the HL consistently at home seems to have a “protective effect” in the acquisition of some features of the HL grammar (Flores *et al.* 2017, Correia & Flores 2017, among others).

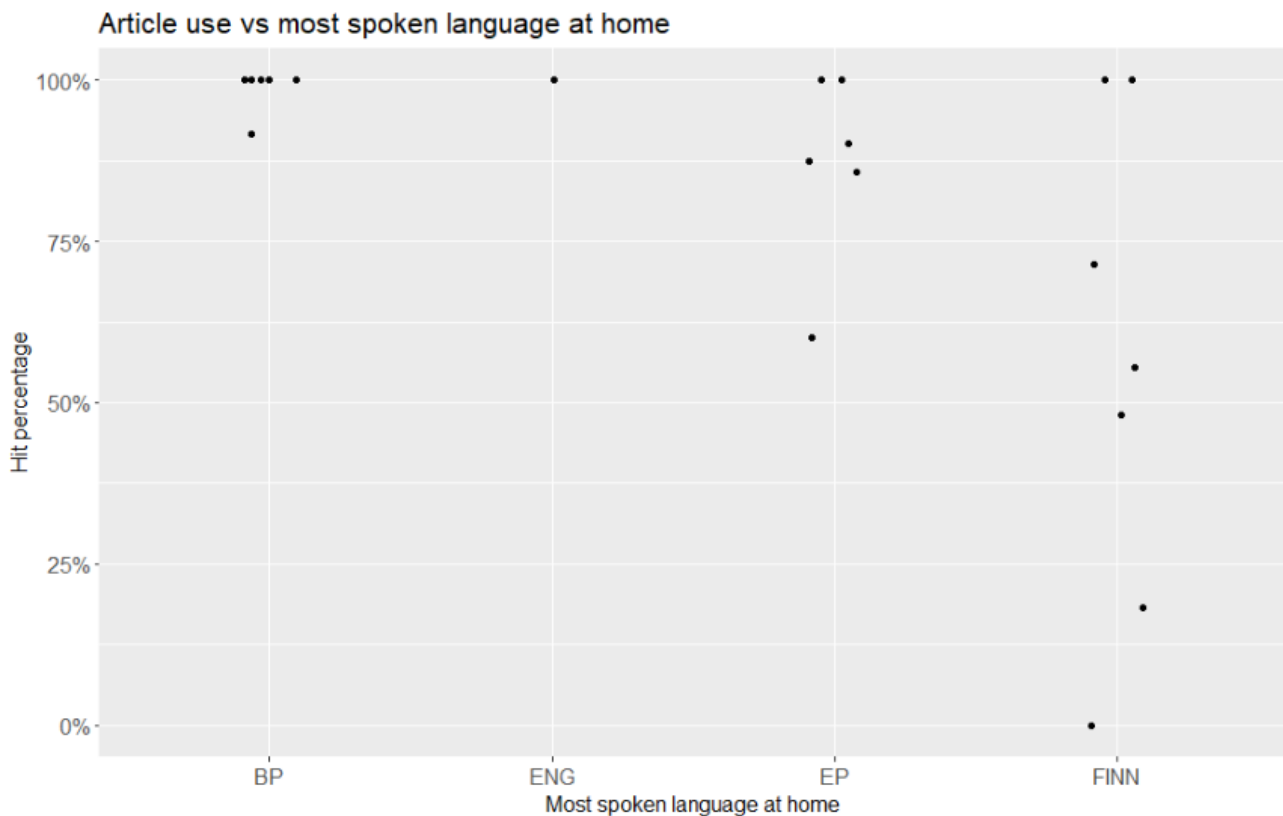


Figure 4: Article use and most spoken language at home (n= BP: 6, ENG: 1; EP: 6; FINN: 7).

4.2.4. HL use to access media

The use of the HL to access media was observed considering all the two groups together. The participants needed the answer YES or NO to the use of the following media in the HL: books (magazines included), online chat, games, and videos. The data collected regarding this variable was diverse and for that reason comparing the responses was not an easy task.

However, some observations can be made from Figure 5: a. more participants who used articles in up to 50% of the NPs produced, reported using the HL when online chatting or watching videos; b. regarding books, the number of participants using articles in up to 50% of the NPs was similar

among the group that answered YES and the group that answered NO to the use of that media in the HL; and c. regarding games, the number of participants that used articles in up to 50% of the NPs was higher in the group which reported not using the HL when playing games.

It is important to mention that only 7 participants (from 20) reported the use of the HL in games, and that can be related to the dominance of English in gaming media.

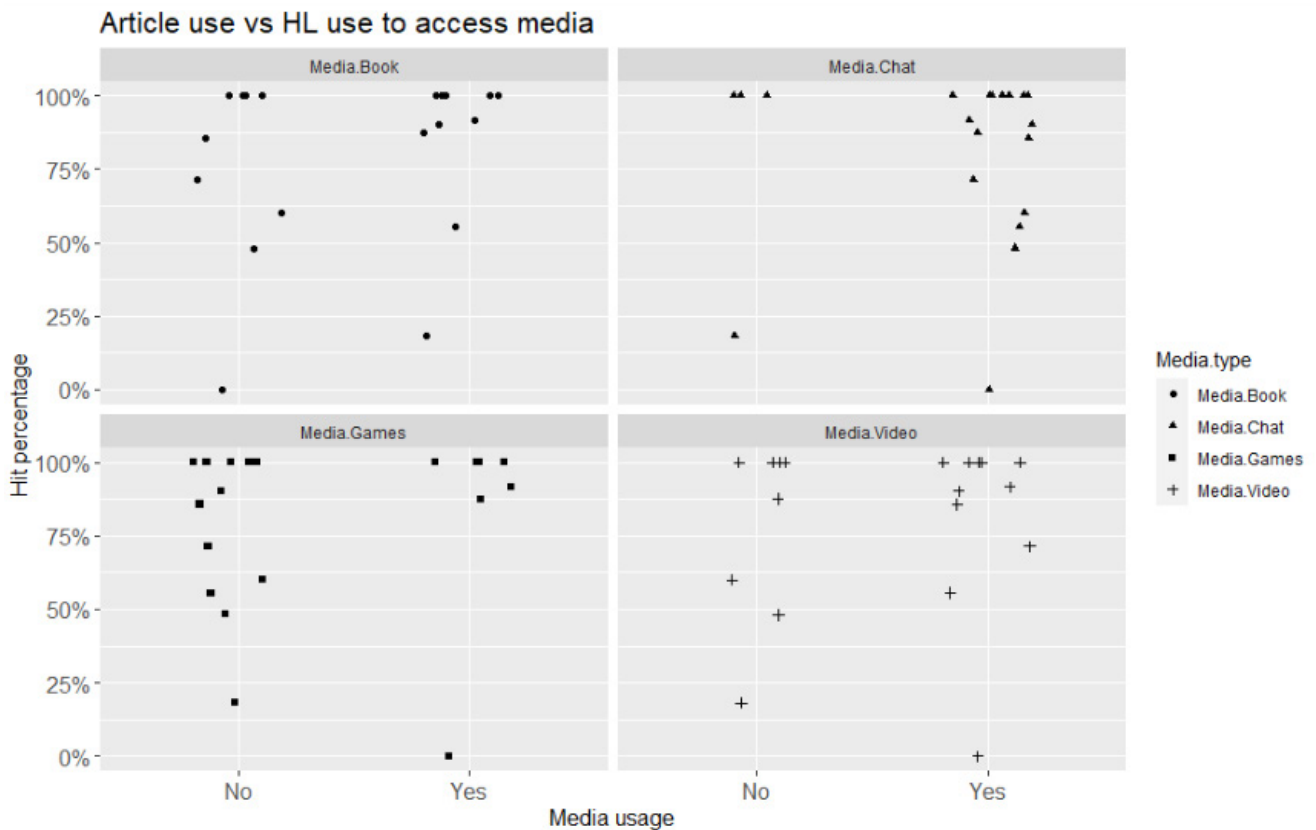


Figure 5: Article use and HL use to access media.

5. Discussion and concluding remarks

The use of online tools to collect data from children is not common, which can be seen simultaneously as a limitation and a novelty of the present study.

The result of this study needs to be approached considering the limitation of the sample, 20 participants in total, 10 speakers of BP and 10 speakers of EP. It is a small sample, but, since the context of the acquisition was Finland, this study presents an opportunity to investigate HL acquisition in this

uncommon language pairing: two variants of a romance language (BP and EP) in contact with a Finno-Ugric language (Finnish).

In this paper, I intended to answer two of the research questions of my PhD project:

RQ1. Is there variation between HSs of BP and EP (regarding article use and article omission in the context studied here)?

RQ2. Do the following linguistic and sociolinguistic factors affect the acquisition of articles in specific NPs in PHL?

Regarding the RQ1, the results found here can indicate that in written narratives, which tend to be closer to the standard version of the language, EP and BP do not show significant differences in the use of articles, which can be understood as an indication that the acquisition of the articles has been successful among this group of heritage learners. Even though the use can vary according to the linguistic context, it may be the case that BP is more flexible in the use or omission of articles, but whenever the use is required for a certain pragmatic context, HL speakers who have access to formal classes of their HL use articles in a target-like manner, no matter the variety of the HL that they speak. Surely, a larger sample of participants would be necessary to confirm this observation.

Concerning RQ2, a preliminary evaluation of the influence of certain linguistic and sociolinguistic factors on the acquisition of articles in PHL can be summed up as follows:

a. In the age range that I observed, age does not seem to be a variable that is particularly influential on article acquisition, since participants with the highest rates or lowest rates of article use were spread across different ages. That may indicate that quality and quantity of input in PHL are more important than age here.

b. Indeed, speaking mostly the HL at home seems to be the most influential variable on article acquisition in this study, promoting target-like use of

articles with specific NPs. Conversely, speaking mostly the environmental language at home seems to have a negative influence on article acquisition.

c. The data collected regarding the use of the HL to access media was very diverse and remains to be investigated in future studies.

The concluding remarks of this work highlight the challenging aspects of HL acquisition, confirming what specialists in the field are pointing to in the last decades of HL studies: success in HL acquisition depends on several factors and variables. In this study, I had the opportunity to investigate HL acquisition in a context where the speakers have access to HL formal classes. In this context, the acquisition of articles seems to be successful, especially when combined with plenty of HL input from home. **N**

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