Article

Reinforcement of Grammatical Structures through Explicit Instruction in Palenquero Creole: A Pilot Study

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Abstract: The Afro-Hispanic creole, Palenquero, has been spoken (together with Spanish) in the village of San Basilio de Palenque, Colombia, for centuries. Until recently, Palenquero was endangered due to prejudice, but language revitalization efforts are underway, and younger speakers are learning Palenquero, but with little reinforcement out of school. The school instruction involves no grammatical explanations, almost no student production, or critical feedback. Adult speakers usually do not address younger speakers in Palenquero, thus leaving school-acquired forms suspended without reinforcement. This represents a unique scenario of heritage acquisition of a language with no bidirectional communication between younger and adult speakers. The present study focuses on the use of preverbal particles and pronominal plural marker by heritage speakers of Palenquero before and after explicit instruction. Communication activities explicitly presented the pronominal plural *ma* and preverbal particles, such as zero morpheme (simple present), *asé* (habitual), *ta* (progressive), *a* (perfective/simple past) and *tan* (future). Participants performed better at the post-test and results suggest that explicit explanation of grammatical rules, practice, repetition, and corrective feedback improved the usage of *ma* and *tan*. This result lines up with previous studies that posit the amount of time and exposure that learners need in order to acquire complex morphology.

Citation: Cassiani Obeso, Estilita María. 2021. Reinforcement of Grammatical Structures through Explicit Instruction in Palenquero Creole: A Pilot Study. *Languages* 6: 41. <https://doi.org/10.3390/languages6010041>

Received: 27 November 2020

Accepted: 23 February 2021

Published: 4 March 2021

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Keywords: Palenquero Creole; explicit instruction; reinforcement of grammatical features; plural marking; preverbal particles

1. Introduction

Many minority communities around the world endeavor to promote the use of their ancestral languages due to the high probability of language shift or death. Numerous studies have suggested that the best way to retain or restore an endangered language is through language learning via formal instruction (Fernández-Ulloa 2011; Hinton 2008, 2011; Hinton and Hale 2001; Hinton et al. 2002; Migge et al. 2010; Penfield and Tucker 2011). Among the key elements to the success of the revitalization process are the existence of a proper number of speakers, language exposure and active use, intergenerational transmission, language resources and teachers, community involvement, and adequate educational strategies for target language teaching that fulfill the needs of language revival.

Prior research efforts have investigated the effects of instruction for heritage linguistic development (e.g., Montrul and Bowles 2017), specifically in examination of the role of explicit instruction in the acquisition of morphosyntactic aspects. The general consensus is that explicit instruction has a positive effect on the acquisition of heritage speaker grammar in the classroom (Montrul and Bowles 2010; Potowski et al. 2009; Song et al. 1997). For example, Song et al. (1997) examined the role of explicit instruction in heritage language acquisition by testing children's knowledge of case marking and word order in Korean. Given that these children were having some difficulties on the pre-test using case markers to understand the subject and the direct object functions in a sentence, specifically in OSV order, the authors designed a two-week training program. Instructional materials and activities that used explicit explanation were included (e.g., examples, practice, and

immediate feedback to present the Korean case markers in SOV and OSV sentences). A post-test was administered immediately after the training and another post-test was conducted nine weeks later. Results showed that children had a remarkable improvement in accuracy recognizing the function of Korean case markers on sentences with OSV (from 25% on the pre-test to 66.37% in the post-test). The knowledge was preserved even after nine weeks (accuracy average 56.25%).

Montrul and Bowles (2010) also investigated the role of explicit instruction but, in this case, on the acquisition of differential object marking or *a-personal* and dative case marking with psychological verbs such as *gustar* ('to like') in heritage learners. In this study, 45 second-generation Spanish heritage speakers completed a pre-test, followed by explicit instructional explanation of the *a-personal* usages, including different practice exercises, immediate and explicit feedback about the accuracy of responses. Immediately after the instruction, a post-test was completed. The results from the post-test and the grammaticality judgement task indicated that explicit instruction seems to be beneficial for heritage learners' use of the Spanish *a*-marking in general, at least during the time of the project.

Finally, Potowski et al. (2009) examined the effectiveness of traditional and input processing instructions in the acquisition of Spanish imperfective subjunctive. Heritage and second language learners participated in this study and completed comprehension, production and grammaticality judgement tests before and after the instruction. Results suggested that both groups have a significant progress from pre- to post-tests, regardless of the type of instruction received. However, comparisons between heritage and second languages learners reveal that the latter make larger improvements than heritage learners. Finally, Potowski et al. (2009) highlighted the benefits of focused grammar instruction for heritage learners, but they pointed out the need of more research in this area.

However, there have been some difficulties in determining what other aspects of the instruction are crucial for heritage speakers. Thus, the call has gone out for more experimental research with learners of different heritage languages, in different linguistic domains, using varied approaches. Answering the call for advancing research in this area, the current study seeks to take advantage of a unique scenario of heritage language acquisition of a creole language with no bidirectional communication between younger and older generations. In addition to the lack of language exposure, current teaching practices in the classroom do not generally fulfill the needs of language revitalization approaches (e.g., the absence of explicit grammatical explanation and corrective feedback).

The present study focuses on native Spanish heritage speakers of Palenquero (i.e., a Spanish-lexified creole language) and the usage of plural marking and verb structure before and after explicit instruction. The setting in which Palenquero is learned differs from other language acquisition contexts. For instance, the teaching of Palenquero as a heritage and second language in school does not meet the basic requirements of a language program. There is neither defined teaching ideology nor a prescribed framework. Palenquero teachers are not trained in how to teach the language and Palenquero classes are limited in materials and resources. Furthermore, Palenquero classes lack explicit instruction of the grammatical aspects of the language, opportunities for students to communicate and negotiate in the target language, opportunities for unscripted student production, and teacher feedback on accuracy of linguistic forms. Additionally, students' progress, curricula effectiveness, and teacher effectiveness go largely unassessed, as there are few qualitative and quantitative evaluations and supervision of these language classes.

The lack of professional teaching training, materials, and validated curriculum and teacher recruitments is another common factor shared by other instructed heritage language acquisition in indigenous language contexts, such as the case of Tahitian indigenous Polynesian languages spoken in French Polynesia (Nocus et al. 2012), the indigenous community Ette Ennaka in Colombia (Cabildo Indígena Ette Ennaka 2013) and other heritage languages programs in the US (Lee and Wright 2014).

This pilot study aims to use explicit instruction as a first step to adapt this unstructured environment. In this study, the Palenquero teacher explicitly teaches and reinforces student knowledge of plural marking and verbal system in Palenquero since students overgeneralize these morphological forms to inappropriate contexts.

Working under a usage-based approach, when students are provided a more structured language curriculum, one in which they can better attend to language, language learning is facilitated. In line with these questions, I test whether explicit instruction improves Palenquero competence. Beyond the reinforcement of grammatical structures, the findings of this study have classroom implications regarding curricular resources to be developed to assist teachers in presenting materials in a way that help students better acquire Palenquero grammatical structures.

1.1. Sociolinguistic Landscape of Palenquero and Its Revitalization

Palenquero is a Spanish-lexified language with traits from Central West African languages, specifically Kikongo (Granda-Gutiérrez 1971; Schwegler 2016, 2017; Schwegler and Correa 2018). Palenquero is spoken in the village of San Basilio de Palenque in the northern part of Colombia. This village was founded by previously enslaved Africans (i.e., maroons) who escaped their Spaniard enslavers between the sixteenth and seventeenth centuries. Some scholars estimate that this town was founded between 1655–1674 (Navarette 2007, 2008, p. 19). Currently, the village has 4000+ inhabitants. Palenqueros also live beyond their namesake village. According to the Census DANE 2005, there are a total of 7470 Palenqueros who live in the Bolívar and Atlántico Departments, 4978 and 2445, respectively. Of these, 2788 (32.73%) self-reported as Palenquero speakers (Ministry of Culture 2010).

According to Schwegler and Correa (2018), Palenquero has existed in contact with Spanish for over 300 years in Palenque though its origins are not known with certainty. However, by the mid-1980s almost half of the population had abandoned the language due to intense contact with Hispanic culture, as well as widespread racial, cultural, and linguistic discrimination from Colombians living in surrounding areas such as Cartagena (Guerrero et al. 2002; Ministry of Culture 2010). At that time, Palenqueros began to adopt the notion that Spanish was superior and other dialects or languages were inferior (Schwegler and Correa 2018, p. 17). For instance, members of the community felt ashamed and embarrassed to speak their creole language outside of the community. They felt that Palenquero was considered “bad Spanish” not only by the outsiders, but also by many community members (Pérez-Tejedor 2004, p. 22). This lack of confidence impeded future learning and use of Palenquero, including in educational settings. Adult speakers also began to express disinterest for the language, and those who moved to other Colombian principal cities (e.g., Cartagena and Barranquilla) stopped speaking it altogether, often failing to pass it onto subsequent generations. As a consequence, the usage of Palenquero has decreased and interactions have been constantly in Spanish. Those who do still speak the language are more often adults than younger speakers (Friedemann and Patiño-Roselli 1983, pp. 187–88). Based on the results obtained in the sociolinguistic diagnostic conducted by the Ministry of Culture in 2008, Palenquero members above 30 years old consider themselves to be good speakers of the language (Observatorio del Caribe Colombiano 2012, p. 52).

The last few decades have enjoyed a revitalization of traditional Palenquero culture and language, reinforced by the 2005 UNESCO declaration of Palenque as “Masterpiece of the Oral and Intangible Heritage of Humanity.” Nowadays, Palenquero is being taught at schools and many younger community members are showing interest in learning it. Due to this increased attention, the language is now present in their environment and has become part of their identity. Scholars, in addition to documenting the language, have raised awareness of the importance of the Palenquero language, culture, and history (i.e., Bickerton and Escalante 1970; Friedemann and Patiño-Roselli 1983; Granda-Gutiérrez 1971; Lewis 1970; Lipski 2012; Megenney 1983; Moniño 2002; Montes Giraldo 1962; Pérez-Tejedor 2004; Schwegler 1996; among others). Community leaders such as Sebastián Salgado and

Bernardino Pérez, governmental and local organizations (i.e., The Ministry of Culture, The Ministry of Education, The Departmental Government of Bolívar, The Municipality of Mahates, The Observatorio del Caribe Colombiano, The Community Council of Palenque MA-KANKAMANA, among others), have fostered positive attitudes toward Palenquero daily life, traditions, and myths. The culture and the language have been promoted through music, dance, tourism, and literature.

1.2. Bilingual Status of the Palenquero Speakers

The Palenquero community in San Basilio de Palenque, where all the data were collected, provides a unique context in which a wide range of speakers with different bilingual profiles can be found. For instance, there are fluent speakers of Palenquero who reported having acquired the language at home, simultaneously with Spanish ([Observatorio del Caribe Colombiano 2012](#), p. 56). There are also L2 speakers who are learning Palenquero at school. As well, there is small cohort of young heritage speakers who live in a household with a Palenquero-speaking grandmother/grandfather or great-grandmother/grandfather ([Lipski 2020c](#), p. 3). In addition, there are some people who are not Palenqueros but are functionally monolingual speakers of Spanish immersed in the bilingual context of San Basilio de Palenque. These speakers are still exposed to a heritage language, Palenquero, and maintain a cultural affinity. However, they only have receptive knowledge of this language.

Given that there have not been any previous studies providing a detailed and validated characterization of the linguistic profile of Palenquero speakers who live in Palenque, little is known about their proficiency levels. Typically, researchers are the ones who design their own methods to select and describe their participants' level of bilingualism depending on the linguistic phenomena under study. Examples of proficiency measurements that have been used are self-report questionnaires, sociolinguistic interviews, and judgements from teachers and community leaders. With regard to characteristics that can set Palenquero heritage/L2 speakers apart from fluent adult speakers, researchers have analyzed "the usage of preverbal particles ([Lipski 2020b](#); [Smith 2013, 2014](#)), Spanish-like feminine gender agreement ([Lipski 2015, 2018b](#)), placement and processing of the negative elements ([Lipski 2010, 2017, 2018a](#)), use of the pluralizer *ma* ([Cassiani-Obeso and Smith 2021](#); [Lipski 2012, 2014](#); [Moñino 2007, 2013](#); [Schwegler 2007b](#)), and overall performances with interviews and translation tasks ([Lipski 2020a, 2020b](#))" ([Lipski 2020c](#), p. 3).

Taking into account that there are no established conventions to describe the bilingual profile of the Palenqueros, in this paper, I will use the definition of heritage speakers proposed by [Kondo-Brown \(2003, p. 2\)](#). Based on her criteria, a heritage learner is one who has a certain connection to his or her cultural identity and ancestral language even when the "learner himself and the immediate family members hardly speak the language." In this vein, proficiency is not the crucial factor when describing a heritage learner, but rather, the cultural relationship to the ancestral language and ethnic background ([Kondo-Brown 2003, p. 2](#)). [Polinsky and Kagan \(2007, p. 369\)](#) draw a further distinction between heritage and L2 speakers. They provide two definitions of a heritage learner, a "broad" and a "narrow" definition. The broad heritage learner is one that "has been raised with a strong cultural connection to a particular language through family interaction". This does not presuppose any linguistic proficiency. The narrow heritage learner is one that is raised at home where a language other than the dominant language is spoken [in this case Spanish]. The heritage language is first acquired, but the acquisition process is not complete due to a switch to the dominant language. In addition, narrow heritage learners exhibit a continuum of proficiencies. By contrast, a broadly defined heritage speaker is a culturally motivated L2 speaker who learns the heritage language in the classroom as an adult from scratch.

Considering that Palenquero is a strong part of the culture heritage of San Basilio de Palenque, most young Palenqueros will be considered broad heritage speakers. However, the participants in this study are neither broad heritage speakers nor L2 learners because

they have some communicative production of Palenquero at home, not matter how small. Therefore, they fall closer to the narrow definition of a heritage speaker.

Another important aspect of a heritage speaker profile is the culture and sociolinguistic context of Palenque. If we compare heritage learners of Palenquero with Spanish heritage learners in the US, we notice that the community of San Basilio de Palenque is a very small town where people often know each other. The culture and language are present in every aspect of Palenqueros' life (e.g., music, dances, gastronomy, agriculture, traditional games, medicinal plants, education, death rituals, etc.), especially now because of the current language revitalization process and cultural assertion. As a result, heritage speakers living in Palenque have at least some receptive knowledge of Palenquero language. Contrary to communities of heritage speakers in the US, where the same language (e.g., Spanish) is spoken in different regions and speakers do not necessarily share the same cultural background, in Palenque coexists a unified community that share a strong cultural and ancestral connection. Thus, learning Palenquero is a way of been connected with Palenqueros' African roots. Regarding language learning contexts, heritage speakers living in the US learn the heritage language in a setting where Spanish is not present in every aspect, as opposed to Palenquero.

1.3. Acquisition of Palenquero

Language is all around us: in our homes, in our community, in our professions. With revitalization efforts, Palenquero is undergoing an extraordinary period of resurgence of use in these environments. Thus, there are multiple spaces in which Palenquero can now be learned. As expected under a usage-based theory, each individual has had his/her own experience with the language, differing in where, how often, with whom it is spoken, and this affords varying language proficiencies and capabilities within the community (Tomasello 2000). For instance, speakers who learn Palenquero *at home* are more likely to hear Palenquero from their grandparents, great-grandparents and/or uncles and aunts who speak both languages (Spanish and Palenquero) and pass them on to the next generation of speakers who are raised as simultaneous bilinguals. Many younger speakers who were raised with both languages acknowledge improving in their Palenquero skills at school while taking Palenquero classes (Gomez-Rodriguez 2017). Although everyone in Palenque acquires Spanish natively, it is challenging to find speakers who have only learned Palenquero at home as an L1. Palenquero can also be learned *within the community*. There are some speakers who reported having learned Palenquero outside the home, in the streets, or by talking to friends and neighbors, because speaking Palenquero at home was not possible and sometimes prohibited (Gomez-Rodriguez 2017). In this regard, language is a "natural and organic social instrument" (Bybee 2010, p. 193) that depends on learners' environments and interactions. Speakers use specific linguistic forms that are tied to socially constructed meanings, because they have previously experienced this form-meaning pairing in their language environment (Bybee 2010). Without sufficient successful interaction with the language community, in the community's language—and this can take place in a classroom as well—students will struggle to build a pragmatically acceptable repertoire.

At School

In San Basilio de Palenque, where Palenquero is commonly taught, there are two educational institutions. The first is the Centro de Desarrollo Infantil (pre-school) *Mahana-sito Kon Kuturu I Gongoroko Ri Palenge* ('Children with Love and Friendship of Palenque'), in which 95 children between the ages of 0–5 years old take classes (CPNA 2015). The second is the Institución Educativa Técnica Agropecuaria Benkos Bioho de San Basilio de Palenque (INSETABP), which offers elementary and high school education in two different locations. The elementary school (Location 1) includes students from 1st through 5th grade (approximately 6–11 years old). The high school (Location 2) offers classes from 6th to 11th grade (approximately 12–18 years old). According to the Ministry of Culture, around 800

students of all ages receive intercultural education (Ethno-Education) starting from the first year of elementary school until they graduate high school. This intercultural education integrates both African American history and local history, while focusing on oral tradition and culture. In addition, it teaches Palenquero and its linguistic features (Guerrero et al. 2002, p. 21). Integrating cultural aspects of Palenquero in the teaching practices is crucial to the acquisition of the creole, as social and cultural aspects of a language have an impact on the structures and grammatical meanings that speakers create (Bybee 2010, p. 204).

When it comes to the actual learning and teaching of the language, the situation is complex, as efforts to revitalize Palenquero through education tend to be unreliable. The INSETABP curriculum (2015) stipulates that students in elementary and high school must obtain “passive” skills in Palenquero, meaning that they should understand Palenquero, but may not necessarily speak it (INSETABP 2015, p. 2). By way of illustration, in 2014 INSETABP found that several students in the fifth grade were neither able to fully understand a conversation in Palenquero nor able to produce one. They could only utter some phrases and translate from Spanish to Palenquero, though with some degree of difficulty. In 2013, 80% of fifth grade students were capable enough to hold a conversation in Palenquero (INSETABP 2015, p. 2). Although these students see themselves as bilingual, it seems that they may move into a monolingual mode in the classroom, where Spanish is more favorable compared to Palenquero (INSETABP 2015, p. 3). This may occur for several reasons: (1) there are fewer opportunities to speak Palenquero in class (i.e., Palenquero is not the language of instruction, though both teachers and students speak Palenquero at times); (2) Palenquero classes are not emphasized in early school years; (3) there is a lack of trained personnel to teach the language and teaching materials; and (4) Palenquero is not spoken at home with frequency and students have less opportunity to use it in everyday conversation. According to usage-based approaches to language acquisition, “children learn through experience with utterances in context” (Bybee 2010, p. 209). Therefore, it is necessary that children are provided with sufficient natural language exposure to promote the gradual development of grammar (Tomasello 2003). Finally, most instruction is provided via direct instruction (teacher-centered), sometimes called the “traditional” teaching approach, in which the teacher “spoon-feeds students with information and facts” (Onweh and Akpan 2014). Palenquero learners sometimes remain passive during class, receiving all information from the teacher and reading or doing translations from Spanish to Palenquero.

To put it succinctly, students of Palenquero are provided spotty and often ineffective instruction up until tenth grade, when they will receive Palenquero classes one or twice a week for about an hour. Teachers may speak to students in Palenquero at times, yet students rarely speak the language in the classroom. Additionally, teachers infrequently provide grammatical explanations. For example, while Spanish plurality is marked with an -s suffix ([vowel + -s] and [consonant + -es]), Palenquero employs the prenominal plural *ma* (Moñino 2007, 2013; Schwegler 2007a, 2007b). Teachers usually fail to address the structural differences between Spanish and Palenquero (Cassiani-Obeso 2020; Gomez-Rodriguez 2017; Herrera-Llorente and Álvarez-Romero 2013; Lipski 2020c). In 2019, when the present study was conducted, the eleventh-grade teacher at Instituto Técnico Agropecuario Benkos Biohó designed more interactive classes and provided feedback to students regarding correct answers. However, my observations suggest that these lessons rarely contained explicit explanations of Palenquero grammatical features and the structural differences between Spanish and Palenquero.

Regarding community involvement, adult members support the current language revitalization and are enthusiastic about current and future generations learning Palenquero. Unfortunately, these same members may not speak Palenquero themselves or may not interact with younger learners with whom to speak. Beyond this, there are some community members who have expressed in personal communication that younger speakers have lost the language. They do not speak it and their linguistic competence is limited; in other words, they believe there will not be a revival. Others are more optimistic, claiming

that Palenquero is not lost because students are learning it in school. Additionally, community members affirmed in personal communication that younger speakers understand Palenquero because it is part of their tradition and cultural heritage, and therefore they will acquire it. This point of view is shared by many members of the community who believe that the language can be acquired on the assumption that they live in Palenque. In this vein, one older speaker said the following regarding her grandchildren in an interview (Smith 2014): *Ma nioto, ane tan galá ese lengua tambié pogke ese é tradición ri akí ri pueblo mi* ‘My grandchildren, they will acquire it too because the language is the tradition here, of my town’. However, factors such as language exposure and use are crucial when acquiring a language, and motivation is not enough (Bybee 2010; Montrul 2008; Montrul 2016a; Montrul 2016b; Silva-Corvalán 2018).

Some learners have few chances to engage meaningfully in Palenquero (i.e., outside school, in everyday conversations); some have limited communicative opportunities to practice with fluent Palenquero speakers; others are jaded by older community members who blame younger generations for the loss of the language. As a result, Lipski (2020c, p. 4) argues that there is a “seemingly paradoxical existence of two hived-off versions of the Palenquero language within the same community.” Not only do these two groups differ in how they learned Palenquero (e.g., adults who learned Palenquero at home with parents (who are often functionally illiterate) and from interaction in their community, while younger speakers are mainly learning it at school), but the actual language that these groups produce also diverges. The younger speakers, perhaps due to limited input and lack of practice or absence of grammatical explanation and immediate feedback, do not always acquire the full range of grammatical structures, for example pluralization, preverbal particles, and many lexical items.

This pilot study opens the door to develop a more effective pedagogical framework to teach the Palenquero language at school in San Basilio de Palenque since the current instructional approaches are ineffective. By proposing the implementation of explicit grammar instruction, corrective feedback, practice and use of the Palenquero language every time in the classroom, the reinforcement of prototypical Palenquero features such as the usage of the prenominal plural *ma* and preverbal particles for tense, mood and aspect (TMA), will be facilitated. Additionally, this pilot study provides an example of a more structured language teaching according to student needs (i.e., the need to understand the usages of grammatical forms in Palenquero, to practice the language, and the need of better teaching resources). As well, this study offers some teaching materials that can help teachers to better design their classes and facilitate students’ knowledge of the following Palenquero grammatical features.

1.4. Prenominal Plural *ma* and TMA in Palenquero

1.4.1. Prenominal Plural *ma*

In the Palenquero language, plural referents are marked in most cases with the prenominal plural marker *ma*, whose origins are traced back to Bantu languages (Moñino 2007, 2013; Schwegler 2007a, 2007b, 2012). However, there is variation in plural marking in Palenquero because both *ma* and bare nouns can be used to express plural meanings (Schwegler 2007b; Moñino 2013). Adult speakers of Palenquero (almost) always use *ma* to mark plural contexts (Cassiani-Obeso and Smith 2021), while L2 speakers often extend *ma* indiscriminately to singular as well as plural referents (Lipski 2020c). A variety of production tasks (e.g., picture naming, written assignments, sociolinguistic interviews) have also provided evidence for the overextension of *ma* by younger speakers (Lipski 2012, 2014, 2015, 2020a, 2020b; Deibel 2020). It has been suggested that younger speakers may not recognize the function of *ma* as a plural marker (Lipski 2020c, p. 5).

1.4.2. TMA in Palenquero

Traditional descriptions of the TMA particles in Palenquero are presented as follows: bare (zero) stative verbs signal present tense (1); the particle *asé* is used to ex-

press habituality (2); *ta* is used for progressive aspect (3); *a* is used for past or perfective/completive events (4); and *tan* is used to signal future (5) (Although there are more preverbal particles for TMA, I have only included the ones that are relevant for the present study. For a more exhaustive list see [Smith \(2013, 2014\)](#); [Schwegler and Morton \(2003\)](#); [Schwegler and Green \(2007\)](#); and [Triviño-Doval and Simarra-Reyes \(2012\)](#)) ([Bickerton 1975](#)). (In the examples, the symbol Ø is used to indicate absence of a preverbal particle).

- (1). I Ø kumé alo ku pekao
I eat-PRES rice with fish
'I eat rice with fish'
- (2). I asé kumé alo ku pekao to ma ría
I HAB eat rice with fish every PLUR day
'I eat rice with fish every day'
- (3). I ta kumé alo ku pekao ola memo
I PROG eat rice with fish right now
'I am eating rice with fish right now'
- (4). I a kumé alo ku pekao ayé
I PAST eat rice with fish yesterday
'I ate rice with fish yesterday'
- (5). I tan kumé alo ku pekao maana
I FUT eat rice with fish tomorrow
'I will eat rice with fish tomorrow'

Scholars have also pointed out that Palenquero speakers use the preverbal marker *a* and zero marker for both past and present tense ([Schwegler and Green 2007](#), pp. 276–77). For instance, it is claimed that *a* is used to signal preterit, perfect ([Schwegler and Morton 2003](#), p. 151), or past tense ([Schwegler 2011](#); [Patiño-Roselli 1983](#), p. 115). [Bickerton \(1981, p. 88\)](#) argues that the *a* marker “has moved in to fill the ‘vacuum’ created by zero-marked past reference non-statives.” Furthermore, it was observed that Palenquero speakers employ polyvalent forms such as the use of the preverbal particle *a* with both perfective non-stative verbs and simple present with stative verbs). In this vein, [Smith \(2014\)](#) conducted a variationist study with adult Palenquero speakers investigating the distribution of tense-aspect morphemes in the language. The results showed that there is variation when marking perfective usages in Palenquero. Speakers used two forms: *a* and zero. The following is an illustration of the usage of these two perfective markers within the same context ([Smith 2014](#), p. 88).

A ndá mi no má hue ndo mochazo. Un cable Ø ndá mi ma juetazo.

PAST give me no more COP-PAST two blows a cable give me PL whack.

He only gave me a couple of blows. A cable gave me some whacks.’ ([Smith 2014](#), p. 89)

In addition, it was demonstrated that the *a* morpheme is robust in expressing perfective-related meanings contrary to a zero marker ([Smith 2014](#), p. 108). Regarding the present tense, [Smith \(2013, p. 104\)](#) found that speakers also use *a* and zero. However, zero morpheme is preferred over *a* for stative verbs in the present tense ([Smith 2013](#), p. 104).

While there is a consensus about the use of *ma* as a nonplural form and the overextension of the preverbal particles by younger L2 Palenquero learners, some scholars argue that this might have occurred due to the lack of explicit explanation, limited practice, and insufficient input received from the community ([Cassiani-Obeso 2020](#); [Lipski 2020c](#)). In this vein, this study reports on a pilot project that investigated the role of explicit instruction on heritage language acquisition of plural marking and verbal system in Palenquero.

2. Materials and Methods: Pilot Project of Explicit Instruction

For this study, I created communicative activities to explicitly present the usage of the pronominal plural *ma* and preverbal TMA particles in Palenquero. Table 1 illustrates the chosen particles.

Table 1. Prenominal and preverbal particles in Palenquero.

Prenominal Plural Particle		<i>ma</i>		
Preverbal Particles	Aspect	Present	Past	Future
		<i>zero</i>	<i>a</i>	<i>tan</i>
	Progressive	<i>ta</i>		
	Habitual	<i>asé</i>		

The teaching materials were created based on previous Palenquero grammar descriptions (e.g., Lewis 1970; Moñino 2007, 2013; Schwegler 2007a, 2007b; Schwegler and Green 2007; Smith 2013, 2014; Lipski 2012, 2014, 2020b; Cassiani-Obeso 2019a, 2019b). Given that regular Palenquero classes in Palenque have neither a coherent nor collective teaching approach or framework, and lack sufficient class materials, explicit instruction, corrective feedback, communication with fluent speakers, and evaluation of students and teacher, this pilot study has been created to test whether the observed overextension and mismatched forms produced by heritage speakers of Palenquero can be reduced through explicit instruction in a classroom setting.

In an effort to increase Palenquero proficiency among high school students, and working under the notion that explicit instruction of morphological markers can improve heritage language learning (Montrul and Bowles 2010; Potowski et al. 2009; Song et al. 1997), materials and teaching instruction were designed to concretely address preverbal particles and the plural marker *ma*. This would increase learners' attention to the topic and provides a knowledge of the existing gap in when and how to use these particles in Palenquero. First, use of *ma* and preverbal particles were presented in isolation and in sentences, then there was an explanation of grammatical rules. Following this, participants practiced individually and in groups. Throughout this instruction, the teacher provided corrective feedback and multiple opportunities to revisit, review, and repeat the instruction (Lichtman 2016; Housen and Pierrard 2005). In addition to classroom instruction, participants reached out to parents and/or community leaders who were fluent speakers of Palenquero. They were asked to provide examples and explanations of how they used the prenominal plural *ma* and preverbal particles.

Under a usage-based framework, exposure to and use of the language bring about grammar. In addition to this, explicit instruction will aid participants in TMA, particularly knowing how and when to use the grammatical structures named here when conveying messages in past, present, and future tenses. Beyond this, such explicit instruction, which simultaneously provides space to practice and use Palenquero with fluent adult speakers, would further learning. The current study aims to answer the following research questions:

1. Does explicit instruction reinforce usage of morphological markers like plural and verb structure among heritage Palenquero learners?
2. Is overextension of the prenominal plural marker *ma* and preverbal particles in Palenquero reduced by explicit grammar explanation?

2.1. Participants

This study looked at the learning trajectories of five Palenquero heritage learners (3 females and 2 males) in tenth grade at the INSETABP (the community secondary school) in Palenque. These participants were eighteen years old and were born and raised in Palenque. They were selected because they had been acknowledged, by teachers and other students, as good students and speakers of Palenquero in their classes. In addition to this, participants self-reported in a sociolinguistic questionnaire having been exposed to Palenquero at home via their parents and grandparents, although the language input they received is very limited. Moreover, participants affirmed to have improved and developed good language skills at school. Furthermore, participants mentioned that they identified with the Palenquero language and culture. In this pilot study, participants were exclusively

from tenth grade, as this is the grade in which Palenquero is more emphasized and teachers may speak the language in class (Lipski 2020c).

2.2. General Class Design

In this pilot study, classes were entirely taught in Palenquero and participants were encouraged to only speak Palenquero. Participants were presented with examples of the target grammar. They then practiced the multiple usages of the Palenquero prenominal plural *ma* and preverbal particles with a worksheet and in groups. Following this, they produced (orally and in written form) the target structures in various activities, such as picture naming and description of objects and events. This class design aligns with the deductive instructional approach, in which teachers provide rule explanation and illustrate it with examples (here: on the board) and participants then practice the rule in a contextualized situation (Smart 2014; Herron and Tomasello 1992).

Table 2 shows the general planning. All classes followed the same design such that the first five minutes of class were dedicated to an oral warm up. Participants greeted the class and talked about activities they did during the day and important events happening in Palenque. After that, the topic of the class was introduced by either lead-in questions related to the topic (e.g., kumo suto asé llamá ‘las sillas’ andi Palenquero? how do we say ‘the chairs’ in Palenquero?) or brainstorming ideas. Immediately after that, there was the topic presentation and grammatical rule explanation followed by 30 min of practice (creation of sentences (oral and written), description of objects, dialogues, etc.). After the practice, there was a class assessment in which participants shared their work with the class and asked questions regarding the topic. Finally, there were 5 min of wrapping up in which participants summarized what they had learned. Lastly, participants were given a daily homework assignment consisting of practicing and investigating the next topic. This homework was a *Home/Community-based Activity* that required participants to ask their parents or any member of the community about the assignment and practice with them. This was created with the aim to provide more Palenquero exposure and promote more communicative opportunities between younger learners and adult fluent speakers which is currently a missing component of the revitalization process.

Table 2. Sample Lesson Plan for Pilot Study Class.

<i>Lesson topic</i>
<ul style="list-style-type: none"> Prenominal plural <i>ma</i>
<i>Aim:</i>
<ul style="list-style-type: none"> Review the usage of the prenominal <i>ma</i> in plural context
<i>Objectives:</i>
<ul style="list-style-type: none"> Students will be able to recognize <i>ma</i> as a plural particle Students will be able to demonstrate that they understand that the particle <i>ma</i> is used only with plural nouns Students will be able to use the prenominal particle <i>ma</i> in a meaningful way
<i>Warm up: (5 min)</i>
<ul style="list-style-type: none"> Kumo bo ta? (how are you?) Ke jue lo ke bo a kumé andi maana? (what did you eat in the morning?)
<i>Introduction to the topic: (10 min)</i>
<ul style="list-style-type: none"> Kumo suto asé llamá ‘las sillas’ andi Palenquero? (how do we say ‘the chairs’ in Palenquero?) Bo pole asé un orasion ku ‘las sillas’ andi Palenquero? (can you make a sentence with ‘the chairs’ in Palenquero?)

Table 2. Cont.

Topic presentation: (20 min)
<ul style="list-style-type: none"> • Explicit grammatical rule explanation about when and how to use the particle <i>ma</i> • Examples are provided in the board to illustrate the topic
Main activity/students' production: (30 min)
<ul style="list-style-type: none"> • Recap: usage of <i>ma</i> in plural contexts (3 min) • Activity: students see pictures in plural and singular contexts in a computer screen and they have to name the picture (5 min) • Students create sentences with a given list of pictures (with a partner) (7 min) • Students describe an object that was drawn on the board by one of their classmates (10 min) • Students discuss with a partner the contexts in which <i>ma</i> should and should not be used (5 min)
Assessment: (20 min)
<ul style="list-style-type: none"> • Students participate and share the sentence they create with the class. Receiving feedback from the teacher and classmates • Naming objects in the class • Round of questions and clarification
Wrap up: (5 min)
<ul style="list-style-type: none"> • A student will summarize what was learned and provide examples
Homework-Home/Community-based Activity:
<ul style="list-style-type: none"> • Practicing and connecting the assignment to the next topic • Asking their parents or any member of the community, who speaks Palenquero, about the target grammar
Modifications:
Run too short: introduction to the topic
Run too long: cut the part when the students draw objects on the board; instead print the pictures and paste them in different places in the classroom.
Materials:
Picture naming activity
Printed material

2.3. Materials

This study adopted a pre-/post-test design to determine the effects of explicit instruction (see Appendix A). The goal was to gauge participants' overall knowledge in relation to the usage of pronominal *ma* and preverbal particles in Palenquero before and after explicit rule explanation. The pre and post-tests were comprised of different questions, but both contained a total of nine questions. These were designed to target the grammatical forms under study (plural marker (*ma*), past (*a*), present (*Ø*, *asé*, *ta*) and future (*tan*)). Given that all of these particles signal a specific verb tense, mood or aspect, the questions were created based on these parameters. The first six questions were multiple-choice. Participants were asked to choose the appropriate particle (out of four possible choices) to best complete a provided sentence in Palenquero. The remaining three questions were open-ended and asked participants about their daily routines, goals and things that they like and dislike of the Palenquero village. For example, the particle *a* is used to describe events in the past tense. Thus, I created the sentence *¿ke jue lo ke bo a asé ayé andi noche?* 'What did you do last night?' to promote the usage of the particle *a*. If the participants used the correct particle in the correct context, a score of 1 was assigned, but if they used it incorrectly or omitted it, a score of 0 was assigned. A member of the community revised and validated the questions before the pre- and post-tests were administered.

The last three open-ended questions were included in the analyses, in an effort to test how participants use the pronominal plural marker *ma* and preverbal particles for past,

present, and future time reference in a given context without limiting participants with predefined answers. The purpose of the open-ended question was to obtain more tokens of the target forms, as well as to determine if participants were aware of the usage of these particles.

An example of one the open-ended questions is presented in Table 3 below, followed by an example of the coding procedure.

Table 3. Sample analysis of the open-ended question.

<i>Example 1.</i>	<i>Example 1 (translation)</i>
Ke jue lo ke bo a asé ayé andi noche? I ø *tan asé salí a ma kalle kun ma kombilesa mi. A *tan be a jugá a ma monasito ri Palenge. I también andi noche a *sabeba jugá ma futbol andi cancha ko ma monasita ri 6–3. I a *ten ganá 3 a 0. I a *ta asé un gol pa ma equipo mi.	What did you do last night? I will go out to ma street with my ma friend. I will watch ma boys of Palenque play. Also at night, I used to play ma soccer in the soccer field with ma boys of 6–3. I won 3/0. I scored a point for my ma team.

In this question, Participant 1 produced five verbal tenses. Two of them were used accurately (i.e., inclusion of the preverbal particle *a*) and three inaccurately (i.e., absence of the particle *a*, overextension of particle *tan* and mixing particles). Then, I calculated the accuracy average of *a* for participant 1 (40%). In addition, I indirectly examined the use of the pronominal plural *ma* in all the open-ended questions. For instance, Participant 1 produced 16 tokens of *ma* in the pre-test (12 were used accurately (i.e., in a plural context) and four inaccurately). The accuracy average of *ma* for Participant 1 is 75%.

Other activities were also implemented during the project, such as picture-naming tasks and oral/written descriptions. For example, participants were asked to name pictures in both singular and plural contexts using Palenquero. This activity was developed to monitor participants' progress during class. In addition, participants described objects, their daily routines and events using the past, present, and future tenses.

2.4. Procedure

The learners participated in six sessions of about an hour and a half, over the course of six days. In the first session, I explained the study and administered a pre-test to see participants' previous knowledge of the usage of *ma* and preverbal particles of TMA in Palenquero. Finally, I explained how plurality is marked in Palenquero. For sessions 2–6, I continued teaching the usage of the pronominal plural marker and taught the Palenquero TMA grammar rules each day, as observed in Table 4. Participants were exposed to a set of activities such as sentence creation, picture naming, description of pictures and events, and storytelling. On the last day, participants were asked to complete the post-test and a self-evaluation by talking about their progress, the advantages and disadvantages of this pilot study, as well as to what extent this type of instruction did or did not reinforce their knowledge of the previously mentioned grammatical features.

Table 4. Researcher/Teacher's Journal Notes.

Day	Activity
2	I taught the usage of the pronominal plural marker <i>ma</i> and how plurality is marked in Palenquero. Participants did a picture naming task and described objects in singular and plural contexts.
3	We talked about how life in Palenque is and participants' daily routines using Palenquero preverbal particles for present (simple present, progressive, and habitual).
4	The usage of the preverbal particle for past tense was introduced by talking about remarkable past events that occurred or important festivities in Palenque. On this day, only the preterit usage (completed action) was taught to participants.

Table 4. Cont.

Day	Activity
5	<p>Palenquero preverbal particle for future tense (<i>tan</i>) was introduced by talking about future events such as their future goals after finishing school, plans for the next day, the future of Palenquero, cultural events, etc.</p> <p>There was also a wrap up time in which we revised all grammatical structures learned during the time frame of the pilot project.</p>

3. Results

Given that there was variability in the answers to the open-ended questions, I will consider them separately. Thus, I will first present the overall results from the multiple-choice questions followed by the results from the open-ended questions for *ma* and the preverbal particle *tan*, including individual differences among the participants.

3.1. Multiple-Choice Questions

Table 5 shows the average accuracy of the multiple-choice questions in the pre- and post-test. There were 5 participants, each responding to 6 items. The overall results include the pronominal plural marker *ma* and preverbal particles for past (*a*), present (zero, *ta*, *asé*) and future (*tan*) of each participant in the pre- and post-test.

As observed in Table 5, all participants improved (or maintained) their accuracy from pre- to post-test. Based on these results, participants have better performances after receiving explicit instruction and therefore better awareness as to how to use these grammatical features. However, there was individual variation in these multiple-choice responses. The majority of participants showed signs of improvement to 100% in the post-test.

Table 5. General accuracy in multiple-choice questions in the pre- and post-test.

Participants	Pre-Test		Post-Test	
	Token <i>n</i>	Accuracy %	Token <i>n</i>	Accuracy %
Participant #1	6	83%	6	100%
Participant #2	6	50%	6	83%
Participant #3	6	67%	6	100%
Participant #4	6	83%	6	100%
Participant #5	6	83%	6	83%

3.2. Open-Ended Questions

As I previously mentioned, there was individual variation in the open-ended questionnaire since participants were provided space to write in the past, present, and future tenses. The number of tokens by participants varies significantly and there are some individual differences among participants because of the nature of this type of question. Looking at tokens and accuracy of *ma*, it was found that all participants improved (or maintained) their accuracy, from pre- to post-test. Of the five participants, some had an increase of tokens and some had fewer tokens, from pre- to post-test, as shown in Table 6.

Regarding the results of use and accuracy of the preverbal particle *tan*, almost all participants improved their accuracy from pre- to post-test, as observed in Table 7, but all of them had fewer tokens of *tan* in the post-test. That participants were using fewer tokens of *tan* in the post-test could be due to a role for avoidance of using this particle considering that participants might have been more aware of its correct usages after the explicit instruction. However, a larger dataset is needed to test this hypothesis.

Table 6. Results of the usage of the particle *ma* in the open-ended questions.

Participants	Pre-Test		Post-Test	
	Token <i>n</i>	Accuracy %	Token <i>n</i>	Accuracy %
Participant #1	16	75%	11	82%
Participant #2	3	100%	5	100%
Participant #3	9	67%	7	86%
Participant #4	10	4%	14	79%
Participant #5	9	89%	8	100%

Table 7. Results of the usage of the particle *tan* in the open-ended questions.

Participants	Pre-Test		Post-Test	
	Token <i>n</i>	Accuracy %	Token <i>n</i>	Accuracy %
Participant #1	5	80%	1	100%
Participant #2	3	33%	1	100%
Participant #3	4	0%	1	0%
Participant #4	5	0%	3	100%
Participant #5	3	0%	1	100%

Even though tokens of *tan* were less frequent in the post-test and incorrectly used in the pre-test, the usage of this particle was 100% accurate in the post-test and it was used with more systematicity when describing goals and future plans in Palenquero. Overall, there was no confusion of temporal reference when using *tan* after explicit instruction.

With regard to the usage of preverbal particles for past tense (*a*) and present tense (zero marked), results were not systematic. A variety of answers and particle combinations such as the ones presented in Table 8 were obtained.

Table 8. Particle combination produced by heritage speakers of Palenquero in the present and past tense/pre-and post-tests.

Pre-Test		Post-Test	
Past	Present	Past	Present
null + verb	a + verb	null + verb	a + verb
a tan + verb	a ta + verb	a ta + verb	a ta + verb
tan + verb	tan + verb		a tan + verb

As can be seen in Table 8, there was no effect of explicit instruction in regard to the usage of the particles for past and present tense in the open-ended questions. Participants did not fully grasp the usage of these particles and the overextension was not reduced by explicit rule explanation. The particle *a* and zero were both used without systematicity in past and present tense, but only in the open-ended questions because in the multiple-choice questions, there was improvement on these items. In addition, particle *a* was also combined with other particles (e.g., *ta*/progressive, *tan*/future). Moreover, notice that all of these combinations were repeated in the present and past tense of the pre- and post-tests indicating the null effect of explicit instruction as well as the entrenchment of these structures in speakers' mind.

It is important to mention that some of these particle combinations are not found in the speech of fluent Palenquero adults (e.g., *a tan* + verb to express past references). Although the use of preverbal particles for TMA are variable among fluent adult speakers (Smith 2013, 2014) (see discussion in Section 1.4.2), they never confuse temporal reference, while L2 speakers seem to have extended perfective and future particles to inappropriate contexts (Lipski 2012, 2014). Based on this, we can conclude that polyvalent forms such as the use of the preverbal particle *a* (both perfective with non-stative verbs and simple

present with stative verbs) require more time and exposure to acquire. Additionally, it is also possible that an intervention with explicit instruction of disallowed combinations and feedback would be effective as well, as other studies conclude that heritage grammatical systems tend to show patterns of variability, simplification and overgeneralization of complex morphological forms (Montrul 2011; see also Benmamoun et al. 2013; Montrul 2004; Montrul and Bowles 2009, 2017; Montrul and Perpiñán 2011; Montrul et al. 2013; Potowski et al. 2009; Polinsky 2007, 2008; Song et al. 1997; Thomas et al. 2013).

Finally, the activities developed during the time frame of this study (e.g., picture naming task, description of objects and events) were useful for participants because they were able to practice the grammar rule, work in groups, and receive immediate feedback for accuracy of the target forms from other classmates. They used *ma* and preverbal particles accurately when performing these activities as they seemed to understand their functions and usage while they were working in pairs and sharing their work with the class. Thus, it is important to continually develop activities to reinforce the knowledge of Palenquero grammar and to provide students with more exemplars of quality spoken language.

4. General Discussion

This pilot study demonstrated that explicit instruction, specifically grammatical rule explanation and directions to attend to particular forms (Montrul and Bowles 2010; Potowski et al. 2009; Song et al. 1997), influenced younger Palenqueros' learning and use of the Palenquero prenominal plural *ma* and the preverbal future particle *tan*. Explicit explanations of grammatical rules, student practice, and immediate corrective feedback were crucial aspects of the instruction that helped participants in this learning environment. Additionally, the homework *Home/Community-based activity* was also an important piece of this study because it provided more opportunities for intergenerational communications. However, there is not concrete evidence as to what exactly students did with the homework, although they reported having asked and practiced the target grammar with a fluent speaker of Palenquero.

Regarding the use of the polyvalent preverbal particles (zero-marking and *a*) for present and past tenses (respectively), explicit instruction was not effective since the overextension of these particles was not reduced. Participants' usage of preverbal particles for present (zero-marking) and past (*a*) tense was not systematic. They produced a variety of combinations, confusing their temporal reference. At the same time, it is worth noting that these heritage speakers are producing a variety of structures to convey messages in the past and present tense. Future studies should investigate the use of these different constructions to understand how and why certain morphemes are combined or omitted in these contexts.

Additionally, it has been demonstrated that in the speech of Palenquero fluent speakers there is variation when marking perfective aspect and simple present tense. Speakers used only two forms in both contexts: *a* and zero (cf., Smith 2014, p. 117). Thus, it is not surprising that the heritage learners are producing the variation that is present in their input. As a usage-based approach predicts, "young children produce variants of linguistic forms that are good reflections of the adult variation" (Bybee 2010, p. 117). Another factor that might be contributing to this variation is the lack of sufficient and consistent input. The input that heritage Palenquero learners receive is not only variable, but also too limited since it sometimes comes from only one fluent family member or caregiver, or from L2 speakers who transmit a non-native variant of the language.

As a consequence, heritage Palenquero speakers need more time and exposure to acquire the pattern of variation between *a* and zero and its conditioning factors. However, the fact that participants were able to reinforce the usages of *ma* and *tan* with explicit instruction over the course of one week, means that students, if given enough time, can learn how to use other particles, such as *a* and zero for past and simple present, as well as other Palenquero grammatical features, and if explicit instruction is included in the teaching methods.

Finally, results showed individual differences among participants, indicating that explicit instruction was beneficial for all participants, but with varying degrees of effectiveness. For instance, Participant 2 used the prenominal *ma* accurately in both the pre- and the post-test. Thus, explicit instruction did not affect this participant's learning of the particle *ma*. However, the same participant's use of *tan* in the pre-test was not accurate, but improved in the post-test. The opposite result was obtained by Participant 3, who did not use the particle *tan* accurately either before or after explicit instruction, but this participant was better at using the particle *ma* in plural contexts. These individual differences can be explained in terms of frequency of usage. *Ma* is used very frequently in Palenquero; adults use it most of the time in plural contexts, and L2 speakers overextend its usage to singular contexts. Thus, after explicit instruction, participants were aware of using this particle in plural contexts, but not with 100% accuracy in the post-test as when using *tan*, which is less frequent in the speech of Palenqueros. Thus, the explicit instructions had more impact for learning the usage of less frequent particles than the most frequent ones. Given that more frequent items have stronger representations in our minds (Langacker 1987; Bybee 2010) and that complex morphological forms take longer to acquire (Thomas et al. 2013), more explicit instruction and time are required to reduce participants' overextension of *ma* to singular contexts.

5. General Considerations for Teaching a Minority Language in Process of Revitalization

The main contributions of this study are the implementation of effective pedagogical techniques and the development of suitable instructive materials for Palenquero Creole. Teaching strategies such as explicit explanation of grammar, practice, repetition, and corrective feedback could be beneficial in Palenquero classrooms. In addition, *Home/Community-based activities* could be a good strategy to promote intergenerational communication at home and at school. Integrating these approaches to the Palenquero curriculum could bring the speech of younger learners of Palenquero into closer alignment with traditional adult speakers, with the hope of encouraging further language revitalization. The success of this process is crucial to the survival of this "heritage of humanity" (Guerrero et al. 2002). Although the results presented here are clear with regard to the effectiveness of explicit instruction, future studies with larger data sets are needed to validate the teaching strategies presented in the study. Perhaps including a control group that does not receive explicit instruction will provide stronger evidence for the role of explicit instruction on the acquisition of morphosyntactic elements. Additionally, it is important to include the teaching of patterns of variation that are observed in the language such as the variation of *ma* versus bare forms to mark plurality (Cassiani-Obeso and Smith 2021) and variation of preverbal particles (Smith 2013, 2014). Variation is an inherent aspect of Palenquero Creole that needs to be addressed in the teaching curricula. Further studies about the teaching process of Palenquero at school may be better addressed by suggesting a more reliable teaching approach and framework for teaching Palenquero that incorporates communicative language learning, explicit instruction and immediate feedback. This may provide a better understanding of which instructional approaches to grammar teaching would be most beneficial to Palenquero learners and consistent with the community needs.

Funding: This research received funding from the National Science Foundation "Partnerships for International Research and Education" (PIRE) grant OISE-1545900 "Translating cognitive and brain science in the laboratory and field to language learning environments".

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of The Pennsylvania State University (protocol code IRB# 34061, approved on 24 March 2014).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available because they constitute pilot data and therefore are still under construction.

Acknowledgments: I am grateful to the participants who were part of this study. I would also like to thank John Lipski, Jessica Velez-Aviles, Anna Piotti, Hiram L. Smith and Cole Callen for their insightful feedback and comments during the first stages of this paper.

Conflicts of Interest: The author declares no conflict of interest.

Appendix A

Pre- and post-test assessments

Pre-test

Prueba ri Lengua

Kumo bo asé yamá?

Fecha:

- Suto_____ lengua ku tatá ora memo.
a. chitiá b. ta kumbesá c. asé kumbesá d. ta chitiá
- Ayé tatá mi_____ pito tiela pa sembrá.
a. ta kumblá b. tan kumblá c. aseba kumblá d. a kumblá
- Paino kumbilesa mi _____orikiá andi Kattagena maana po tadde.
a. ta b. tan c. aseba d. a
- I ten 10 mbulo. _____ kelé un chito ri apú.
a. mbulo b. ma mbulo c. el mbulo d. e mbulo
- Antinoche, kuandi ele _____ kumé ele tranká ku epina.
a. ta b. a. c. ta-ba d. tan-ba
- Tiempo ri ante, Palenge_____ ma jutaró nu.
a. tené b. a tené c. teneba d. asé tené
- Ke jue lo ke bo a asé ayé andi noche?
- Bo asé adgún kusa andi 14 ri Junio? Ke jue lo ke bo tan asé ette año?
- Ke kusa ngutá asé akí Palenge?

Post-test**Prueba ri Lengua**

Kumo bo asé yamá?

Fecha

Kompleta ma orassió ku bebbo o partíkula korretto.

1. I _____ makaniá ku tatá mi andi monde to ma ría.
a. asé b. a c. ta d. tan
2. Suto _____ orikía maana andi Kattagena.
a. bae b. tan c. ta d. asé
3. Ané _____ ma kumbilesa mi.
a. sendá b. komblá c. miní d. makaniá
4. Loyo ri Palenge teneba apú andi tiembo ri ante. Agué, loyo _____ mucho apú nu.
a. teneba b. tené c. ten d. asé
5. Ele _____ drumí aola memo.
a. tan b. ta c. a d. asé
6. Antiye, I _____ sangariá andi plasa nu.
a. ta b. a. c. asé d. tan
7. Ke bo a ase ayé domingo andi 6 pm?
8. Ke bo kelé makaniá kuando bo ke temminá ekuela si?
9. Ke kusa ngutá bo ri Palenge i ke kusa ngutá bo nu?

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