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Multimodal Analysis of the Spanish Linguistic Landscape in Alabama

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Abstract: The study of linguistic landscapes (LL) examines the use of signage in public spaces, often with a focus on the use of non-majority languages. The main goals of this project are to map, quantify, and analyze signage in Spanish within Tuscaloosa County, AL, an emerging site of Spanish language use which differs from the large urban places often studied in the LL literature. Photographs of public signage in Spanish were taken and uploaded to an ArcGIS Field Maps app to allow for both geolocation of the image and tagging of the image for specific linguistic and visual characteristics, which are subsumed under multimodality. Multimodality refers to the interaction of the linguistic code with other modes of communication such as images, colors, flags, and other cultural objects to make meaning in a given LL text. Within the multimodality framework, we examine the use of Spanish by itself or with English, location of the signage, communicative functions (symbolic, informative), and the combination of multimodal resources to index the actors originating the text and their intended audience.

Keywords: linguistic landscape; multimodality; semiotic; Spanish; US Southeast

1. Introduction and Literature Review

The study of linguistic landscapes (LLs) is a field of research within sociolinguistics which has developed in the past few decades (Landry and Bourhis 1997; Gorter 2006; Sebba 2013; Gorter and Cenoz 2023; Shohamy 2018, among others). Fairly recently, a linguistic landscape journal has also been established (Shohamy and Ben-Rafael 2015), and periodic international conferences on the LL are also taking place. Gubitosi and Pellicia (2021) offer a panorama of research on the Spanish LL in areas of the world where Spanish is spoken (see also a review of this volume by Gorter 2023). This volume includes contributions on locations in Europe (Italy, Spain—Salamanca and Valencia), Latin America (Colombia, Ecuador, Mexico) and the United States (California, Florida, Illinois, Puerto Rico, Texas). Of specific interest for the current study is the section on Spanish LLs in the USA, which includes research in Dallas (Pastor 2021), Los Angeles (Carr 2021), Orlando (Amgott 2021), and San Diego (Ramos Pellicia 2021); see below for more discussion. Franco-Rodríguez (2018) also reviews Spanish LL research in the USA. Other settings for research on the US Spanish LL in areas with dense Hispanic or Latino population include Martínez' (2003) study along the Mexico–USA border, and Guarín's (2024) study of neighborhoods in Philadelphia.

Bilingual signage of a particular city or town has often been regarded in the research as an indicator of the ethnolinguistic vitality (cf. Giles et al. 1977) of a minority community (cf. Gorter and Cenoz 2023, among many others). That is, the more signage in the minority language, the more vital the community is in terms of language use and maintenance. We want to underscore two points: first, while it may seem obvious, the LL in a community is not the only indicator of ethnolinguistic vitality (cf. discussion in Hualde et al. 2020, pp. 481–84); second, the linguistic landscape goes beyond the correlation of signage with ethnolinguistic vitality, that is, one sign is not equivalent to one person (Kallen 2023).

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Importantly as well, often ethnolinguistic vitality has been studied in urban areas about large minority groups engaging with the surrounding environment of the majority language (cf. Pastor 2021). In our study, for example, we are not able to ascertain ethnolinguistic vitality yet, since we document an emerging Spanish linguistic landscape in small-town urban and semi-rural locations. We thus add a different dimension to the research on Spanish in the US which has focused mostly on urban areas with large Spanish-speaking communities. Further, Franco-Rodríguez (2018, p. 75) points out that "[s]tudies on Spanish in the LLs of the US reveal a discrepancy between the high concentration of Hispanics and the low visibility of Spanish in the LL, especially in texts". The paper by Troyer et al. (2015), in particular, shows a low percentage of signage in a small town in Oregon with a high-density Hispanic population. The present study attempts to address the other end of that spectrum, where a low concentration of Hispanics still results in a relatively high visibility of Spanish in the LL. Another discrepancy is brought to light by Carr (2021) in her discussion of Koreatown in Los Angeles, where Koreans are an ethnic minority within a Hispanic majority community. The Korean language, however, is strongly present in the LL of Koreatown, contrasting with the scarcity of Spanish signage.

While there are many definitions of LLs, we follow the simple description of a linguistic landscape as "any display of texts" by Franco-Rodríguez (2018), within a "spatially definable frame" (Backhaus 2006; Lyons and Rodríguez-Ordóñez 2017). In the LL literature, the term 'semiotic landscapes', as in Jaworski and Thurlow (2010), has been used to refer to the different linguistic and non-linguistic ways with which one "makes meaning" to communicate a message. A definition of linguistic landscape which includes elements beyond the text's linguistic features looks to discourse as a larger context in which the text appears. Such is the definition by Kramsch (2014, p. 242), who refers to the linguistic landscape as "discourse in action, multimodal discourse, shaping our environment through signs that cry out in different languages".

The unit of analysis in our research is the text, which serves two functions, the symbolic and the informative (Landry and Bourhis 1997). Drawing on this distinction, Franco-Rodríguez (2007, 2008) identifies a symbolic section and an informative section in a text. The main or symbolic section (hereafter symbolic), which is the more salient part of the text, is associated with the prestige of the language, and the informative section generally adds information, or provides an explanation or a definition, usually illustrating the diversity or usefulness of languages (e.g., <CORAZON LATINO | GROCERY>[1]). In addition, Franco-Rodríguez (2013, p. 113) mentions the emblematic use of a storefront text, which could allude to "business authenticity", signal the oral use of the displayed language inside the business (or establishment), or for "avant-gardism" messaging. Each of the sections may appear in any order or combination, that is, they are not defined by where exactly they appear in the text. Other authors who have incorporated the symbolic/informative framework to Spanish and bilingual texts in the United States are Pastor (2021), Carr (2021), Amgott (2021), and Ramos Pellicia (2021). Our study diverges from those works in that our data are not from a historically Hispanic area nor from a densely populated Hispanic area. In the methodology section below, we discuss this distinction in relation to the present study.

The "discourse in action" description by Kramsch (2014) above evokes dynamicity and change. To capture this idea, we frame our analysis within the discursive context in which the text occurs, modelled after the "spatial frameworks" in Kallen (2010, p. 43), who follows a geosemiotic approach, drawing from Scollon and Scollon (2003). Amgott (2021) is an excellent application of a geosemiotic approach to commercial plazas in the Spanish linguistic landscape of Orlando, Florida. The study by Amgott (2021) inspired us to consider geosemiotics for our study, to which we add geolocation of texts through the use of ArcGIS Enterprise software (version 10.9.1) (Esri 2024) and the Field Maps Designer app (version 24.2.0) (Field Maps Designer 2024).

In the location where we have conducted our research, we have identified two discursive contexts so far, viz., the marketplace (restaurants and stores) and community

(churches). Thus, we understand the discursive context for a text as including the following minimum elements: time associations, since a text does not appear in a vacuum but, instead, is a reminder of change in the linguistic landscape of the area; space associations, given that a text is "emplaced" somewhere (cf. Scollon and Scollon 2003), which, in turn, is part of the surrounding physical space; and, lastly, indexicality, as in the identification of which resources point to the creator/originator/source of the text and intended audience. For a given text, time, space, and indexicality are conveyed via multimodal meaning-making (semiotic) resources which include linguistic and other modes of making meaning: fonts, colors, and text (em)placement (the choice of the space it occupies, e.g., on a major commercial road). All of the above-mentioned elements in the discursive contexts interact to create a public space which is "symbolically constructed", as in Ben-Rafael et al. (2006), resulting in a LL which reflects the identities and lived experiences of a community in which the texts are emplaced. As Ben-Rafael et al. (2006, p. 10) put it, "community identity markers should imprint themselves quite strongly on LL".

Indexicality refers to "the property of the context-dependency of signs, especially language; hence the study of those aspects of meaning which depend on the placement of the sign in the material world" (Scollon and Scollon 2003, p. 3). With this in mind, in examining how multimodal resources combine to make meaning (Kress 2010) in this study, we need to look into the context for the indicators of the 'what' (e.g., a bilingual text or a text in a foreign language), the 'where' (a restaurant, store, or church and its interaction with the surrounding landscape, or monolingual vs. bi/multi-lingual space, for example), and the 'who' (e.g., the actors who originated the text and the intended audience). The indicators can be the languages used, buildings, colors, special fonts, cultural objects, persons, organizations or regional groups, and the place of emplacement (e.g., if it is on a busy thoroughfare or on a downtown main street). We take the term 'actor' (cf. Ben-Rafael et al. 2006, among others) to refer to anyone involved in the creation and/or emplacement of a text: creators, establishment owners, designers, commissioned contractors, governmental entities, regional groups, and so on.

Among the factors involved in the emplacement and presentation of the text are selection criteria, choices, intentions, decisions, "presentation of self" (Goffman 1963, 1981, as cited by Ben-Rafael et al. 2006), and "rational considerations focusing on the signs' expected attractiveness to the public and clients; aspirations of actors to give expression to their identity through their choice of patterns that, in one way or another, represent their presentation of self to the public; and power relations that eventually exist behind choices of patterns" (Ben-Rafael et al. 2006, p. 7). The "presentation of self" concept is very useful in trying to elucidate from our data how actors apply multimodal strategies in their choice of terms such as Mexican, Latin, and Latina, related cultural objects and colors to represent themselves, the region or country of origin, and the nature of the products or services they offer. We will discuss this point further as we discuss group identifiers in the Results section below.

Regarding the connection of actors with the text, Malinowski (2008, p. 124) suggests distinguishing between authorship, which involves complex processes that are "multi-faceted and distributed" on the one hand, and individual actors in the LL on the other. As to the intended audience of LL actors, we consider how they are signaled in the texts via multimodal resources. Relatedly, we also consider the viewer's or reader's potential interpretation when arguing for the Dynamic language label below. Also, with respect to the general interpretation of a text, it is worth noting that one of the findings in interviews to store owners by Malinowski (2008) was that there was a discrepancy between what the store owner intended to convey in a particular text and the actual interpretation of the text that one of the readers of the text had.

As to the linguistic features of a text, we focus on the use of Spanish, whether it appears alone or along with English, and identify the language use according to language labels: Spanish, English, or 'Dynamic'. In the category of Dynamic, we include words that cannot be designated as belonging exclusively to one language or the other, so that they

are underspecified, in some sense, for language and/or culture (cf. "language-neutral" in Sebba 2013, pp. 107–8). Kallen (2023) offers an in-depth discussion of the assigning of text to one language code or another, and the difficulties and considerations involved. Including the category of Dynamic is helpful since the viewers of the text may assign a word to one language or another from a processing standpoint, depending on what language mode they are in. That is, a word may be read as belonging to one language before morphology from another language is viewed (e.g., <Margarita's Grill>). While it is possible to conduct a morphological analysis of <Margarita's Grill> and assign the first word to English due to the possessive, this does not fully account for how the word itself may be processed by the viewers in real time (see Grosjean 2007; Schwartz and Kroll 2006 for discussion of bilingual mode and language processing; see also, e.g., Vingron et al. 2017 for eye fixation on LL texts in L1 and L2, and Mantel and Kellaris 2023 for attitudes to bilingual signs which may affect a reader's disposition to employing one or more language codes when viewing a text). Our proposed Dynamic category, which is highly important to isolate in contexts of multilingualism and language contact, has not been discussed in much of the LL literature in relation to the Spanish LL (in the USA or other countries). This broad Dynamic category encompasses some of the more detailed coding in Pastor (2021, p. 87), for example, loans, simple calques, etc. Our approach acknowledges that there may be fuzzy boundaries of interpretation by different viewers/readers for a given word in language contact situations. The term Dynamic, then, captures this range of possibilities, which would need to be corroborated by processing research. Further examples for Dynamic are provided in the methodology section.

In the general use of linguistic resources, we recognize (but do not discuss in this paper) a variety of translingual practices (as in, for example, Gorter and Cenoz 2015) including: L1 language attrition, language contact phenomena such as code-switching, borrowings and calques, and the use of orthographic accent and other orthographic features like spelling errors (e.g., <Iglecia> [sic]), capitalization, spelling which reproduces oral speech, dialectal features, and so on. As to non-linguistic semiotic resources, in this paper we focus on the use of special fonts, colors, flags, and the space that has been chosen for the text's emplacement.

In our analysis for this paper, we seek to address the following research questions regarding the linguistic landscape in Tuscaloosa County:

RQ1: How does Spanish appear in texts according to location (e.g., alone or in combination with English), and what is the relative weight of the language (combinations)?
RQ2: Does the presentation of symbolic and informative text sections differ by location and language?
RQ3: How do multimodal resources combine to index the type of location (restaurant, store, church), emplacement, actors, and intended audience?

By addressing these research questions, we hope to be able to observe and characterize Spanish language use in public spaces in small urban (and semi-rural) settings in Tuscaloosa County. This data will contribute to what is known about the Spanish linguistic landscape in the United States in areas that have small but emerging Hispanic and Latino populations. In this way, the present study can serve to complement research on studies of larger urban areas with more established Hispanic or Latino populations.

In the subsequent sections, the term 'signage' is used somewhat interchangeably with 'text', although in a less specific sense. Before turning to our methodology section, we provide a profile for the area of research. This is followed by a presentation and analysis of the results. The last section is dedicated to the discussion of our findings and a summary.

Profile of the Research Area—Tuscaloosa County

Alabama has been multilingual and multidialectal throughout the history of the region (Picone 2018). In Jenkins (2018), US Hispanic populations are divided into four macro-regions, grouped according to both social history and historical factors related to Hispanics or Latinos in the region and their corresponding demographics. Of these regions, the

Southeast is considered to be the newest area where the majority of growth has occurred from 2000 onward. North Carolina, South Carolina, Tennessee, and Georgia are the states listed that correspond to this area, with the majority of growth from Mexican immigration (Jenkins 2018, p. 62). Also, Florida is excluded from this grouping for other sociohistorical and demographic reasons. The other identified regions include the Southwest, Northwest, and Northeast. Of these four areas, Jenkins reports the highest rates of Spanish language maintenance and intergenerational transmission within the Southeast compared to the other regions, explained in part by the recency of the arrival of this population. Alabama was listed among nine states that more than doubled the population of Hispanics or Latinos between 2000–2010 (p. 62). Growth rates for Alabama are further discussed below. As of the 2020 Census, the Hispanic or Latino population was still relatively low at 5.3% in the state (U.S. Census Bureau n.d.d).

The composition of Tuscaloosa County is as follows: there are nine named municipalities within the county. The cities of Tuscaloosa and Northport are adjacent and comprise the majority of the population, with 111,338 and 31,111 residents, respectively, out of a county total of 237,373 (U.S. Census Bureau n.d.e). The remaining municipalities are much smaller in size, ranging from 900–3500, and several are semi-rural (TCEDA, Tuscaloosa County Economic Development Authority 2024). The location of all municipalities within the county is shown in more detail along with data in the results section. Tuscaloosa County is part of a larger combined metropolitan statistical area named Tuscaloosa, AL, which also includes Pickens County, Hale County, and Green County (U.S. Census Bureau n.d.a). Of the 67 Alabama counties, 15 were between 5–10% Hispanic or Latino, while 3 were above 10% Hispanic or Latino (ranging from 16–19.5%); see Figure 1.

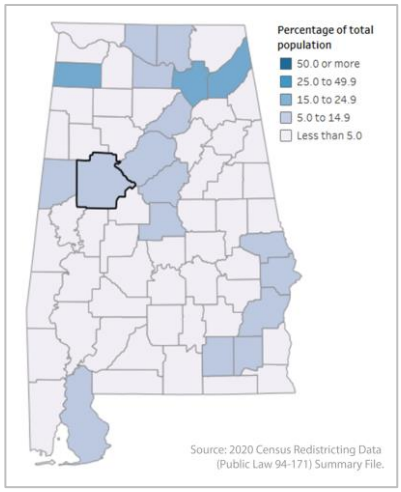


Figure 1. Hispanic or Latino Population in Alabama by county, 2020 Census; Tuscaloosa County outlined in black (Generated map; U.S. Census Bureau n.d.f).

Tuscaloosa is the second largest county in Alabama by square footage (after Baldwin Co. on the coast), while most recent population estimates for 2024 place Tuscaloosa as the fifth most populous county in the state after Jefferson Co. (Birmingham), Madison Co. (Huntsville), Mobile Co. (Mobile), and Baldwin Co. (Bay Minette) (World Population Review n.d.). In the 2020 Census, the Hispanic or Latino population in Tuscaloosa County was 5.4% of the total population of 227,036 (U.S. Census Bureau n.d.e). This was an increase from the 2010 Census which showed that 3.1% of a total population 194,656 in Tuscaloosa County was Hispanic or Latino. Jenkins (2018, p. 58) notes that a population density of 10% Hispanics is a threshold discussed in the literature at which point population growth may be observed (Ennis et al. 2011; Hobbs and Stoops 2002; Rivera-Mills 2010; cited in Jenkins 2018), and may result in legislative reaction to changing demographics, as described in Rivera-Mills (2010, p. 16).

Within Tuscaloosa County, the Hispanic or Latino population ranges between 5–10% in ten census tracks, 10–15% in seven census tracks, and 15–25% in one census track (specifically 21.9%, which corresponds to the local university area); see Figure 2. The remainder are below 5%. In general terms, most of the higher percentage tracks are found outside of the central area of Tuscaloosa and Northport, with some exceptions.

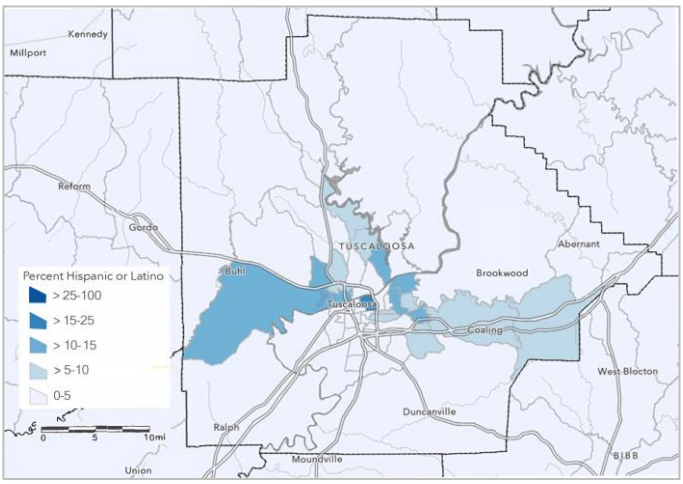


Figure 2. Percent of population who are Hispanic or Latino, 2020 Census by census track (Produced map; Esri).

Between 2010 and 2020, the Hispanic or Latino population (of any race) increased in Tuscaloosa County from 5214 to 12,298 (a difference of 6349) or a growth rate of 107%[2]; prior growth rates were also over 100%: 2000–2010, 179% and 1990–2000, 125% (Pew Research Center 2022). This places Tuscaloosa County among one of the fastest growing areas within the US for Hispanics or Latinos and the third fastest in Alabama; neighboring Pickens County is ranked in the top ten fastest growing counties in the USA at 236% out of over 3100 counties in the country (Pew Research Center 2022).

For both the 2010 and 2020 census periods, the largest group was of Mexican origin or heritage, followed by Central American, Other Hispanic or Latino (including Spaniard and Spanish American), Caribbean, and then South American; see Figure 3. While the relative percentages are still in the same order a decade later, the Central American group has increased the most by 4%, two other groups have also increased by 3% (Other and Caribbean), while one group did not change (South American). The Mexican group, which is a lower percentage of the whole by 8% between decades (moving from 70% in 2010 to 62% in 2020), still increased in overall 5-year number estimates from 3648 to 4906. Similar relative changes can be observed within the Central American group. For example, in Figure 4, the Guatemalan group reduced in population share (from 81% in 2010 to 53% in 2020), even though the group itself increased in absolute size from 447 to 619 [3].

Taken as a whole, in Figure 3, nearly 40% of Hispanics or Latinos are from groups other than the largest (Mexican) group; in Figure 4, 47% of Central Americans are from groups other than the largest (Guatemalan) group. In the same way that the presence of a group may begin to be more salient after meeting a minimum percentage threshold (as discussed in Jenkins 2018), the same type of trend may be observed among subgroups of different Hispanic or Latino origin or regional subgroupings within the Hispanic or Latino population. That is, within the community, a notable presence of signage geared toward a particular group (e.g., Central Americans, or specifically Guatemalans) may become more visible as the relative size of the population increases. Based on Figures 3 and 4, we can see the heterogeneity of the Hispanic or Latino population in Tuscaloosa County, at least in the two most recent censuses. What remains to be determined, and what the present study will address, is how the presence of these groups appears within the linguistic landscape. This

heterogeneity, and its manifestation in the community through the public display of texts in Spanish, will be discussed further following the presentation of results.

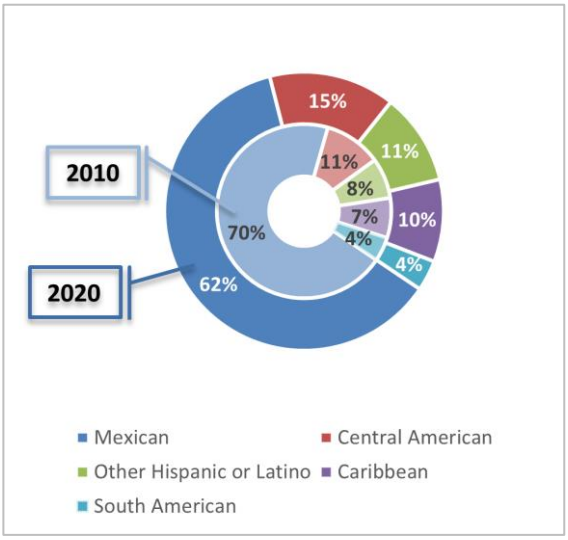


Figure 3. Hispanic or Latino Population in Tuscaloosa County. Percentages may not total to 100 because of rounding. *Source*: American Community Survey (B03001 5-year estimate 2010, 2020; U.S. Census Bureau n.d.b, n.d.c).

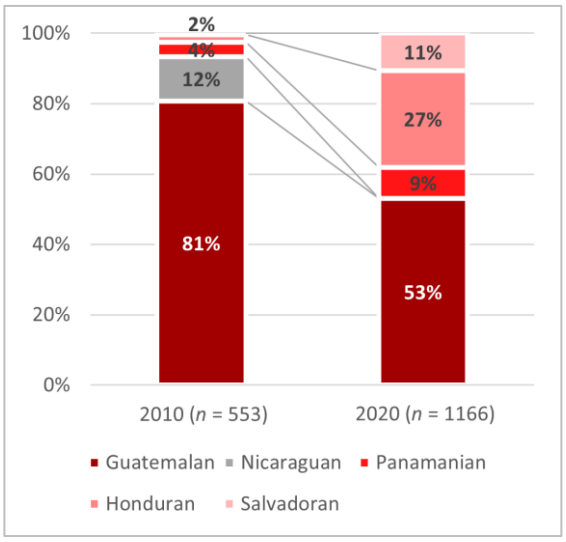


Figure 4. Hispanic or Latino Population in Tuscaloosa County of Caribbean origin or heritage. Percentages may not total to 100 because of rounding. *Source*: American Community Survey (B03001 5-year estimate 2010, 2020; U.S. Census Bureau n.d.b, n.d.c).

2. Materials and Methods

Pictures were taken of external signage of businesses and other buildings within Tuscaloosa County which included use of Spanish in the text, broadly defined. We report on data we collected from January 2022 until May 2024. The analysis of signage described here is based on more than 125 photographs taken at over 85 locations, which are summarized at the end of this section. We have limited our analysis currently to those texts which are either affixed to the storefront as the name of the business or display the business name as part of a plaza marquee or independently emplaced text. These criteria exclude roadside banners placed at ground-level height. Pictures have been taken via cell phone and uploaded to an ArcGIS Field Maps app which has been configured to include specific criteria for

description of the image according to its location, text, and image features. We note the recommendations on using photography in research in Kallen (2023) and Gorter and Cenoz (2023) regarding the need for high quality images and thoughtful framing of a picture which can change the interpretation of the text when its emplacement is included or excluded. Below, in some cases, we include two versions of an image for these reasons, that is, to give a view of the signage but also the context. As an additional methodological consideration, we generally attempt to include some element in the photograph as evidence of the outside nature of the signage, with inclusion of a roof, building surface, sky, surrounding greenery, or even a reflection of the former in a business window.

Multiple pictures at a given location have been taken when there was more than one text related to the business, such as in the marquee sign of a plaza, a text on a solitary post, or a storefront text (see Figure 5). In this way, we limit our analysis to 'unique' texts related to a given location. For example, if a marquee has the same text on both sides, the marquee text is only analyzed once. However, if the same or similar text appears in both the storefront signage and the marquee, both are analyzed as distinct texts since their emplacement is different.

(**a**) (**b**) (**c**)

Figure 5. Text placement examples: (**a**) Marquee sign, (**b**) Single post sign, and (**c**) Storefront; (Tuscaloosa—2022)[4].

The main criterion for inclusion in the database is the public display of signage in Spanish within Tuscaloosa County, regardless of the current status of the location. That is, businesses which are no longer functioning, but where the signage still appears in the community are included (see Figure 6). Signage which appears in the same location for a different business is also included (see Figure 7). In this way, we observe the change in signage over time, but only enter a new data point when there is a unique text. A business is considered to be no longer functioning if there is another business in its place or if there is some other visual evidence, such as a 'for rent' sign, or if the inside of the location is emptied and the storefront is cleared (see Figure 8). However, as long as the location continues to display the signage, the text is included in the database. Examination of the full storefront is another analysis that could be conducted. For the present study, only the signage related to the business itself is analyzed (i.e., we exclude texts in the store windows, including any banners, community flyers or postings). With the use of the app, the image is attached to its specific location on a map of Tuscaloosa County and assigned a date stamp. This geolocation of the image can then be used to observe the distribution of signs in Spanish within the county; also, although not the focus of the current analysis, the database of images can also be used to examine changes in signage over time.

(**a**) (**b**) (**c**)

Figure 6. Change in status: (**a**) Restaurant in business, (**b**) To reopen, (**c**) Out-of-business; (Northport—2022, 2023, 2024).

(**a**) (**b**)

Figure 7. Change in business: (**a**) Restaurant in business, (**b**) New restaurant in same location; (Tuscaloosa—2022, 2023).

(**a**) (**b**)

Figure 8. Business status comparison: (**a**) Store in business with full storefront; (**b**) Out-of-business with emptied storefront; (Tuscaloosa—2022, 2024).

From this database of images, we have identified location types which are part of two different discursive contexts—those pertaining to the marketplace and those pertaining to the community. For the purposes of the current analysis, we focus on two scenarios that emerge within the marketplace discursive context: the first location type is restaurants, as establishments where people spend a certain amount of time eating and also experiencing the venue itself; the second location type is a broader grouping of stores, including shops and *tiendas* (conveniences stores), all of which specialize in the sale of a particular set of goods (and accompanying services), such as a bakery or ice cream shop. The term *tienda* is used to describe a multifaceted store that allows for the purchase of grocery items often found in other Spanish-speaking countries, household goods, fresh produce, and may even offer additional services such as money orders or package mailing. The specialty shops and tiendas are sometimes combined, as in <TIENDA LOS TRES HERMANOS | MEAT MARKET & GROCERY>. The second discursive context, community, is found in

the location type of the churches or *iglesias*, where the main purpose of the interaction is not commerce but rather the establishment of connections through worship. Other location types may also fall into this category either wholly or in part, such as community centers and other organizations that interact with the Spanish-speaking community (e.g., the local library). However, we limit our current analysis to community signage associated with churches. Also, it is important to note that the semiotic landscape is dynamic in that some signs are more temporary, as in printed banners, while others are more permanent in nature (e.g., as shown in Figure 6).

Regarding inclusion or exclusion from the data set, some additional considerations are noted. That is, a local restaurant chain "Taco Casa" was included in the current data set, in particular because of the use of the word *casa* (house), whereas "Taco Bell" was not, since the word "Bell" is in English. For those words that could be pronounced and/or read and understood by monolingual English speakers (or those with low proficiency in Spanish), these words were considered to be underspecified for language, since the use of the lexical item itself does not trigger identification in one language over another. As described in the introduction, these words are classified within the category of Dynamic.

In all, there are currently six locations of Taco Casa in Tuscaloosa County (cf. eight locations of Taco Bell). The other reason to exclude Taco Bell is related to its corporate nature as a nationwide chain. In particular, decisions regarding the use of Spanish are made outside of the community where the signage appears, and do not necessarily reflect local Spanish language use. Along these same lines, Chipotle Mexican Grill was not included in this data set, nor were any Mexican restaurants with only English in the name, such as <The Little Grand | Mexican Restaurant> in Moundville (at the southern border of the Tuscaloosa County) or <Moe's Southwest Grill>, another nationwide chain.

The data are presented in a quantitative manner to see how language is used to index authors and intended audience, and in order to observe patterns in language use. The analysis of our data is as follows. First, for RQ1, we consider language use according to location type. To do so, we have assigned language labels to different portions of the signage text as either Spanish (S), English (E), or Dynamic (D) for those words which may be understood by monolingual speakers of each language, and by bilinguals who could assign the term to either language, as described in the previous section. Within the category of Dynamic, we include proper names, toponyms, brand names, and cultural loans (borrowings) which can be pronounced and/or read in either language, according to who views it; shown in (1):

(1) Examples of words assigned to Dynamic category from data set

a.	Proper names:	<FRIDA'S>, <LUPES>, <IZCALLI>
b.	Toponyms:	<VERACRUZ>, <CANCUN>, <CANCÚN>, <EL PASO>
c.	Brand names:	<pepsi>, <Coca-Cola>
d.	Cultural loans (borrowings):	<MESA>, <TACO>, <TEQUILA>, <QUETZAL>, <Jalapeños>

Each text is labelled according to these abbreviations, such that one text may appear in all Spanish (S), Spanish with English (SE), Spanish and Dynamic (SD), all three (SDE), and so on; see examples in (2). Note that word order is not taken into consideration for this initial coding. For example, in (2c), <TIENDA> is coded as Spanish and <QUETZAL> is coded as Dynamic because it could be read as a loan into Spanish (or English) from an indigenous language, or as (part of) the original indigenous word.

(2) Examples of coding of texts by language

a.	Spanish (S)	<Iglesia Vida Cristiana>
b.	Spanish + English (SE)	<EL GRAN PATRÓN | MEXICAN GRILL>
c.	Spanish + Dynamic (SD)	<TIENDA QUETZAL>
d.	Dynamic + English (DE)	<VERACRUZ | MEXICAN GRILL>
e.	Spanish + Dynamic + English (SDE)	<AZUL TEQUILA | MEXICAN RESTAURANT>

Some words are still categorized as Spanish if the preceding word, often a determiner, was also in Spanish, as in <DOS AMIGOS> in <DOS AMIGOS | MEXICAN GRILL>. However, we recognize that a number of the words that are categorized as Spanish may have a long-standing history of use in English, and/or may also change in their designation to a borrowing over time as words become incorporated into English. Other examples categorized as Spanish include: <LA GRAN FIESTA> in <LA GRAN FIESTA | MEXICAN GRILL RESTAURANT> and <LA TORTILLA> in <LA TORTILLA | MEXICAN GRILL>. Also, addresses were excluded from the analysis, which appeared mostly in church texts and some store texts, and often included abbreviations.

Next, for RQ2 we compare the sections in the text in terms of the symbolic and informative distinction described earlier in the introduction; see examples in (3). That is, we first analyze the presence of symbolic and informative sections of the text according to location. As shown in these examples, the informative section often includes a descriptor for the location type (e.g., grocery vs. restaurant). We also examine the use of language for these sections by location. We then view both factors together as the combination of language use in the symbolic and informative sections divided by location.

(3) Examples of coding of texts by section

a.	Symbolic:	<CORAZÓN LATINO>
b.	Informative:	<TAQUERIA | MEXICAN RESTAURANT>
c.	Symbolic, Informative:	<CORAZON LATINO | GROCERY>
d.	Informative, Symbolic:	<TAQUERIA EL RINCON LATINO>

Finally, for RQ3 we observe multimodal resources (i.e., linguistic and visual) used in the marketplace and community discursive contexts. The linguistic resources are categorized according to the presence of different components within the text. First, the term 'descriptor' is used for the description of a location type. Next, the term 'identifier' is used for cases in which a term or reference indexes a group via naming of the group and/or other cultural references which may connect the location to a particular type of business or intended audience; see examples in (4).

(4) Examples of coding of texts by linguistic resources

a.	Descriptor of location type	<Grill>, <Tienda>, <Iglesia>
b.	Identifier of group	
b1.	Origin term (demonym)	<Mexican>, <El Mexicano>
b2.	Placename (toponym)	<VERACRUZ>
b3.	Given name and/or surname	<LUPES>
b4.	Cultural reference	<IZCALLI>, last month in the Aztec calendar

The visual resources are categorized according to the following: special font, presence of flags, use of flag colors, or other cultural icons or artifacts; see Figure 9. We first analyze the linguistic and visual resources by location separately. We then analyze the combined use of these resources (e.g., <Mexican> in combination with a map of Mexico). In this way, we can observe which combination of resources is most often used to identify LL actors and intended audience.

(**a**) (**b**) (**c**)

Figure 9. Examples of visual resources: (**a**) Special font, (**b**) Guatemalan flag, (**c**) Mexican flag colors–green, red (and white background), yellow sombrero as cultural artifact; (**a**) (Tuscaloosa—2024), (**b**,**c**) (Northport—2022).

In all, for this analysis, we examine 137 unique texts from 89 locations within Tuscaloosa County. In Figure 10, the datapoints are shown in relation to the city and town limits for the county. A summary of the distribution of texts by municipality and location type is shown in Table 1. The vast majority are within the cities of Tuscaloosa and Northport, with a small percentage either in other municipalities or in Tuscaloosa County. Also, over half of the texts pertain to restaurants. The seven tokens outside the Tuscaloosa and Northport city limits all correspond to restaurants.

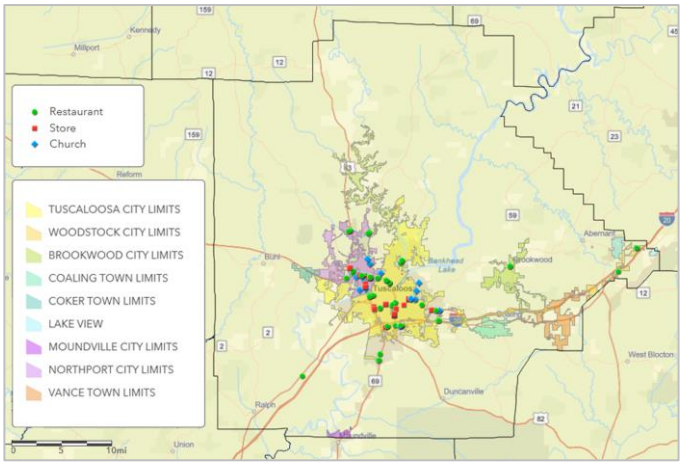


Figure 10. Texts in Tuscaloosa County shown according to municipality and location type. Numbers on the map correspond to interstate, state, and county roads (Produced map; Esri).

Table 1. Distribution of texts according to municipality and location type.

Location	Restaurants		Stores		Churches		Total	
Municipality	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**% Municipality**
Tuscaloosa, City	47	(63%)	23	(61%)	5	(21%)	75	(55%)
Northport	21	(28%)	15	(39%)	15	(63%)	51	(37%)
Woodstock	3	(4%)					3	(2%)
Brookwood	2	(3%)					2	(1%)
Tuscaloosa, County	2	(3%)			4	(17%)	6	(4%)
Total, % Location	75	(55%)	38	(28%)	24	(18%)	137	

A closer view of most of the data set appears in Figure 11, which shows the cities of Tuscaloosa and Northport, along with the major thoroughfares: US-82 (McFarland Boulevard), US-359/AL-69 (Lurleen B. Wallace Boulevard), and US-11 (Skyland Boulevard). Additional local thoroughfares include AL-215/University Boulevard, Veterans Memorial Parkway/15th Street, and Greensboro Avenue. Note that the data points shown may correspond to more than one text, depending on the scaling of the map.

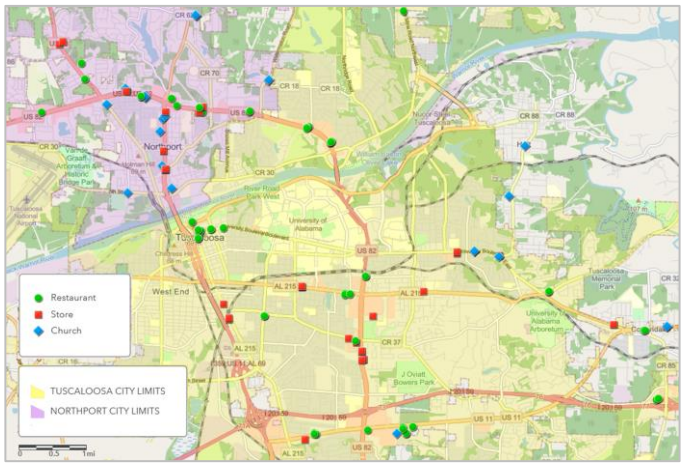


Figure 11. Texts in the cities of Northport and Tuscaloosa along thoroughfares (Produced map; Esri).

From these maps, two additional points to note are the following. First, the signage in Spanish occurs in a variety of locations, such that there is no one area where Spanish texts are located (see Figure 10). Second, the majority of these texts appear along major commercial thoroughfares (see Figure 11). That is, these texts are emplaced in a multilingual landscape where texts from English and other languages also appear.

3. Results

The findings in this section are presented in the order of the research questions posed. In particular, we first offer a global analysis of the language used according to location type (i.e., restaurants, stores, and churches). This is followed by a more specific examination of language use within the sections of the text. Finally, we report on the use of multimodal resources which are found in the text.

3.1. Language Use by Location

To address RQ1, the results for how language is used by location type are shown in Figure 12. These are calculated based on the presence of one or more language labels (S = Spanish, E = English, D = Dynamic) in any part of the text. This analysis is a continuation of a previous phase of the project in which we tabulated the total number of words in each language for a given location type. For the present study, the unit of analysis is the text itself. Whereas restaurants show the use of more than one language and/or Dynamic, the most predominant is the combination of Dynamic with English (34%) followed by Spanish and English together (29%), then Spanish in combination with Dynamic (11%), and Spanish with Dynamic and English (11%). The least frequent language configuration for restaurants is Spanish alone (8%) or Dynamic (7%). In comparison, Spanish is the predominant language for stores (53%) and even more so for churches (83%). Spanish in combination with English is also used frequently in stores (26%), whereas Spanish with Dynamic appears almost as frequently in stores (21%) and to a lesser extent with churches (13%). One instance of all three language labels (SDE) is found with churches (4%). Therefore, while churches make the greatest use of Spanish in their texts, stores show increased use of other combinations with either English or Dynamic, and restaurants show the greatest use of either Spanish or Dynamic in combination with English. We will return to this difference in language use in texts by location in the discussion section.

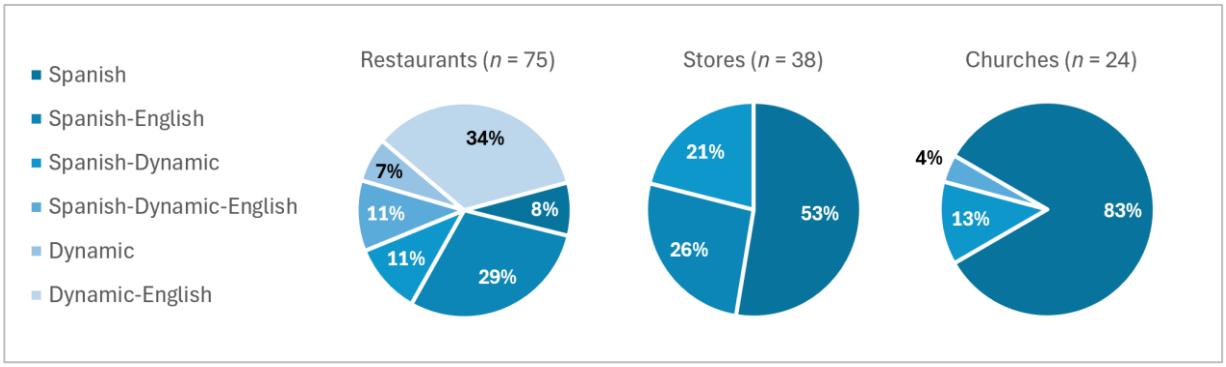


Figure 12. Language use in texts by location type.

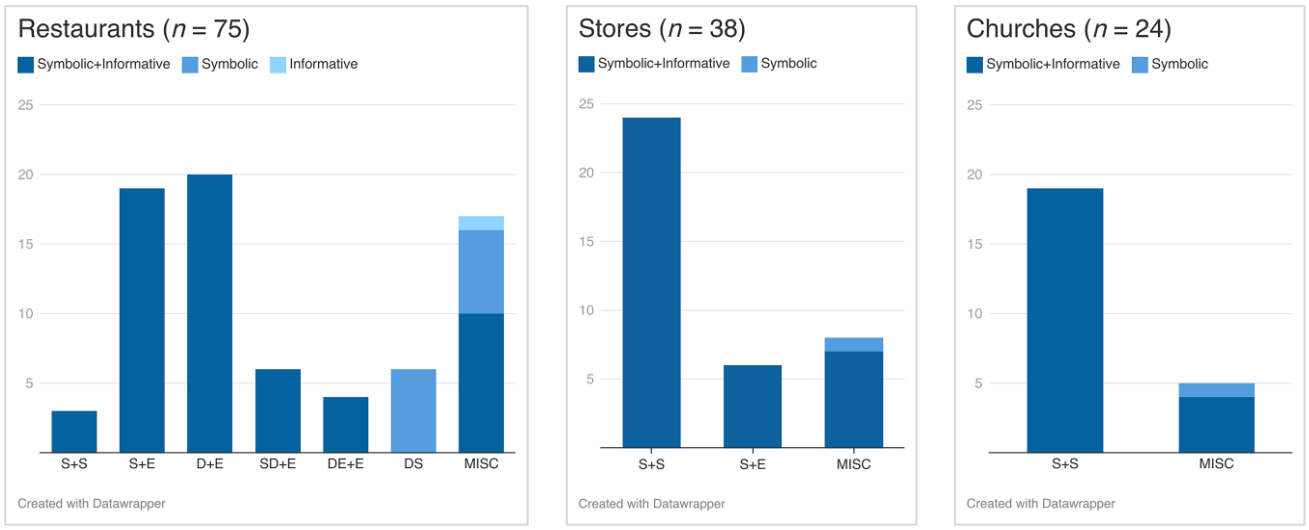
3.2. Language Use by Section of Text

Turning to RQ2, we examine the use of language in the symbolic and informative sections of the text. In Table 2, language use in each of these sections is summarized, separated by location. The combination of section and language use is shown per location type in Figure 13.

Table 2. Overview of language use in sections of text by location type.

	Restaurants		**Stores**		**Churches**	
	Symbolic	**Inform.**	**Symbolic**	**Inform.**	**Symbolic**	**Inform.**
Total N	74	63	38	37	24	23
Spanish	25 (34%)	5 (8%)	31 (82%)	31 (84%)	20 (88%)	22 (96%)
English	1 (1%)	51 (81%)		6 (16%)		
Dynamic	26 (35%)	5 (8%)	3 (8%)		3 (13%)	
SE	2 (3%)	1 (2%)	1 (3%)			1 (4%)
SD	13 (18%)		3 (8%)		1 (4%)	
DE	7 (9%)					
SDE		1 (2%)				

Note: Column values may not total to 100 percent due to rounding (S = Spanish, E = English, D = Dynamic, Inform. = Informative).



(**a**) (**b**) (**c**)

Figure 13. Language use by section placement in the text: (**a**) Restaurants, (**b**) stores, (**c**) churches; (S = Spanish, E = English, D = Dynamic; MISC = Additional miscellaneous language use combinations).

The highest percentage of Spanish use in restaurants occurs in the symbolic section, either alone or in combination as Spanish with Dynamic (SD) (55% in all), while English is most used in the informative section (English, SE, SDE; 85% in all); in both stores and churches, Spanish is used in both the symbolic and informative sections (at 82% and above); some use of English appears in the informative section in stores (16%). The words in the Dynamic category also appear with frequency in the symbolic section for restaurants (Dynamic, SD, DE; 62% in all).

An overview of the use of Spanish in the symbolic and informative portions of the text is shown in Figure 13, with the most frequent combinations shown for each location. Any other low frequency language use combinations of 1–3 tokens were listed together in the last column under Miscellaneous (Misc). Note that the figure shows the use of language for both the symbolic and informative sections. For example, for the label Symbolic+Informative, language use S+E means that the Symbolic portion was in Spanish while the Informative portion was in English (e.g., <La morenita | LATIN STORE>. Additional examples are shown in (5), where S = Spanish, E = English, D = Dynamic. As a reminder, the vertical line represents a line break in the text, and there is not a direct correspondence between this break and the symbolic and informative sections of the text. In example (5f), the example shows a text with only a symbolic section.

(5) Examples of texts by language use in Symbolic+Informative sections of text

a.	S + S	<SABOR LATINO | TIENDA Y CARNICERIA>
b.	S + E	<La morenita | LATIN STORE>
c.	D + E	<CANCUN | BAR & GRILL>
d.	SD + E	<AZUL TEQUILA | MEXICAN RESTAURANT>
e.	DE + E	<Pastor's Kitchen | Authentic Mexican Food>
f.	DS (Symbolic)	<TACO | CASA>

In sum, whereas restaurants show a combination of Spanish and English, the stores and churches show a much greater use of Spanish in their signage texts. Spanish and Dynamic appear in the symbolic portion of the text in restaurants, whereas English is used predominantly in the informative part. Stores also show the S + E pattern to a lesser extent (compared to restaurants), such that some instances of English are found in the informative section of store texts.

3.3. Multimodal Resources by Location

The third research question, RQ3, is related to the multimodal resources found in texts. The presentation of results is organized according to location type, and then further by resource type—linguistic and visual, and the combination of the two. Some of the visual resources discussed will include the use of colors, flags, images, fonts, and cultural artifacts. Examples are shown in Figure 9 in the methodology section above. Additional examples for each location type appear in Figure 14. For example, in the restaurant in Figure 14a, there is a sombrero and the term Mexican in the same sign; in the store in Figure 14b, there is a picture of a quetzal with the store name <Puerto Quetzal>; and in the church in Figure 14c, there is a cross image which supports the symbolic portion of the text <Cristiana> (see also examples in Figure 15). In this way, we can observe how semiotic resources interact to index or identify individual actor(s), regional groups (including presentation of self), and intended audience. The tables presented in this section include the frequency of items found in texts, divided by category (e.g., types of descriptors and identifiers). In the analysis of combined multimodal resources in each location type, an overall frequency number is given for each set of resources. Select examples are also included in each of the tables to demonstrate the occurrence or co-occurrence of the resource described.

(**a**) (**b**) (**c**)

Figure 14. Examples of multimodal resources in combination: (**a**) restaurant, (**b**) store, (**c**) church; (**a**) (Lake View—2022), (**b**) (Tuscaloosa—2022), (**c**) (Northport—2022).

(**a**) (**b**)

Figure 15. Additional multimodal resource examples: (**a**) restaurant, (**b**) store; (Tuscaloosa—2022).

3.3.1. Multimodal Resources: Restaurants

The multimodal resources used in the texts of restaurants are analyzed in this section, starting with the linguistic resources, followed by the visual resources, and then the combination of both types of resources for those cases in which one reinforced the other. In Table 3, the linguistic resources are presented for restaurants. First, the term 'descriptor' is used as a category label for the word used to describe the type of location or restaurant. Next, the terms used to modify the restaurant type, or 'identifiers' are noted. Included in this category are origin terms for a person (i.e., a demonym), placenames which may be related to a specific country or Spanish-speaking area (i.e., a toponym), and other references to a particular group or culture. An example of a descriptor is <Grill>; examples of an identifier are <Mexican>, as in <Mexican Grill>, the demonym <EL MEXICANO> (the Mexican, i.e., person from Mexico), or the toponym in <made in México>.

The most frequent terms for restaurant type are *grill* and *restaurant*, while the most frequent identifier is *Mexican* (n = 45), as in <VERACRUZ | MEXICAN GRILL>; see Table 3. The location type *taquería* (taco restaurant) appears in multiple instances (n = 7) but is often used in conjunction with an English restaurant type, such as <LUPES TAQUERIA | MEXICAN RESTAURANT>. In the analysis of identifiers, nearly all references are to the Mexican group, including two demonyms, several placenames (e.g., <CANCÚN | BAR & GRILL>), and other references to Mexican culture (e.g., <FRIDA'S> in reference to Frida Kahlo); only two areas of the United States are seen in the symbolic portion of the text: <SoCal | CANTINA> (for Southern California) and <TAQUERÍA INT'L. EL PASO>, in reference to Texas. Aside from Mexican, no explicit identification of other groups was found for restaurants other than one instance of the more general term *Latino* in <TAQUERIA

EL RINCON LATINO>. In addition, the word <Authentic> (n = 6) was used to further describe the identifier <MEXICAN> as in <AUTHENTIC MEXICAN FOOD>.

Table 3. Linguistic resources, Restaurants—Descriptors and Identifiers.

N	Descriptors	Sample Tokens
22	Grill	<Grill>, <GRILL RESTAURANT>, <GRILL & CANTINA>
21	Restaurant	<Restaurant>, <Restaurante>, <RESTAURANT & CANTINA>
7	Taquería	<Taqueria>
5	Bar	<BAR & GRILL>, <a taco bar>
4	Other	<CANTINA>, <HACIENDA>, <COCINA & TEQUILA BAR>
4	Product	<FOOD>, <Cuisine>
N	**Identifiers**	**Sample Tokens**
53	Mexican	<Mexican>, <EL MEXICANO>, <Los Tarascos>
11	Place—Mexico	<Veracruz>, <CANCUN>, <CANCÚN>, <FLOR DE GUERRERO>, <made in México>
3	Place—US	<SoCal>, <EL PASO>
6	Other	<Authentic>, <FRIDA'S>, <LA BAMBA>, <LATINO>, <ANTOJITOS IZCALLI>

To summarize Table 4, the use of images in texts is more than twice as frequent as texts without images (n = 54 with images versus n = 21 without). Within the category of images, the use of group colors is as frequent as no use of color (n = 27 each). The analysis of color is limited to those colors found in country flags. For example, from the national flag of Mexico, the colors green, white, and red (or green and red together) are considered group colors in reference to Mexico. There are also some texts which appear with group colors but no image (n = 9, 12% of the total, or 25% of the 36 texts with group colors, has no accompanying image). Regarding the use of special fonts, there were two recurrent fonts that appeared in the texts, one with a jagged line within the letter or beside it, and sometimes with other adjacent dots, which can be considered either a festive font (see Figure 9a) or may be reminiscent of pre-Columbian writing (see Figure 15a). The other is a Western-style font with a characteristic point in the middle of the letter (see Figure 14a). These fonts give an additional enhancement of a locale by invoking a festive or Western aesthetic and may make a generalized (if not abstract) connection to Mexican culture from the US Southwest. Overall, these fonts appeared with the colors and images combination the most often (n = 14 or 52% of the 27 tokens), with images alone (n = 7 or 26% of the 27 tokens), and in two cases where there was no group color or image (n = 2 or 17% of 12 tokens).

Table 4. Visual resources, Restaurants—Colors [1] and Images.

Visual Resource	Images (Font)	No Image (Font)	Total N
Colors	27 (14) [2]	9 (0)	36
No color	27 (7)	12 (2)	39
Total N	54	21	75

Note: [1] Only use of flag colors is included, as in flag images with text, and flag colors in letters and background. [2] Values in parentheses correspond to the co-occurrence of special fonts.

A further examination of the use of color to signify a special group reveals the following. The most frequent use of colors was that of the Mexican flag colors, green–white–red, often appearing in combination with yellow (total n = 22); see Table 5. There was also a recurrent use of green and red together, which most often appeared with yellow (total n = 13). Finally, there are two flags appearing in the background of one sign and constitute the only instance of a Guatemalan flag, with colors light blue and white, which appears along with an image of the Mexican flag. On the one hand, the use of green and red with

either white and/or yellow constitutes a large portion of the data (n = 36) or nearly half of the overall number of texts. However, the exclusive use of green–white–red was limited to just 13 texts, which is less than 20% of the 75 texts found for restaurants. In addition, one restaurant building was painted in green–white–red. After the use of images is presented separately below, the use of colors in combination with images will be examined.

Table 5. Visual resources, Restaurants—Colors.

N	Visual: Color	Tokens [1]
22	Flag colors [2]	Green–white–red (13), Green–white–red with yellow (9)
13	Partial colors	Green–red (3), Green–red with yellow (10)
1	Flag images	Mexican and Guatemalan flags (2 images in one text)
1	Building	Green–white–red (1 location) (Figure 7b)

Note: [1] Token count is per text, unless otherwise indicated; [2] Flag colors in letters and background are counted separately from colors within the flag images.

The images in Table 6, which include cultural objects (e.g., maracas) and cultural icons (e.g., Izcalli figure from the Aztec calendar; see Figure 15a), can be divided between those that are related to the location type—restaurant, and those that are related to a group or culture. In the category of plants, the image of the cactus is most frequent (n = 13), followed by the image of a palm tree (n = 5). There are caricatures (n = 14) which often combine multiple images such as figures wearing a sombrero. Food- and drink-related images (aside from the Pepsi logo advertising) appear in 16 texts (food, n = 12; drink, n = 4), in addition to those items which may appear in combination with figures. These support the restaurant type, which is generally indicated in the informative portion of the text. Regarding signaling of a group, there are just two references that are specific to Mexican culture, with the figure of Frida Kahlo in two texts and the use of the Izcalli stone figure from the Aztec calendar in one. The remaining images are grouped into the categories of clothing, music, and other. In some cases, the images are connected with the symbolic portion of the text. For example, the use of a cactus does invoke a connection to areas where Spanish is spoken, as does the palm tree to some extent (e.g., in <SoCal | CANTINA> or <CANCÚN | BAR & GRILL>). Similarly, the use of a sombrero, guitar, and/or maracas also suggests a Latino (or Mexican) culture, albeit somewhat generically.

Table 6. Visual resources, Restaurants—Images.

N	Visual: Images	Tokens
18	Plant	Cactus, palm tree
14	Figures	Caricatures with multiple images, Frida Kahlo
12	Food	Red chili pepper, tacos, food plate photos
10	Drink	Drink with lime, Pepsi logo
9	Clothing	Sombrero
7	Music	Guitar, maracas
3	Other	Aztec calendar figure Izcalli, elephant, waterfront

The combination of multimodal resources is summarized in Table 7, with usage of both Mexican flag colors and images which may be combined to support the linguistic resources specifically or in a more general sense. The most frequent combination of resources is an image and a linguistic reference to the Mexican group. The next most frequent is using three resources of green–white–red flag colors (or green–red partial flag colors), along with an image and linguistic references. The least frequent combination is the use of color alone with a linguistic reference. This supports the previous finding (Table 5), in which there were more instances of images (n = 54) than of use of group colors (n = 36). In the remaining cases, a resource may be used but supports the informative portion of the text, as in the image of tacos with the text <TAQUERIA DOLORES>.

Table 7. Multimodal resources, Restaurants—Mexican: Visual and linguistic resources together.

N	Visual	Linguistic—Sample Tokens
13	**Colors + image** Green–white–red with sombrero	<PASTOR'S KITCHEN ǀ AUTHENTIC MEXICAN FOOD> (Figure 9a); <LA TORTILLA MEXICAN GRILL> (Figure 14a)
9	**Colors alone** Green–white–red	<LUPES TAQUERIA ǀ MEXICAN RESTAURANT> (Figure 7a)
17	**Image alone** Tarascan figures with map of Mexico	<Los Tarascos ǀ Mexican Restaurant>

3.3.2. Multimodal Resources: Stores

In this section, we review the multimodal resources used with texts related to stores. As before, we first examine the linguistic resources, then the visual resources, and finally the combination of the two. To begin, the word most often used to describe the store type is *tienda*, either alone as <Tienda> (n = 20) or in combination with <Carniceria> or <Meat Market> (n = 9); see Table 8. The English word <Grocery> appears twice, once as the only descriptor and once in combination with the other descriptors <Tienda> and <Meat Market>. The term <Super> also appeared as a type of grocery store; this use is classified for language as Dynamic. There were four instances in which the store type was not directly given. However, in three of these, the product being sold was named in the signage in the informational portion of the text, including two ice cream shops, or in combination with a store type, as in <Mi Casita ǀ Bakery & Coffee>.

Table 8. Linguistic resources, Stores—Descriptors and Identifiers.

N	Descriptors	Sample Tokens
21	Convenience store	<Tienda>, <La morenita ǀ LATIN STORE>
9	Store + Meat market	<Tienda Y Carniceria ǀ La Mexicana>
2	Grocery, Super	<Super Quetzal>
3	Bakery	<Mi Casita ǀ Bakery & Coffee>
1	Other: No type	<CORAZÓN LATINO>
N	**Identifier**	**Sample Tokens**
13	Latina/Latino/Latin	<TIENDA LATINA>
7	Mexican	<La Mexicana>, <TIENDA GUATEMEX>, <PRODUCTOS CENTROAMERICANOS Y MEXICANOS>
4	Guatemalan	<Tienda Guatelinda>, <Abarrotes Mexicanos y Guatemaltecos>
4	Place—Mexico Place—Guatemala	<LA IXTAPITA>, <La Real Michoacana ǀ Homemade Ice Cream> <Tienda Puerto Quetzal>
5	Other	<TIENDA CRISTIANA ǀ EL REY DAVID>, <Tienda Típica ǀ La Bendición>

As was the case with restaurants, aside from store type, another linguistic resource was seen in the identification of groups, either with identifiers of the store type, or through variations of placenames (toponyms) and origin names (demonyms). The term *latina* appeared most often as an identifier to modify the type of store (n = 7), as in <Tienda Latina>, while other variants <Latino> and <Latin> were also found. The next most frequent group represented was Mexican, with terms used in the symbolic portion of the text, such as the demonyms <La Mexicana>, <La Real Michoacana>, and a diminutive of a toponym <LA IXTAPITA>. Identifiers also appeared in the informational portion of the text along with other groups, as in <PRODUCTOS CENTROAMERICANOS Y MEXICANOS>. The Guatemalan group was the only other group referred to specifically, either in combination with another group or with another word (or portion of a word), as in <Tienda Guatelinda> and <Tienda Guatemex>.

Also, the toponym for the Guatemalan port city appears in <Tienda Puerto Quetzal>. As with the Mexican examples, the reference to Guatemala appears in both the symbolic portion of the text, as in the last three examples, or in the informational part, in reference to types of goods sold (e.g., *abarrotes* or groceries in <Abarrotes Mexicanos y Guatemaltecos>). Importantly, there is some juxtaposition of groups that can be seen linguistically which will also be examined in the use of visual resources discussed below.

The visual resources for stores include both the use of group colors and images; see Table 9. No special fonts as described previously were noted in the signage for stores. While images are employed more than colors (n = 28 for images and n = 17 for colors), the use of colors in cases where there is already an image is equally as frequent as not (n = 14 in both cases). However, if a color is used, it is more likely for an image to be used as well, rather than not (n = 14 vs. n = 3).

Table 9. Visuals resources, Stores—Colors [1] and Images.

Visual Resource	Images	No Image	Total N
Colors	14	3	17
No color	14	7	21
Total N	28	10	38

Note: [1] Only use of flag colors is included, as in flag images with text, and flag colors in letters and background.

Next, stores show flag colors from both the Mexican flag, green–white–red, and the Guatemalan flag, light blue–white, or the combination of the two; see Table 10 and Figures 16 and 17. In addition, flag images appeared with texts, including multiple instances of the Guatemalan flag and one instance each of the Mexican and US American flag. This use of flag colors was reinforced by the green–white–red building paint color at one location (Figure 15b; shown above), and the flying of several flags at two different locations (Figure 17b; shown below).

Table 10. Visual resources, Stores—Colors.

N	Visual: Color	Tokens [1]
14	Flag colors [2]	Green–white–red (8), light blue–white (3), both (3)
6	Flag images	Guatemalan flag (3 images with 3 texts) Guatemalan, Mexican, US American flags (3 images with one text)
1	Building	Green–white–red (1 location)
2	Adjacent Flags	Mexican, Guatemalan, El Salvadoran flags (1 location); Mexican, Guatemalan, Honduran, US American flags (1 location)

Note: [1] Token count is per text, unless otherwise indicated; [2] Flag colors in letters and background are counted separately from colors within the flag images.

(**a**) (**b**) (**c**)

Figure 16. Examples from stores of multimodal resources in combination for both Mexican and Guatemalan groups: (**a**) flags, images, and colors, (**b**) images and colors, (**c**) colors and orthography; (**a**,**b**) (Northport—2024), (**c**) (Tuscaloosa—2023).

(**a**) (**b**)

Figure 17. Additional multicultural example for multiple groups: (**a**) store, (**b**) store with flags; (Tuscaloosa—2023, 2024).

With respect to images with texts in stores, there are images that can be considered to belong to several broader categories, such as food, clothing, animal, etc. The majority of the images listed for food in Table 11 support the basic concept of a convenience store or multipurpose market and appear with stores with the name <Tienda>. In the case of the meat market <Carniceria y Tienda Latina | "La Morenita">, a cattle head, a steak, and a sack of groceries were shown along with the text. While most of these examples show that the image supports the informational portion of the text (e.g., showing pictures of ice cream for <La Real Michoacana | Homemade Ice Cream>), some of the images support the symbolic portion with an image, for example, of a star for <Tienda La Estrellita>. The use of the quetzal image (n = 6) is specifically linked to Guatemala, and the image of an eagle standing on a cactus with a snake in its mouth is linked to Mexico, specifically the Mexican flag.

Table 11. Visual resources, Stores—Images.

N	Visual: Images	Tokens [1]
11	Food	Fresh fruits and vegetables, meat, breads, dairy items, packaged goods and brand names, ice cream, grocery sack, cattle head, tacos, cakes
8	Clothing	Sombrero
7	Animal: Bird	Quetzal, eagle with snake on cactus
6	People, cartoons	Drawings of girls, men with mustaches and sombreros, men sleeping with sombreros, cartoon house, pineapple with sunglasses
3	Plant	Palm tree
3	Money	Wire transfer image, US $100 bills, checks
2	Other	Mailing boxes, star

Note: [1] Tokens are counted per text, unless otherwise indicated.

In the following tables we see the combination of flag colors, images, and linguistic resources in the signaling of groups: Green–white–red colors in reference to the Mexican flag (Table 12); sky blue or light blue–white in reference to the Guatemalan flag (Table 13); and both sets of flag colors in the same text (Figure 16). Last, additional examples of resources employed with the more general group term Latina/Latino/Latin are described.

In Table 12, we see that the combination of Mexican flag colors green–white–red with an image is the most common resource combination (n = 4), often supported by an additional linguistic reference in the symbolic portion of the text. Both colors alone and images alone also support the symbolic portion of the text in signaling the Mexican group (n = 2 each).

In comparison to the multimodal resources in reference to Mexico, the Guatemalan references use the image of the quetzal, the national bird of Guatemala, most frequently (n = 3), or the sky blue/light blue and white flag colors in the signage alone (n = 2), or in combination with an image of the quetzal (n = 2); see Table 13. Except for the more general reference to Central American products in the informational section of one text, the use of

colors and images supports the symbolic portion of the text in reference to the Guatemalan group. Another use of the Guatemalan flag alone in the signage of one store is described earlier in Table 10.

Table 12. Multimodal resources, Stores—Mexican: Visual and linguistic resources together.

N	Visual	Linguistic—Sample Tokens
4	**Colors + image** Green–white–red Sombrero	<Carniceria ǀ Y Tienda ǀ La Mexicana> [1]
2	**Colors alone** Green–white–red	<TIENDA LATINA LA IXTAPITA> (Figure 15b)
2	**Image alone** Two cartoon men with sombreros; *papel picado* (cut paper banner)	<Tienda Los Dos ǀ Carnales> [1] (Figure 17a)

Note: [1] This location also displays large Guatemalan and Mexican flags painted in the two storefront windows (Figure 17b).

Table 13. Multimodal resources, Stores—Guatemalan: Visual and linguistic resources together.

N	Visual	Linguistic—Sample Tokens
2	**Colors + image** Light blue–white Quetzal (bird)	<Tienda Latina ǀ Puerto Quetzal> [1] (Figure 5b)
2	**Colors alone** Light blue–white	<TIENDA ǀ GUATELINDA>
3	**Image alone** Quetzal (bird)	<Tienda Latina ǀ Puerto Quetzal> (Figure 14b)

Note: [1] This location also displays images in connection with the products and services found at a convenience store.

When both sets of flag colors are used in the signage, for example, to highlight different letters in the text, an image such as a flag is sometimes used to accompany this use of color; see Figure 16a. Both groups may be reinforced symbolically in the name, as in <TIENDA GUATEMEX>. While the symbolic portion of <TIENDA ǀ MI PREFERIDA> does not signal a specific group, the positioning of the quetzal next to the Guatemalan flag colors in the letters for <TIENDA> and the eagle–snake–cactus image from the Mexican flag next to the Mexican flag colors in the letters for <MI PREFERIDA> reinforce each of the groups; see Figure 16b. With the text for <TIENDA LATINA ǀ XOYITA>, vertical stripe flag colors from both Mexico and Guatemala appear, while Mexico is reinforced linguistically via the use of an alternate spelling tradition from Mexico, as in <XOYITA> (for *joyita*, little jewel); see Figure 16c.

Last, the use of the term Latina/Latino/Latin is more general than the specific groups previously described. In <TIENDA LATINA LA IXTAPITA> (Figure 15b), the more general term <LATINA> appears, even though the colors used in the lettering and the building are the Mexican flag colors green–white–red, and the symbolic portion <LA IXTAPITA> is in reference to a placename in Mexico. Another example, <La morenita ǀ LATIN STORE>, uses the more specific Mexican flag colors green–white–red in the text along with a sombrero. Similarly, the term appears when only Guatemalan flag colors, light blue–white, and/or quetzal image is used, as in <Tienda Latina ǀ Puerto Quetzal>, which is also reinforced linguistically be referring to a Guatemalan toponym. In some cases, as in <TIENDA LATINA ǀ XOYITA>, colors from the Mexican and Guatemalan flags appear, but the word <LATINA> is used in the informational part of the text. The remaining examples show the use of more general images: in <SABOR LATINO ǀ TIENDA Y CARNICERIA>, a sombrero is used, whereas in <Tienda Latina ǀ El Puerto> there is a palm tree with two men in sombreros wearing ponchos. Overall, the term Latina/Latino/Latin appears in texts of

stores which make use of multimodal resources in reference to Mexican and Guatemalan groups individually and in texts with groups combined.

3.3.3. Multimodal Resources: Churches

Most texts for churches in this data set included information about the worship or services schedule, the names and contact information of pastors, and the location address. In this section, we examine as linguistic semiotic resources specifically the use of words to identify location type and other visual resources. The majority of the churches had the word *iglesia* somewhere in the text (n = 14), most often as a descriptor to indicate the type of location. A few also appear to have <Iglesia> in the name itself (e.g., <Iglesia de Dios>, n = 3). Of the churches, only one appeared without a named type of location; see Table 14. For the identifier words used to modify the church type, the most frequent designated the denomination (<Evangélica>, <Pentecostal>, <Cristiana>) or the type of service (<Evangelio Completo>)[5]. There were no identifier designations by origin. A few other recurrent written elements include a statement of welcome (<Bienvenidos>) within the text, citation of Bible verses and quotations, and other sayings to invite potential worship participants. In the two instances in which <español> was used in the text, there was other language use present (either English or Dynamic).

Table 14. Linguistic resources, Churches—Descriptors and Identifiers.

N	Descriptor	Tokens
20	Church	<Iglesia>, <Iglecia>, <Iglesia de Dios>, <Iglesia de Cristo>
3	Other	<Misión>, <Ministerio>, <Church>
N	**Identifiers**	**Tokens**
9	Evangelical	<Evangélica>, <Evangelio Completo>, <Evangelístico>
9	Pentecostal	<Pentecostés>, <Pentecostal>
4	Christian	<Cristiana>
3	Other	<español>, <Familiar>, <Misionera>, <Tuscaloosa, Alabama>

Aside from linguistic resources, there were other multimodal resources used with churches, including the use of color and/or images to reinforce information in the text. Half of the churches used some shade of blue in their signage which was either a sky blue or light blue, or a darker blue. Since we discovered that some of the churches had connections with Guatemala (e.g., <Evangelio Completo>), we have also noted the use of blue colors in the signage, which may allude to Guatemala or other Central American groups in the area (e.g., Honduras and El Salvador). Whether or not this use of color is intentional for the purpose of group identification needs to be determined in further research. For some signs, this use of color was the only visual resource used with the text, while for others, the color appeared in combination with a religious image; see Table 15. The use of colors was mostly within the signage itself, although there are two instances in which the building also appeared with the sky blue or dark blue colors; see Table 16.

Table 15. Visual resources, Churches—Colors and Images.

Visual Resource	Images	No Image	Total N
Colors	6	6	12
No color	6	6	12
Total N	12	12	24

Table 16. Visual resources, Churches—Colors.

N	Visual: Color	Tokens
12	Flag colors	Dark blue–white (8), light blue–white (4)
2	Building	Dark blue–white (1), light blue–white (1)

To examine the combination of multimodal resources, the images are explored further in reference to the text. Of the signage with images (n = 12), half showed the use of an image which supported or reinforced the text itself, including five cases which supported the symbolic portion of the text (e.g., a dove for <PAZ>) and one that supported the informative portion (e.g., flames for <PENTECOSTAL>. The remaining images were generally religious in nature but did not show this direct enhancement of the text; see Table 17. In this way, the remaining images supported the church location type in a more general sense.

Table 17. Visual resources, Churches—Visual and linguistic resources together.

N	Visual: Image	Sample Tokens
5	Cross on rocky mountaintop	<IGLESIA EVANGÉLICA ǀ ROCA DE SALVACIÓN CA>
	Dove with reaching hands	<IGLESIA ǀ PRINCIPE DE PAZ>
	Waterfall	<Iglesia Pentecostal ǀ Fuente de Vida>
1	Flame with open book, open Bible with verse	<IGLESIA PENTECOSTAL ǀ FUENTE DE VIDA TUSCALOOSA>

To summarize these findings on churches, linguistic resources were used to signal the location type in nearly all cases (e.g., <Iglesia> for church was the most common), or to provide an identifier for the church (e.g., <Evangélica>, <Pentecostés>, sometimes used in combination). Visual resources included both the use of blue colors and that of images, which in some cases reinforced the symbolic portion of the text. While all churches employed linguistic resources, only half also employed visual resources (either color and/or an image), and half of these (i.e., a quarter of the total) employed both (color and an image). For churches, then, the religious nature of the location (i.e., the location's purpose as a place of worship) was signaled linguistically by naming the location type and sometimes with additional use of images; the combined use of multimodal resources was seen with the use of images to reinforce the symbolic portion of the text.

To compare these findings across location types, there are some similarities and differences regarding the use of linguistic and visual resources. The term <Mexican> was the most frequent identifier for restaurants, whereas <Latina> appeared more with stores, while churches were designated according to denomination type, for example <Evangélica> or <Pentecostés>. Nearly all references in restaurant texts were to Mexican culture via the use of flag colors, images, and other cultural references, whereas in stores, references to Guatemalan culture were also found, mostly through the use of the quetzal image, the partial word <Guate->, and the Guatemalan flag. Churches did not show the use of Mexican flag colors or any naming of Mexican or Guatemalan groups. While Mexican flag colors and cultural elements may be widely recognized by non-Hispanic or non-Latino audiences, the same cannot be said for Guatemalan flag colors and related images. Because of this, we tend to see more variety in the use of visual resources for stores that are geared towards a Hispanic or Latino audience who would be able to assign meaning to the elements used. However, the resources found in restaurants are more limited to either Mexican references or more general Latino terms. On the other hand, the display of languages for restaurants is more varied, given that the intended audience includes both Spanish bilinguals and monolingual English speakers.

In church signage, there was some use of blue colors (dark blue–white, and light blue–white) which may coincide with different Central American flags. However, the

intentional use of these colors to make that connection needs to be established by further research. The use of special fonts appeared only with restaurants, which offered a more general connection to Hispanic or Latino culture, as did the use of several images in both restaurants and stores.

Regarding images, some imagery is specific to a particular location type, while other images appear across contexts. For example, a guitar only appears with restaurants whereas the sombrero is found with restaurants, but also appears frequently with stores. The image of a palm tree also appears in both the restaurant and store locations. As expected, the churches' imagery (e.g., a cross or dove) does not appear in other location types. Images related to either goods sold (e.g., tacos at a restaurant or groceries at a store) or the representation of figures (including caricatures of people and cartoon figures) appeared in both restaurants and stores. The product images often reinforced the location type in the informative portion of the text, while the figures often supported the symbolic portion of the text. Churches in general made less use of images compared to the other two location types, and the signage was more information-based with less direct signaling of cultural groups. Overall, the texts can be seen along a spectrum: on the one end, there is a simple text with no image, while on the other end there is the combination of color and image (and even a special font in the case of restaurants), which all combine to express different meanings with respect to identity and self-identity.

4. Discussion and Summary

The focus of this study was to determine how Spanish language use in signage in Tuscaloosa County differs according to location type (RQ1), how Spanish appears within the symbolic and informative portions of the text across locations (RQ2), and how multimodal (linguistic and visual) resources are used to create meaning within the text (RQ3) via indexing of location type, emplacement, actors, and intended audience.

The first analysis of Spanish use in texts by location (RQ1) shows that the marketplace discursive context, under which we have subsumed both restaurants and the stores grouping (shops, stores, tiendas), is quite heterogenous (see Figure 12 above). That is, while the restaurant location type shows a wide variety of combinations of language use (categorized as Spanish, English, and Dynamic), the stores do not, and rather show a predominant use of Spanish. Moving to the community discursive context, the churches mirror the language use patterns in the stores in that Spanish is used predominantly, with only a small portion of combinations with English or Dynamic. Importantly, the use of Spanish alone in restaurant texts reaches just 8%, while it is 53% and 83% in stores and churches, respectively. The lack of the use of English in church texts suggests that English is not the preferred language code in these locations, and it is not needed to form community. In contrast, in restaurants, Spanish is used in combination with English 29% of the time, while Dynamic with English is at the highest rate at 34%. These numbers suggest that actors want to employ all the linguistic resources available to them in restaurant texts to appeal to the widest audience possible, that is, Spanish–English bilinguals, non-Spanish speakers, and Spanish language learners. Stores also make a notable use of Spanish with English at 26%, while for churches, this is lower at 13%. The use of English in store texts seems to also recognize the bilingual and multicultural nature of the Hispanic or Latino audience, in addition to making texts accessible to non-Spanish speakers.

As to the use of Spanish within the portions of the text (RQ2), we see a distinction across location types between the use of Spanish in the symbolic section compared to the informative section. As shown in Figure 13, the choice of language for each of the sections of the text is revealing. In restaurants, there is a preference for Spanish for the symbolic portion, whereas English is used for the informative portion. In comparison, Spanish is frequent for both portions in stores and churches, with some interspersing of English and Dynamic. Restaurants make greater use of Dynamic in the symbolic portion of the text, possibly as a way to index (and engage with) a wider audience. Most of the restaurants limit the use of Spanish to the symbolic section. We associate this practice with

the emblematic use of Spanish to signal the authenticity of the business in the restaurant texts as a marketing strategy with the intention to appeal to a wider audience.

Finally, with the multimodal resources present in the signage, both linguistic and visual features suggest the intended audience of a text (RQ3). First, the most frequent linguistic identifiers of each of the locations are a reflection of the community. As appears in Table 3, for restaurants, references to the Mexican group, through the direct use of <Mexican> or other group references were the most frequent identifiers (n = 53 in all), while the most frequent descriptor was <Grill> followed by <Restaurant>; in all cases, both the descriptor and identifier were in English. Given the reported predominance of the Mexican community in the census data, this result is not surprising, although not necessarily directly indicative of either restaurant ownership or patronage. Note that the "Mexican restaurant" as an entity is a staple in many areas across the United States, even in areas of low presence of a Hispanic or Latino population. Restaurants have used <Authentic> to modify <Mexican> to emphasize a connection to Mexican culture, whereas some other restaurants use Spanish to name the location type, as in <Taquería> (taco restaurant), <Hacienda>, and <Cantina>.

Moving to the stores location type, the term <Tienda> is the most frequent descriptor, while the identifiers <Latina>, <Latino>, and <Latin> are used with the most frequency. In this way, we can see the tienda as a prominent fixture within the Latino community as a location where Spanish is used and promoted, and the intended audience is broader than any one group via the more general term 'latina' or 'latino' (even when the Tuscaloosa County community consists of only some of the groups that would be considered Hispanic or Latino). Similarly, the churches employ the descriptor term <Iglesia> the most, while <Evangélica> and <Pentecostés> are common identifiers. The two instances of an alternate spelling 'iglecia' shows some distance from normative spelling practices with the use of 'c' in this context. Whether this is an example of a spelling error or a result of translanguaging practices is another aspect to be explored further.

Regarding visual resources in discursive contexts, images are used the most in restaurants and stores (72% and 74%, respectively), and in half of the signage for churches (50%). To compare the marketplace context with the community, we see use of flags and colors in the marketplace, while the use of group colors in church texts needs to be studied in more detail. More specifically in the marketplace, only the Mexican flag (colors and stripes) is used in restaurants, whereas multiple flags and colors appear with stores. In addition, the references to Mexican culture are most frequent in the use of images in restaurants (e.g., Tarascans, from a specific region in Mexico; Frida Kahlo; or the IzcalIi stone image from the Aztec calendar) while images related to other Central American groups (Guatemalan in particular) are more frequent in stores (e.g., use of the quetzal bird image); churches do not make specific reference to either Mexican or Central American groups in the use of images, but rather employ more religious-themed images (e.g., a cross, dove, book, etc.). Overall, the most variety in the use of visual resources for an intended audience is found with stores, where either one group is indexed or another, or more than one group is indexed through the use of multiple resources (e.g., colors specific to one group but a more general term 'latina' used to describe the store, as in <TIENDA LATINA LA IXTAPITA> with green–red letters and green–white–red building colors; see Figure 15b). In stores, we also notice that group identifiers and group colors may be used to make a distinction from other store locations competing for customers. Also, there are some service needs which are specific to the Hispanic or Latino community, such as wire transfers and purchase of certain brands that may not be available at large supermarket locations. As previously noted, although visual resources may be more varied in stores with the intended audience of Hispanics or Latinos belonging to different groups (see overview of Tuscaloosa County demographics in Figures 3 and 4), it is the linguistic resources which are more varied in the case of restaurants. That is, we expect that use of Spanish and English in combination with Dynamic is greater in restaurants given that the intended audience includes both Spanish bilinguals and English monolinguals.

As mentioned above, the connection of restaurants with Mexico is very frequent, and there are multiple modes that reinforce the linguistic code of Mexican restaurants with flags, flag colors, images, drawings, cultural objects (eagle and serpent), and so on. Thus, restaurants are self-presenting as Mexican (even though ownership may not be associated to any one Mexican owner/manager) because Mexican food and cultural references (as appearing in restaurants) are some of the most recognizable elements of the Hispanic or Latino group by non-Hispanics or non-Latinos in the United States. This intended appeal to a wide audience is based on a history of successful restaurants which, in addition, serve alcohol and promote a celebratory (fiesta) environment. Restaurant actors know that potential patrons not only want to consume Mexican food, but they also want to experience the festive and colorful environment associated with those establishments. As was previously mentioned, actors will use Spanish as an emblem in the symbolic part of the text (vis à vis authenticity) and will also use Dynamic words that could be considered English or Spanish. At the same time, some of the restaurants are using the term Latino to appeal to yet a wider audience.

For our data, the indexing of authorship and identification of the type of location is achieved through a complex process of combining language, color, font, cultural objects, and emplacement of the text, which can yield different results. As shown in the analysis of combined multimodal resources (see Table 7, Table 12, Table 13, and Table 17), visual resources reinforce the linguistic mode when there is the use of group colors and/or images and fonts. For example, the store text for <TIENDA GUATEMEX> was originally yellow with red letters. The only resource for group identification was the name <GUATEMEX>, while the only resource for location type was the descriptor <TIENDA>. However, when a new sign was created, both colors and images were used to signal the group, while images were also used to signal location type (see Figure 16a).

Regarding the connection of actors with the text, we refer back to Malinowski's (2008, p. 124) distinction between authorship, involving complex processes and individual actors in the LL, and, as some of our data show, there is often more than one way of indexing group identity, intended audience, and type of location. Malinowski points out (following Huebner 2006) that multimodal resources (including language) combine to create meanings that can be interpreted "along multiple paths at once" (Malinowski 2008, p. 119). At the same time, echoing Jewitt and Kress (2003), Malinowski states that one single meaning may be conveyed by different modes all at once, with each mode contributing to the overall meaning in their own way (Malinowski 2008, pp. 120–21).

We illustrate this discussion with the store location in Figure 17. The storefront text in Figure 17a is composed of: <Tienda Los Dos | Carnales>, along with *papel picado* (cut paper banners) and two men with sombreros. These identifiers all point to Mexico because of the dialectal word *carnales* (brothers/friends), a cultural object like a cut paper banner, and Mexican-like sombreros; in this way, Mexican indexing (of actors and intended audience) is conveyed by three modes all at once. At the same time, in Figure 17b we see surrounding semiotic resources like painted store windows with Mexican and Guatemalan flags and, on the store roof, multiple flags are flown, including the US flag. The overall composition of the storefront signals multiculturalism, including Hispanics or Latinos in the US. This is how the store actors appear to present themselves and index the intended audience. Additionally, we may interpret the inclusion of the US flag as a way to appeal to a wider audience and/or indicate translocality in the sense that the tienda could have been established by Hispanics or Latinos (US and foreign-born) who have resided in other areas of the USA prior to arriving in Tuscaloosa County. This combination of resources provides different meanings "along multiple paths at once".

In sum, in this paper, we have shown how Spanish language use differs in the discursive contexts of marketplace and community. We have identified three location types that map onto these contexts which show the heterogeneity of the marketplace in the use of Spanish in signage text by comparing restaurants and stores, where restaurants use Spanish in combination with English and Dynamic, and stores employ mostly Spanish. We have

also shown the tendency to employ Spanish predominantly in the community context of churches. We have demonstrated differences in the use of Spanish in the different portions of the text (symbolic and informative) according to location type. In addition, we have observed the recruitment of linguistic and visual resources to create meaning within a text. In our analysis of the location types within marketplace and community discursive contexts, we demonstrate multiple connections to the communities and the intended audiences of interest. In this way, we observe the change in the linguistic landscape of a new destination community which comprises small urban and semi-rural spaces. In doing so, we document the growth of the Latino community in the region, showing both a new place within the national landscape and a variety of spaces in which Spanish public language is in use.

Our findings corroborate much of what the LL literature has found and concluded; that is, that a LL results from the symbolic construction of the public space. We have shown how symbolic functions interact with the indexing of the text (the what), the emplacement of it (the where), and the actors and intended audience (the who). The "constructing" of the public space alludes to the constant change in the linguistic landscape in LL actors and intended audiences, and in viewers'/readers' perceptions, creating overlapping or distinct channels of meaning-making via multimodality. As we continue to use the geolocation app, we can find new or closing establishments, thus capturing and logging the changes in the landscape. Thus far, the app has helped track the patterns of text emplacement across Tuscaloosa County. The symbolic constructing of space entails dynamicity at all levels of the discursive context.

Dynamicity in spaces is at work in complex processes which are involved in the development of authorship (Malinowski 2008) and is thus neither straightforward nor static. Dynamic processes also are at play when the intended message conveyed by the text is not necessarily interpreted by the viewer/reader as intended by the actor(s). Multimodality also entails dynamicity in that messages can be conveyed through different modes, and sometimes can be interpreted all at once and play different roles in the construction of meaning (Jewitt and Kress 2003), as illustrated above in the discussion of Figure 17. At the more granular level, our Dynamic language category captures the fact that words can have more than one potential read since it is dependent upon the language processing mode of individual viewers/readers which, of course, is in constant flux.

The present study highlights the emerging Spanish linguistic landscape in small-town urban and semi-rural locations and shows the growth of the Latino community in the region. We thus add a different dimension to the research on Spanish in the US which has focused mostly on urban areas with large minority communities. Further research in the form of interviews with actors and readers/viewers who are bilingual with English (at different levels), as well as with monolingual English speakers, will help triangulate our analysis of the Spanish linguistic landscape in Tuscaloosa County.

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Notes

1 The angle brackets < > indicate that the cited example is taken from a text in the data set; capitalization is used as it appears within the text (cf. Kallen 2023). The use of the acute diacritic accent mark (or lack thereof) is reproduced as shown in the signage. Also, a vertical line | is used as a convention to designate a visual break in the text, for example, when it continues on another line.

2 The growth rate is calculated as the difference between current and past population, which is then divided by the past population and multiplied by 100.

3 Direct comparisons are not made to prior census data since there was a change in the survey question related to origin (Cohn 2010). Nonetheless, a review of prior census data from 2000 at the state level shows Hispanics or Latinos of Mexican origin to comprise the largest group in Alabama at 58.7%, whereas those of Central American origin were 6.3% of the population, half of which were Guatemalan at 3.2%; the second largest group reported to belong to the All Other Hispanic or Latino origin group at 20.1% due, in part, to issues decribed by Pew Research in the reference above (U.S. Census Bureau 2001).

4 The municipality where the image was taken and the corresponding year are shown in parentheses.

5 This name is also considered an identifier since the church has a denomination and connection as being established in Guatemala (https://www.soyidec.com/historia; accessed 17 June 2024).

Maps

Esri. *Hispanic or Latino Population in Tuscaloosa County by 2020 Census Track* [map]. Produced by Erin O'Rourke; with "Percent of Population who are Hispanic or Latino—2020 Census" <https://www.arcgis.com/home/item.html?id=7b98749eb4d2473db0eb5c1b3ed3ed2c> (accessed on 25 May 2024).

Esri. *LL Texts in the Cities of Tuscaloosa and Northport* [map]. Produced by Erin O'Rourke; Basemap: Open Street Map. With "City and Town Limits" <https://services.arcgis.com/AWzSDaKZ41uuVges/arcgis/rest/services/City_and_Town_Limits/FeatureServer> (accessed on 25 May 2024).

Esri. *LL Texts in Tuscaloosa County* [map]. Produced by Erin O'Rourke; Basemap: Streets. With "City and Town Limits" <https://services.arcgis.com/AWzSDaKZ41uuVges/arcgis/rest/services/City_and_Town_Limits/FeatureServer> (accessed on 25 May 2024).

U.S. Census Bureau. *Hispanic or Latino Population in Alabama by County, 2020 Census* [map]. Generated by Erin O'Rourke; using "Race and Ethnicity in the United States: 2010 Census and 2020 Census" <https://www.census.gov/library/visualizations/interactive/race-and-ethnicity-in-the-united-state-2010-and-2020-census.html> (accessed on 25 May 2024).

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