The Use of Languages in Digital Communication at European Universities in Multilingual Settings

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Abstract

Within a context of an intense internationalization process, the creation of the European Higher Education Area (EHEA), as well as the proliferation of rhetoric aligned with multilingualism, has, in practice, favored mainly the growth of English in tertiary education to the detriment of other European languages. This research focuses on electronic means at European universities in multilingual settings, quantifying the use of languages in a population of 88 universities by means of content analysis. The results show the poor presence of minority languages (ML), except for Spanish universities, and the limited implementation of English. Among the potential explanatory variables, the geographic area is the variable that is most strongly associated with the use of languages, although others, such as the Regional Authority Index (RAI), the vital status of minority languages, or the legal recognition of the minority language, are also significantly related to the use of a minority language.

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1. Introduction

This article is framed within the context of growing transformation and interconnection over the last twenty-five years as information and communication technologies (ICT) have gained strength. This is especially relevant as a wide range of situations and fields have arisen in which sociolinguistics can be applied. For instance, digital channels now provide a large amount of data that can be accessed easily (Adarbah et al., 2022).

However, it is mainly after this century that university education has become a relevant topic in the field of sociolinguistics. In this sense, we agree with Soler and Gallego-Balsà (2019, p. 3) as they indicate that "one of the main reasons for investigating universities from a sociolinguistic angle is that, while they are key state (i.e., national) institutions, universities are also increasingly portrayed as internationally relevant players in a global educational market". It is precisely in this sense that our research uses universities as the target population, after also having analyzed the electronic means of local administrations (Català-Oltra & Penalva-Verdú, 2019) and service companies (Català-Oltra & Penalva-Verdú, 2021). In this regard, measuring the presence of languages on websites and social networks of universities in multilingual settings is new for sociolinguistic research. Thus, collecting quantitative data by analyzing the content of these electronic means of tertiary education, alongside collecting other classification variables, has allowed us to determine which variables explain the integration of different languages better (in particular, the main languages of a country, minority languages, English and other languages). However, through relevant data, this research contributes to measuring the scope of multilingualism in tertiary education, both locally and internationally, at least, as far as electronic communication is concerned. Specifically, we intend to determine the extent to which English, other foreign languages, and minority languages are present in these telematic means in contrast with the state's first language (SFL). Therefore, we seek to know if the objective of multilingualism adopted by European institutions (Saarinen & Rontu, 2018) is accomplished at both the local and the international levels. This is valuable information for the language policy of the institutions of all administrative levels.

2. Theoretical Framework

2.1. Internationalization of Higher Education, Multilingualism, and a Lingua Franca

Several authors have pointed out that the process of globalization has an evident derivative in the academic field. This process of growing internationalization driven by different institutions (De Wit, 2020a) was accelerated even more after the Bologna Process (1999) and the creation of the European Higher Education Area (EHEA). Although it is a continental project, European authorities understood that the strengthening of such a space would allow increasing the global competitiveness of European universities internationally, without disregarding the primacy of the mercantile logic that Van der Walt spoke of (2013; see also De Wit, 2020a). In fact, internationalization has become one of the main indicators for success and excellence in higher education institutions (HEI) (De Wit, 2020b; Toprak, 2019), as confirmed by its use to obtain the indexes of the main rankings.

Regarding what internationalization means or implies for HEI, there are several definitions and lists of elements to consider. In other words, there is no agreement among academics on what to consider. However, based on different sources (Cots et al., 2012; De Wilt, 2020a; Doiz et al., 2013; Lasagabaster, 2015; Smit, 2018; Soler & Gallego-Balsà, 2019; Toprak, 2019), we can identify common features adopted as a definition. Therefore, the internationalization of HEI is an increasing improvement process of regional and national frameworks, especially in the mobility of academic staff and students, international academic programs, and international research networks.

In any of the aspects that give meaning to internationalization, languages have a key role, as they are, to a great extent, a vehicle for achieving that exchange in a global context. Although the EHEA intended to promote different European languages and create multilingual settings, the reality is that the linguistic ingredient of internationalization goes through the establishment of English as a

means for instruction and publication, and in summary, as a lingua franca (Cots et al., 2012; De Wit, 2020b; Doiz et al., 2013; Kuteeva et al., 2020; Migge, 2020; Vila, 2021). This results in a paradox that the more languages come into contact, the more English is used (De Swaan, 2001; Lasagabaster & Doiz, 2020), despite the fact that the level of English is not ideal in many cases, both among teachers and students (Doiz et al., 2013). However, it is also necessary to consider that the same notion of a lingua franca entails a multilingual setting (Smit, 2018), and, in this sense, it is highly interesting for us. In the report *Education at a Glance* by the Organization for Economic Cooperation and Development (OECD) (2021), the competitive advantage of countries with English as its main language (USA, UK, Australia, etc.) determines what Smit (2018) qualifies as "the inner circle" of university language policies, which are what attract more international students in tertiary education. Next, we must take into account a list of countries with English frequently established as the language of instruction (Luxembourg, Switzerland, Austria) or where English is widely used (Scandinavia, the Netherlands). These countries are successfully competing for international talent (Keisala et al., 2018; Toprak, 2019). The establishment of English as the language used in academic publications should also be considered, partly due to the prominence given by the rankings of journals. In any case, English has become an unavoidable element for universities in their internationalization proposal, and that is largely due to its impact on the position in university rankings, such as the Academic Ranking of World Universities (known as the Shanghai Ranking), Times Higher Education or the QS World University Rankings (Kuteeva et al., 2020; Lasagabaster, 2015). This is a fact, regardless of whether the European institutional rhetoric considers multilingualism as a value for the development of the common space (Lasagabaster, 2015; Saarinen & Rontu, 2018). Some even qualify the terms "internationalization" or "multilingualism" as euphemisms to refer to English (Saarinen, 2012; cited in Lasagabaster & Doiz, 2020, p. 380) or "Englishes", in a sense pointed out by Kachru et al. (2006), meaning different versions of the language, and multiple contexts and modes of use. As stated by Liu (2019), the instruction language ends up being a language of knowledge and power and this increases its

chances of survival against other languages, especially minority languages (ML) (Phillipson & Skutnabb-Kangas, 2013, go beyond when they introduce the concept of "linguistic imperialism"). Be that as it may, the coexistence of national or regional languages with English occurs in most cases "in parallel" (Saarinen & Rontu, 2018; Smit, 2018) and is not aligned with an ideal type of multilingual integration.

The prominence of English or what others have called "Englishization" (Doiz et al., 2013; Smit, 2018) could have meant taking a shortcut for intercommunication. However, it is also understood in many cases as a threat to other languages (Lasagabaster, 2015; Stevens & Giebel, 2020). In fact, in many countries, the incorporation of English as a language was embraced without much consideration for different fields (especially northern European countries, without a remarkable volume of speakers of the national language, as is the case of the aforementioned Scandinavian countries or the Netherlands), over time actions have been developed to protect the language of the state and restrain the progress of English in the academic field, among others (Liu, 2019; Migge, 2020; Saarinen & Rontu, 2018). Not only the main language of the country but also others that could be official, such as Swedish in Finland. In fact, these countries that have a generalized use of English are those that have begun to protect their official languages (Kuteeva et al., 2020), but the debate on English coexisting with other languages at universities is also occurring in southern Europe (Lasagabaster & Doiz, 2020). In a certain sense, universities are involved in this task, as they are national institutions (Cots et al., 2012), and they inevitably navigate between globalization and nationalization (Soler & Gallego-Balsà, 2019).

In settings of forced minorization of regional languages, as is the case of situations of colonialism or the Franco dictatorship in Spain, the subsequent "promotion of multilingualism becomes a vehicle of reparation" (Liu, 2019, also see Le Cordeur, 2017 and Vila, 2021). However, regional languages are not always going to receive this support, whether due to a lack of resources, the absence of professors teaching in the minority language, pronounced diglossia, the primacy of profitability criteria (the primacy of "profit" over "pride", as

described by Heller and Duchêne (2012)) or the lack of political will. If a language loses its "higher" functions, such as those in tertiary education, its daily use is also in danger (Le Cordeur, 2017), which is why universities are so important. The desire to support regional languages, as in Catalan or Basque universities, may collide with the desire for internationalization, which implies establishing English as a Medium of Instruction (EMI). Obviously, all languages that belong to this specific multilingual setting need resources and that can lead to a conflict of interests among different stakeholders and the priorities that are in play (Lasagabaster, 2015). In fact, Lasagabaster (2015) indicates that at the University of the Basque Country, the support towards the use of Basque and Spanish by professors and students is broad. This does not happen in countries like Denmark with its national language.

Precisely the clearer primacy of "profit" in times of globalization (Heller & Duchêne, 2012) is challenging the majority of ML, almost all of them with limited territorial scope. The process of minorization (and in some cases extinction) of languages happens "in bilingual or multilingual contexts in which a majority language – that is, a language with greater political power, privilege, and social prestige – comes to replace the range and functions of a minority language" (May, 2009, pp. 257-258). This has gained intensity with more information and communication technologies that are the object of this study. "Digital diglossia" (Melero, 2018, p. 154) causes Internet and social media users to choose the languages that provide more information. Ten hegemonic languages share 80% of the contents of the world wide web. Although English has lost some ground in the last two decades to the other nine languages, it is still used in more than half of the information. Meanwhile, the languages that are not part of this group have quite a complicated presence (Melero, 2018), and it is to be expected that universities resort to them to a lesser extent.

Our study analyzes these multilingual settings where there are regional, national, and international (mainly English) languages, in line with the perspective adopted by Cots et al. (2012), Kuteeva et al. (2020), and Wu et al. (2021). As stated by Cots et al. (2012, p. 8), it

"is in these already highly sensitive sociolinguistic environments that we feel that the impact of internationalization can best be analyzed as developing 'institutional sites of multilingual policy'". In addition to the challenge of internationalization led by English as the lingua franca, our choice of universities is where there is at least a bilingual dynamic between the main language of the state and another regional or minority language. Based on these conditions and in line with Wu et al. (2021), our interest is to question the degree to which English has spread (as an established indicator of internationalization) in these multilingual settings and the linguistic vitality of the languages of the areas where the universities are located. In this case, we understand multilingualism in a broad sense, as indicated previously, for example, by Kuteeva et al. (2020, pp. 9-10), who understand the use of two or more languages "in parallel or in contact with each other" in a university scope within a wide range of practices that have been developed based on the expansion and diversification of HEI.

Based on the components identified by Spolsky (2004) (language practices, language beliefs and ideologies, and language management or planning), we will focus on the language practices that HEI follows in digital means. However, the Spolsky model is characteristically interdependent, and so will be, in this case, the language practices of those who are dedicated to providing content on the websites and social networks of the universities in our sample. Thus, these practices, in many cases, will be determined by language planning that could even be transmitted in an official document. Regardless of whether that document exists or not, the way in which staff who create and manage digital content (webmasters, copywriters, community managers, etc.) proceed will be based on language beliefs or ideologies established by the sociolinguistic context of the university. The contexts (the language settings) will be highly diverse in this sample and will directly or indirectly establish language practices in digital means.

In line with Lasagabaster's (2015) approach, and although we consider what occurs on macro (international) and meso (national, regional) levels, our study focuses on the micro level, i.e., what happens at our universities. An

institutional perspective is adopted, as we consider a "university" as the main actor and not, for example, academic staff or students (as Lasagabaster would define as the "nano" level).

2.2. Variables that Can Determine the Use of Languages: Bivariate Hypotheses

One of the goals of this research is to verify to what extent different variables can influence the level to which a language is present in electronic means at universities. In many cases, the chosen variables have an academic tradition as explanatory variables. This is the case with those related to territory, while languages, in many cases, have a territorial affiliation. In previous studies, we could verify the explanatory capacity of the territorial variables (Català-Oltra, 2014; Català-Oltra & Penalva-Verdú, 2019, 2021), but it is an extensively documented causality (see, for example, Paulasto et al., 2020; Schöntag & Linzmeier, 2021), in many cases related to an ethno-identity perspective. An attempt has been made to divide the variable into categories that accumulate a reasonable number of cases and keep a political-geographical logic. Therefore, this resulted in Spain, France, the British Isles, Scandinavia, the rest of western Europe, and eastern Europe.

The same happens with the dominant political spectrum variable (balance of parties or coalitions in the government in the last three terms in the region where the university is located), also present in previous studies reporting high explanatory power (Català-Oltra & Penalva-Verdú, 2019), as observed in different sociolinguistic studies (Fazi, 2020; Nandi, 2017; Pradilla, 2017). The variable is based on right-left and center-periphery polarities in national terms (Letamendia, 1997). Research that relates political formations in the government with language, which is more common in Spain, usually associates more progressive positions with greater support for minority languages (Català-Oltra, 2014). Therefore, our initial hypothesis includes a wider use of ML in peripheral regional/nationalist political spectra (that explicitly support said languages) and progressive/left-wing, understanding that the surrounding universities can echo regional or national language policies and even be subject to the political and legislative action, as in Spanish regions.

Partly related to the political variable, we can also consider "the legal recognition of the minority language". The relationship between legal framework-derived policies and language practices is also a field that has gained relevant academic development (Borisova & Sulimov, 2018; Català-Oltra & Penalva-Verdú, 2019; Pons-Parera, 2017; Pradilla, 2017) and this is why we include legality as an explanatory variable. We understand that higher recognition (official) will help the ML to be used even more.

In this same sense, we will consider the attitude adopted by the country to which the university belongs in relation to the *European Charter for Regional or Minority Languages* (ECRML), in 1992, considering that if it has signed or ratified this treaty, there are more chances that the minority languages will be protected and promoted and, therefore, used more. As stated by Michna (2018, p. 184), "the ECRML has played an important role in the protection of linguistic diversity in Europe and the realization of the aspirations of those groups wishing to preserve this element of their cultural heritage".

Connected to the territorial and political-legislative variables, we will consider the Regional Authority Index (RAI), which has been compiled and successfully tested by Hooghe et al. (2016). It is a synthetic index of the self-governing capacity of the regions that has been applied in many countries and regions all over the world, including all of those within the EHEA. In this case, we support the hypothesis that a greater regional authority involves greater respect by countries for their regions and nationalities, and, as a result, there is a higher probability that supports policies will be designed for ML that can be established in said territories. The same authors, in different collaborations, have determined the relationship between RAI and languages (Eaton et al., 2019; Shair-Rosenfield et al., 2021).

Although there are other international rankings for higher education, the most followed one is the Shanghai ranking (Benner, 2020; Stevens & Giebel, 2020), and, as a result, this is the one that will be used as an independent variable. Börjesson and Lillo (2020) show that the higher one is in any of these rankings, the more English is used as a language of instruction, administration, etc. Therefore, we will try to

corroborate this interrelation in our population of European universities in multilingual settings. Apart from the tradition of excellence of certain English-speaking institutions (fundamentally British or American), the fact that this type of ranking rewards the use of English, for example, in publications, also works in favor of this correlation (Kauppi, 2018).

On the other hand, we use two other variables of language categorization referring to minority languages in multilingual settings, for instance, a state or stateless language (for example, Hungarian that is spoken in Transylvania is a state language because it is official and the main language of their neighbor, Hungary) or another example is the vitality status of the minority language that UNESCO uses (see http://www.unesco.org/languages-atlas/) that allows us to practically categorize all languages from less to more vulnerable. In this last case, we will work with the hypothesis of inverse correlation: the greater the vulnerability, the less use of the language in the electronic means of the European universities in multilingual settings. Regarding the state or stateless languages, we initially know of different situations in terms of social use regardless of whether they are part of one category or another, so it is difficult to form a hypothesis. Based on what is happening in Spanish universities, one of the largest groups among the European universities in multilingual settings, we could expect greater use of ML in stateless languages.

Finally, we will consider the size of the universities, which will be calculated according to the volume of students and academic staff. In this case, in relation to English and based on the research by Börjesson & Lillo (2020, p. 147), we work with the hypothesis that an important part of the so-called "world-class universities", the most exclusive institutions, are medium-small sized and, therefore, it is expected that the use of English will be to a greater degree at said smaller universities.

3. Methodology

Our proposed methodology to systematically record the presence of different languages in electronic means of the entities that develop their activity in multilingual settings is based on the content analysis (already outlined for websites and other kinds of entities as a unit of

analysis in Català-Oltra, 2007; see subsequent approaches in Berezkina, 2018; or Makhmutov et al., 2015). It has a parallel development in the studies by Callahan and Herring (2012) with a wide range of universities of all kinds, not only in multilingual settings. However, here we propose a more precise methodology with percentages of the presence of the languages based on the observation of a large number of entries or posts for each medium and each university.

On the other hand, our measurement proposal, like the one by Callahan and Herring (2012), resolves the limitations of obtaining information through surveys. The direct information that is present in the publications was taken as "documents" for content analysis, and the information provided by members in charge of communication with users without being aware that they were being observed. The result is a set of indicators on the use of different languages in communication measured from a technological perspective.

3.1. Unit of Analysis and Sample

Regarding the unit of analysis, European universities in multilingual settings were used. In order to select them, and as we have stated previously, the Shanghai ranking was used (the most followed according to Benner, 2020, and Stevens & Giebel, 2020) so as to ensure a minimum prestige of the entities according to internationally accepted standards (understanding, however, the insufficiencies and biases of this type of classifications; see Kauppi, 2018). The proposal was to explore the top 1,000 universities in the world to obtain the European ones (390 in the 2020 ranking) and, among them, those that were based in multilingual settings with the presence of a language with relative roots and different from the main one of the state. In order to reach the final figure of 88 universities (see Table 1), the language situation of the territories where they are located was explored through different institutional sources (e.g., statistical institutes; see European Commission, 2014; Główny Urząd Statystyczny, 2012; and Gouvernement du Grand Duché de Luxembourg, 2022) and academic sources (different sociolinguistic studies and general references; Doiz et al. al., 2013; Le Cordeur, 2017; Saarinen & Rontu, 2018). This task was especially intense in the cases where the research team doubted the

status of the language or dialect, or the presence of a reasonably high number of speakers, around 5% in the influence area of the university, although it was not possible to reliably find the precise percentage in all cases (in fact, we have been able to verify that it is a pending task on a continental scale to have reliable and unified demolinguistic data).

Table 1
Technical File of the Study

Unit of analysis	European universities in multilingual settings among the top 1,000 in the Shanghai Ranking
Geographic area	Europe (European Higher Education Area)
Universe size	88 universities
Sample error	Not calculated. Census
Sample size	88 (census)
Sampling type	Census
Fieldwork date	From 18 January to 20 March 2021

Finally, the following have been considered: Slovenian in the Klagenfurt area in Austria; French in Flemish universities and Flemish in Francophone universities in Brussels; Russian in Estonia; Swedish and Karelian in Finland; Occitan, Alsatian, Lorrain and Franco-Provençal in France; Frisian in North Germany; Gaelic in Ireland; Ladin, Friulian, Slovenian, German and Sardinian in Italy; Polish and Russian in Lithuania; Luxembourgish and German in Luxembourg; Limburgish and Low Saxon in the Netherlands; the Kven in Norway; Ruthenian, Silesian, and Kashubian in Poland; Hungarian in Romania; the Tatar in Russia; Hungarian, Romanian, Slovak, Croatian and Ruthenian in Serbian Vojvodina; Hungarian in the Bratislava region (Slovakia); Finnish, Sámi and Meänkieli in Sweden; French in the German-dominated bilingual cantons and German in the French-dominated bilingual cantons in Switzerland; Kurdish and Zazaki in Turkish Western Anatolia; Catalan, Galician, Basque and Bable in Spain; and finally Scots, Gaelic and Welsh in the United Kingdom.

3.2. Research Techniques

Two research techniques have been applied to two electronic ways of communication (websites and digital social networks), as already conducted in previous studies with other units of analysis (Català-Oltra & Penalva-Verdú, 2019, 2021):

- *Systematic observation-content analysis*: A coding of the web pages and the profiles of the digital social networks of the 88 European universities in multilingual settings present in the top 1,000 of the Shanghai Ranking was carried out (see a recent example of this methodological approach in Yergaliyeva et al., 2022). The aim was to obtain different language indicators: the initial language of the website, languages present on web pages (news section and degree offer, to combine more static content with others that are updated more), and the languages used in a post on the digital social network official accounts. In the case of the degree pages, 10 degrees are tracked, and in news and networks, the 15 most recent entries are observed (news, posts, or tweets), with their own information. Reposts (shares or retweets) and replicas are discarded.

- *Exploitation of secondary sources*: These are fundamentally explanatory variables whose source is the resources and databases that appear in Table 2.

Table 2
Variables Obtained from Secondary Sources

Source	Variable
Academic Ranking of World Universities (Shanghai Ranking Consultancy)	Position in the European university ranking (among the top 1,000 in the world).
Nomenclature of Territorial Units for Statistics (Eurostat)	Territorial subdivision of countries

Student/academic staff ratio in tertiary education (Eurostat)	Volume and ratio of students/professor
World Wide Web (Internet). Different sources	Dominant political spectrum in the region (assessment of the last three legislatures)
Constitutions and other legal documents of the countries and their decentralized units	Legal recognition of languages
European Charter for Regional or Minority Languages (Council of Europe)	Signature from each state
Hooghe et al. (2016)	Level of administrative decentralization (Regional Authority Index)
UNESCO	Vitality status of the language (also level of vulnerability).
European Tertiary Education Register (ETER)	Total academic staff, total students enrolled

These variables have had an explanatory role in the analysis with the purpose of discovering which of them determines the use of languages to a greater extent.

Both the information from the primary and secondary sources was coded and entered into the statistics program *IBM SPPS Statistics 25*

for analysis. Univariate and bivariate analyses were conducted to obtain statistics of central tendency and statistics of association between variables.

Information on the population characteristics based on said classification variables can be observed in Table 3.

Table 3
Characteristics of the Population (Valid Percentage)

Variable	Category	%	Variable	Category	%
Position in the Shanghai ranking	Until 250	29.5	Category of the minority language	State language	33.0
	From 251 to 500	26.1		Stateless language	67.0
	From 501 to 750	26.1	Vitality status of the minority language (UNESCO)	No danger	44.8
	From 751 to 1,000	18.2		Vulnerable	25.3
Geographical area	Spain	20.5		Definitely endangered	18.4
	UK & Ireland	18.2		Severely endangered	11.5
	France	14.8	Regional Authority Index	Until 10	24.1
	Scandinavia	13.6		From 10 to 20	24.1
	Eastern Europe	12.5		From 20 to 30	27.6
	Rest of Western Europe	20.5		More than 30	24.1
Legal recognition	Official in the whole country	13.6	European Charter for Regional or Minority Languages	Neither signed nor ratified	10.2
	Official in the region of the University	52.3		Signed but not ratified	23.9
	Not official, but recognized	17.0		Signed and ratified	65.9
	Not recognized	17.0	Number of students	Until 10,000	21.6
Politic hegemony	Regional or peripheral-national	18.2		From 10,001 to 20,000	33.0
	Dominantly left-wing	18.2		From 20,001 to 30,000	21.6
	Both left-wing and right-wing	35.2		More than 30,000	23.9
	Dominantly right-wing	28.4			

4. Results

First of all, only 22.7% of the universities allow the official website to be initiated directly in the minority language, and practically all of them are Spanish institutions, especially in Catalan-speaking areas. Furthermore, 4.5% offer the

possibility to choose the language, and most of these universities are from areas of Celtic origin in the British Isles. Minority languages are also present in barely 27.5% of the presentation videos of the university on YouTube (again, mainly Catalan-speaking universities, but also

Galician), compared to 11.3% in English and 57.5% of the state's first language (SFL).

In all situations (see Table 4), the SFL dominates over the ML and English. However, we must separate the behavior of websites from social networks as, in the first case, the possibilities of resorting to several languages are greater. This is why percentages of ML, especially in English, are higher than on social networks. In all languages, the percentages are higher on the degree web pages than on the news pages, as the content of the study programs is more static and permanent. Therefore, there is more time to translate, and it is more justified to do so. Nonetheless, the variation between one kind of content to another is much higher in English, which reaches more than half of the study programs of European universities in multilingual settings.

Table 4
Presence of Languages in Electronic Means of the Universities (Mean Percentage)

Language	Web page news	Web page degrees	Facebook posts	Tweets
State's first language	88.64	94.81	76.63	67.83
Minority language	25.51	29.66	17.01	15,89
English	36.17	56.39	13.56	17.60

Note. The addition of percentages in the column does not have to be 100, as a piece of news, information or a post could be written in two or more languages.

In addition, the university's Facebook and Twitter accounts write very few bilingual or trilingual posts. This occurs even less on Twitter due to the limited number of characters possible. The difference in favor of the SFL is considerable, especially on Facebook. The percentages of ML and English are similar, around 15% on both social networks. However, ML has the advantage on Facebook and English on Twitter.

Without a doubt, the variable that most determines the use of the different languages in electronic means of the European universities in multilingual settings is a geographical area, as it marks a statistically significant association in all the languages and all the means (see Table 5). The strongest associations occur in ML, as the vast majority of Spanish European universities in multilingual settings write content in ML, compared to a residual use of these languages in the rest of Europe. The SFL is practically completely present in all means in France, the United Kingdom, Ireland, and eastern countries, except for on Twitter, which in the east is frequently conceived as an international broadcast medium, and it is not surprising that they write in English. The lingua franca is relatively present in Scandinavia and other western countries (Switzerland, the Netherlands, etc.). In this regard, in terms of English, the geographical areas have also been organized by dividing western Europe into north and south (additional data), and this association has been verified, especially on social networks. A confirmation has been obtained that north-western countries use English more than south-western countries.

The association of a large part of the other variables with the use of ML is also strong. This is what occurs with the category of ML (greater use in stateless languages), its vulnerability (the less vulnerability, the greater public use), its legal recognition (the more it is recognized, the greater the use, especially in the region, but sometimes also in the state as a whole), the position of the State regarding the ECRML (the greater the use if it has been signed and ratified), the Regional Authority Index (the higher the index, the greater the use), and the dominant political spectrum in the region (the greater the use in the European universities in multilingual settings of regions governed by peripheral nationalist parties).

Although with different intensities, the use of the SFL usually has statistically significant associations with some of the variables. This is partly because the ML and the SFL are inversely correlated. Thus, there is an association between three of the four situations with the vital status of the ML (the greater the vulnerability, the wider the use of the majority language) and the Regional Authority Index (the lower the index, the greater the use of the SFL); in the two sections of the website regarding the university size (the bigger the

university, the more present the SFL); and on the two social networks in the dominant political spectrum in the region (the greater the use when governed by left-wing parties).

Table 5

The Presence of Languages in Electronic Means of European Universities in Multilingual Settings according to Different Explanatory Variables (Average %)

		Web page news			Web page degrees			Facebook			Twitter		
		SFL	ML	E	SFL	ML	E	SFL	ML	E	SFL	ML	E
Geographical area	France	100.00	0.77	21.15	98.08	0.77	17.92	97.43	0.00	3.08	96.92	0.00	3.59
	Spain	67.50	88.89	30.56	97.22	93.06	77.22	44.44	77.03	5.19	32.96	70.00	1.11
	UK & Ireland	100.00	19.38	---	100.00	22.00	---	100.00	0.0	---	100.0	0.0	0.0
	Scandinavia	89.58	1.67	49.58	85.83	15.42	55.00	74.44	0.56	25.00	72.00	0.00	28.00
	Eastern Europe	94.55	5.91	22.09	100.00	15.45	50.91	100.00	0.00	10.00	55.15	0.00	46.67
	Rest of Western Europe	87.22	13.32	52.28	88.25	11.67	65.48	61.47	4.82	35.93	58.52	5.93	36.30
Vitality status of the minority language	No danger	78.21	43.72	36.64	94.10	52.82	69.67	62.28	36.67	15.61	40.18	34.77	25.77
	Vulnerable	93.64	19.55	59.09	93.56	18.64	52.87	77.88	3.94	21.21	78.48	3.64	21.21
	Definitely endangered	99.38	6.88	32.73	96.25	7.33	37.73	95.00	0.00	5.00	95.42	0.00	5.00
	Severely endangered	100.00	0.00	15.50	97.50	0.00	21.11	96.66	0.00	4.00	99.33	0.00	1.33
Category minor. lang.	State language	89.48	11.55	44.54	92.76	20.18	66.13	80.47	3.33	21.19	80.47	3.33	21.19
	Stateless language	88.22	32.37	31.98	95.82	34.15	51.42	74.80	23.50	9.94	74.80	23.50	9.94
Regional Authority Index	Until 10	97.62	16.90	33.67	96.67	25.00	72.22	87.00	0.67	13.00	83.17	0.00	16.83
	From 10 to 20	88.81	2.86	52.65	88.97	6.50	53.62	75.87	0.00	24.13	65.61	0.00	35.44
	From 20 to 30	96.25	9.58	28.58	96.04	10.42	35.74	88.88	3.33	9.17	81.39	4.44	15.00
	More than 30	72.14	76.19	31.43	97.14	79.76	75.24	52.38	66.03	4.44	42.22	60.00	1.27
Legal recognition of the minority language	Official in the whole country	96.67	14.17	37.50	96.67	29.55	76.25	78.33	4.45	19.44	79.44	3.89	17.78
	Official in the region of the University	82.83	41.52	55.87	94.35	44.24	64.41	72.17	30.87	7.39	62.12	30.00	9.70
	Not official, but recognized	88.67	10.33	39.93	91.23	14.00	59.24	67.62	0.48	40.00	45.78	0.00	55.11
	Not recognized	100.00	0.67	19.00	98.33	0.67	22.50	97.33	0.00	3.11	97.33	0.00	3.11
European Charter for Regional or Minority Languages	Neither signed nor ratified	95.56	1.67	34.60	100.00	7.50	54.00	100.00	0.00	12.50	77.04	0.00	22.96
	Signed but not ratified	95.71	5.71	29.05	95.48	7.14	32.75	89.84	1.59	8.89	84.44	2.86	13.02
	Signed and ratified	85.00	36.38	39.59	93.77	40.86	66.93	68.62	24.94	15.40	60.12	23.33	18.45
Dominant Political Spectrum in the Region	Regional or peripheral-national parties	80.94	50.00	38.75	99.38	50.00	75.63	66.25	47.08	5.00	57.08	46.25	0.83
	Dominantly left-wing parties	99.38	18.75	26.92	97.19	18.75	18.85	99.16	0.00	0.83	97.33	0.00	3.11
	Both left-wing and right-wing parties	90.00	29.19	33.89	94.84	34.50	67.21	77.77	17.33	16.00	65.16	13.76	21.94

	Dominantly right-wing parties	85.00	9.60	43.26	90.34	17.80	57.80	67.46	8.27	24.27	60.00	8.33	32.22
	Until 10,000	81.58	17.37	56.17	84.13	16.32	73.25	61.75	9.82	30.18	53.70	11.11	35.19
	From 10,001 to 20,000	84.83	28.79	42.00	96.72	37.14	51.32	75.47	19.52	14.76	66.19	20.24	14.29
Number of students	From 20,001 to 30,000	91.05	32.11	17.50	97.89	35.79	66.43	82.45	20.00	8.07	77.19	12.28	10.88
	More than 30,000	98.10	22.38	26.19	99.05	26.19	39.00	86.35	17.46	1.91	73.65	17.46	13.02
	Total	88.64	25.51	36.17	94.81	29.66	56.39	76.63	17.01	13.56	67.83	15.89	17.60

Note: The shaded figures are the variables crosses that have shown significative association through the pertinent statistic (Eta, Pearson's *r,* or Gamma).

Regarding English, we can also find a significant association with some variables: three of the four situations of legal recognition of the ML (when there is some recognition or official status, English is used more, especially on websites), the dominant political spectrum in the region (where right-wing parties dominate, English is used more on social networks and websites, but also when peripheral nationalist parties hold hegemony, there is greater use of the lingua franca on websites) and the number of students (the use of English is more frequent in the smaller European universities in multilingual settings); and in two situations regarding the vital status of the language (the less vulnerable the minority language, the more English is used).

5. Discussion

Multilingualism advocated in many countries and universities (Cots et al., 2012; Kuteeva et al., 2020) is not a reality in the vast majority of European universities in multilingual settings that have shown a type of language practice that is mainly limited to communicating in the SFL. Thus, both minority languages and the lingua franca have a clear secondary role in the global European context (the presence of other foreign languages is practically inexistent). The exception could be web pages of degrees where 95% of them are in the SFL, but also the majority are also written in English as a strategy to attract international students (Cots et al., 2012). They are practices that are developed by staff who create and manage digital content and who work for university government teams, so they are presumably part of the language management and language planning of these institutions, retaking the typology of Spolsky (2004). This means it is a specific commitment based on beliefs and strategic goals.

As previous research verified (Català-Oltra & Penalva-Verdú, 2019, 2021; Paulasto et al., 2020), the geographic area clearly determines the results and establishes a differential behavior for the SFL and the ML. Spanish universities in multilingual settings support ML to a great extent, and the rest of the countries support the SFL. The capabilities that the State of Autonomies provides the regions and the importance given to languages in the context of repairing the situation of discrimination and language persecution of the Franco dictatorship (Iglésias, 2019) imply a public promotion and subsequent use of the minority language that cannot be compared to the rest of Europe. The different political and legal situations in the regions in Spain, in comparison to the rest of the EHEA, conditions other variables that the statistical values mark as influential regarding the use of the languages of the European universities in multilingual settings, such as the case of the Regional Authority Index, the vital status of ML or legal recognition. However, we have also been able to verify how a concern for ML, instead of competing with English by limiting its registers by some electronic means, goes hand in hand with what could be defined as a global commitment to multilingualism. Therefore, web pages on degrees of Spanish universities in multilingual settings have the highest percentage both regarding ML (93.1%) and English (77.2%).

Regarding the proposed hypotheses in relation to explanatory variables, the majority of those stated have been confirmed. The most obvious is the aforementioned territorial variable that structures very marked behaviors depending on the country or large region (with France being very little inclined to multilingualism, Spain committed to ML or the rest of western Europe supporting English more than other territories) also confirms that in western Europe the north-

south polarity continues to be valid, which implies greater use of the lingua franca in northern territories, as reflected in Lasagabaster (2015). Furthermore, we also confirm that the ML is used more (and normally the SFL less), the less vulnerable the language is, and the more legal recognition it has, the higher the RAI if the state has signed and ratified the ECRML or if the region is governed by peripheral nationalist parties. Catalan universities meet all these conditions. On the other hand, in general, it is confirmed that the smaller the university (student volume), the higher the use of English (and less the SFL), in line with what Börjesson & Lillo (2020) indicated. However, demonstrating the relation with the position variable of the Shanghai ranking has not been achieved, as the same authors state in their research (Börjesson & Lillo, 2020), although they included British and Irish universities, unlike us when it came to the use of English.

In line with our data, it is clear that we cannot globally talk about university language policies, as it is a partial area of digital communication, which also does not always show us the languages used in the main activities of the HEI, teaching, and research. Nonetheless, the importance of these means is beyond any doubt as it is a strategic axis and one of the key areas of communication of any entity and should reflect the course that the institution wants to adopt in different areas, including language. In this sense, the languages universities use online are proof of the preferences and strategic planning in terms of language. The data has displayed that, despite the rhetoric of the European Commission regarding its commitment to multilingualism in tertiary education, the adherence of a large number of countries to the ECRML and the number of international programs, such as the European Universities Initiative or specifically Una Europa, which also focused on multilingualism in the initial phase of proposals (Dafouz, 2021), ML are hardly being taken into account in precisely multilingual settings. Despite the proposal for internationalization, which assumes English as the lingua franca, it does not have a presence that can resemble that of the SFL either, although north-western Europe obtains somewhat better data records. Therefore, there is a long road yet and without community policies that are truly binding, a decisive way forward will be difficult. This will

be especially relevant for ML (aside from the exceptional case of Spanish universities, which outlines the importance of identity politics because the presence of Catalan or Basque at universities comes from the action of peripheral nationalist governments). On the other hand, for some time, the European Union has entered a critical phase in which the national discourse of some member states is superimposed on the common project (Català-Oltra, 2021). In terms of language, this entails overprotecting the SFL against foreign languages, especially English, as several authors have pointed out (Liu, 2019; Migge, 2020; Saarinen & Rontu, 2018), and indirectly delving into the process of minorization of other regional or minority languages. The opposite path, which is a possible revitalization of these languages, seems to have been set out by the bilingual regions in Spain.

The continuity of this work would involve conducting semi-structured interviews with the university staff in charge of the web pages and electronic social networks to determine if there are explicit politics on the use of languages in these environments, what those politics are, and the motivations to behave in one way or another.

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References

Adarbah, H. Y., Al Badi, A., & Golzar, J. (2022). The impact of emerging data sources and social media on decision making: A culturally responsive framework. *International Journal of Society, Culture & Language*. http://dx.doi.org/10.22034/ijscl.2022.555909.2666

Benner, M. (2020). Becoming world class. In S. Rider, M. A. Peters, M. Hyvönen, & T. Besley (Eds.), *World class universities* (pp. 25-40). Springer. https://doi.org/10.1007/978-981-15-7598-3.

Berezkina, M. (2018). Managing multilingualism on state websites. *Current Issues in Language Planning, 19*, 98-116. https://doi.org/10.1080/14664208.2017.1391495

Borisova, N., & Sulimov, K. (2018). Language territorial regimes in multilingual ethnic territorial autonomies. *Nationalities Papers, 46*(3), 358-373. https://doi.org/10.1080/00905992.2017.1351938

Börjesson, M., & Lillo, P. (2020). World class universities, rankings and the global space of international students. In S. Rider, M. A. Peters, M. Hyvönen, & T. Besley (Eds.), *World class universities* (pp. 141-168). Springer. https://doi.org/10.1007/978-981-15-7598-3

Callahan, E., & Herring, S.C. (2012). Language choice on university websites. *International Journal of Communication, 6*, 322–355.

Català-Oltra, L. (2007). L'ús del català en les pàgines web municipals del País Valencià [The use of Catalan language in the web pages of theValencian city councils]. In J. V. Forcadell & F. Isabel (Eds.), *A alacant, en valencià* [n Alicante, in Valencian language] (pp. 505-534). Universitat d'Alacant.

Català-Oltra, L. (2014). Llengua i ideologia en els partits polítics d'esquerra i centreesquerra del País Valencià [Language and ideology in Valencia's left-wing and centre-left-wing political parties: A preliminary study]. *Treballs de Sociolingüística Catalana, 24*, 113-131. https://doi.org/10.2436/20.2504.01.72

Català-Oltra, L. (2021). The objectification of European Identity in the treaties and in European institutions' declarations. *Debats Annual Review, 6*, 85-100. http://doi.org/10.28939/iam.debats-en.2021-6

Català-Oltra, L., & Penalva-Verdú, C. (2019). The use of official languages in electronic communications in the Valencian local administration. *International Journal of the Sociology of Language, 260*, 15-36. https://doi.org/10.1515/ijsl-2019-2046

Català-Oltra, L., & Penalva-Verdú, C. (2021). The use of languages by Valencian business-to-consumer service companies in their telematic communications. *HERMES, 61*, 23-40.

Cots, J. M., Lasagabaster, D., & Garrett, P. (2012). Multilingual policies and practices of universities in three bilingual regions in Europe. *International Journal of the Sociology of Language, 216*, 7–32. https://doi.org/10.1515/ijsl-2012-0037

Dafouz, E. (2021). Exploring the conceptualisation of linguistic diversity and multilingualism in the construction of (transnational) European universities. *Journal of Multilingual and Multicultural Development* (online). https://doi.org/10.1080/01434632.2021.1920964

De Swaan, A. (2001). *Words of the world: The global language system.* Polity-Blackwell.

De Wit, H. (2020a). Internationalisation of higher education. The need for a more ethical and qualitative approach. *Journal of International Students, 10*(1). https://doi.org/10.32674/jis.v10i1.1893

De Wit, H. (2020b). Internationalisation in higher education: A western paradigm or a global, intentional and inclusive concept? *International Journal of African Higher Education, 7*(2), 31-37. https://doi.org/10.6017/ijahe.v7i2.12891

Doiz, A., Lasagabaster, D., & Sierra, J. (2013). Globalisation, internationalisation, multilingualism and linguistic strains in higher education. *Studies in Higher Education, 38*(9), 1407-1421. https://doi.org/10.1080/03075079.2011.642349

Eaton, K., Faguet, J.-P., Harbers, I., Schakel, A. H., Hooghe, L., Marks, G., Niedzwiecki, S., Chapman Osterkatz, S., & Shair-Rosenfield, S. (2019). Measuring and theorizing regional governance. *Territory, Politics, Governance, 7*(2), 265–283. https://doi.org/10.1080/21622671.2018.1445021

European Commission (2014). *Special Eurobarometer 386: Europeans and their languages.* https://data.europa.eu/data/datasets/s1049_77_1_ebs386?locale=en and https://languageknowledge.eu/

Fazi, A. (2020). How language becomes a political issue. *International Journal of the Sociology of Language, 261*, 119-144. https://doi.org/10.1515/ijsl-2019-2063

Główny Urząd Statystyczny (2012). *Narodowy spis powszechny ludności i mieszkań 2011* [2011 national census of population and housing.].

https://stat.gov.pl/cps/rde/xbcr/gus/lu d_raport_z_wynikow_NSP2011.pdf

Gouvernement du Grand Duché de Luxembourg (2022). *À propos … des langues au Luxembourg* [About … languages in Luxembourg]. Gouvernement du Grand Duché de Luxembourg. https://luxembourg. public.lu/dam-assets/publications/a-propos-des-langues-au-luxembourg/ a-propos-des-langues-fr.pdf

Heller, M., & Duchêne, A. (2012). Pride and profit. Changing discourses of language, capital and nation-state. In A. Duchêne & M. H. Monica (Eds.), *Language in late capitalism: Pride and profit* (pp. 1-21). Routledge.

Hooghe, L., Marks, G., Schakel, A. H., Niedzwiecki, S., Chapman Osterkatz, S., & Shair-Rosenfield, S. (2016). *Measuring regional authority*. Oxford University Press.

Iglésias, N. (2020). Language policies in contemporary Catalonia: A history of linguistic and political ideas. In P. Casanovas, M. Corretger, & V. Salvador (Eds.), *The rise of Catalan identity* (pp. 79-105). Springer. https://doi.org/10.1 007/978-3-030-18144-4_5

Kachru, B. B., Kachru, Y., & Nelson, C. L. (Eds.) (2006). *The handbook of world Englishes*. Blackwell.

Kauppi, N. (2018). The global ranking game. *Studies in Higher Education, 43*(10), 1750-1762. https://doi.org/10.1080/0307 5079.2018.1520416

Keisala, K., Kovalainen, N., Majakulma, A., & Pitkänen, P. (2018). The role of language and communicative abilities in transnational labor markets: Experiences from Finland. *International Journal of Society, Culture & Language, 6*(2), 59-72.

Kuteeva, M., Kaufhold, K., & Hynninen, N. (2020). *Language perceptions and practices in multilingual universities*. Palgrave Macmillan.

Lasagabaster, D. (2015). Language policy and language choice at European universities. *International Journal of Applied Linguistics, 3*(2), 255-276. https://doi.org/10.1515/eujal-2014-0024

Lasagabaster, D., & Doiz, A. (2020). Epilogue: Multilingualism in Northern European universities. In M. Kuteeva, K.

Kaufhold, & N. Hynninen (Eds.), *Language perceptions and practices in multilingual universities* (pp. 379 – 394). Palgrave Macmillan.

Le Cordeur, M. (2017). The future of Afrikaans as university language within a multilingual environment. *L1 - Educational Studies in Language and Literature, 17*, 1-21. https://doi.org/ 10.17239/L1ESLL-2017.17.03.01

Letamendia, F. (1997). *Juego de espejos. Conflictos nacionales centro-periferia* [Mirror game. Centre-periphery national conflicts]. Trotta.

Liu, X. (2019). Language of instruction in higher education. *Romance Review, 22*. https://ejournals.bc.edu/index.php/roma nce/article/view/11289

Makhmutov, Z. A., Sagitova A. G., & Ibragimova E. R. (2015). Russian and Tatar languages in official Internet resources. *International Review of Management and Marketing, 5*, 154-159.

May, S. (2009). Language policy and minority rights. In T. Ricento (Ed.), *An introduction to language policy: Theory and method* (pp. 255–272). Blackwell.

Melero, M. (2018). El futur de les llengües en l'era digital [The future of languages in the digital era]. *Revista de Llengua i Dret, 70*, 152-165. https://doi.org/10. 2436/rld.i70.2018.3201

Michna, E. (2018). Language situation of stateless groups struggling for recognition. In D. Stern, M. Nomachi, & B. Belić (Eds.), *Linguistic regionalism in Eastern Europe and beyond* (pp. 184-203). Peter Lang.

Migge, B. (2020). Why embed multilingualism into university practices? *Languages, Society and Policy* (policy papers). University of Cambridge. https://doi. org/10.17863/CAM.62272

Nandi, A. (2017). Language policies and linguistic culture in Galicia. *Labor Histórico, 3*(2), 28-45. https://doi.org/ 10.24206/lh.v3i2.17124

OECD (2021). *Education at a glance 2021: OECD indicators*. OECD Publishing. https://doi.org/10.1787/b35a14e5-en

Paulasto, H., Penhallurick R., & Jones, B. (2020). Geography, demography, cultural factors, and variation. In H. Paulasto, R. Penhallurick, & B. Jones (Eds.), *Welsh English* (pp. 1-44). De

Gruyter Mouton. https://doi.org/10.1515/9781614512721-001

Phillipson, R., & Skutnabb-Kangas, T. (2013). Linguistic imperialism and endangered languages. In T. K. Bhatia, & W. C. Ritchie (Eds.), *The handbook of bilingualism and multilingualism* (2nd ed.; pp. 495-516). Wiley Blackwell.

Pons-Parera, E. (2017). Language rights and linguistic groups. In A. del Real (Ed.), *The rights of minorities* (pp. 57-88). Bentham. https://doi.org/10.2174/97816810859371170201

Pradilla, M. (2017). Després de la tempesta arriba la calma? [Does the calm arrives after the storm?] *Estudis Romànics, 39*, 399-414.

Saarinen, T. (2012). Internationalization of Finnish higher education. *International Journal of the Sociology of Language, 216*, 157–173. http://dx.doi.org/10.1515/ijsl-2012-0044

Saarinen, T., & Rontu, H. (2018). University language policies. *European Journal of Language Policy, 10*(1), 97-119. https://doi.org/10.3828/ejlp.2018.5

Schöntag, R., & Linzmeier, L. (2021). The impact of geofactors on the formation of language islands and minority languages. *Forum Italicum*. https://doi.org/10.1177/0014585821998

Shair-Rosenfield, S., Schakel, A. H., Niedzwiecki, S., Marks, G., Hooghe, L., & Chapman-Osterkatz, S. (2021). Language difference and regional authority. *Regional And Federal Studies, 31*(1), 73–97. https://doi.org/10.1080/13597566.2020.1831476

Smit, U. (2018). Beyond monolingualism in higher education. In J. Jenkins, W. Baker, & M. Dewey (Eds.). *The Routledge handbook of English as a lingua franca* (pp. 387–399). Routledge.

Soler, J., & Gallego-Balsà, L. (2019). *The sociolinguistics of higher education language*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-16677-9

Spolsky, B. (2004). *Language policy*. Cambridge University Press.

Stevens, M. L., & Giebel, S. (2020). The paradox of the Global University. In S. Rider, M. A. Peters, M. Hyvönen, & T. Besley (Eds.), *World class universities* (pp. 123-137). Springer.

Toprak, T. E. (2019). Internationalization, mobility and Englishization in higher education across OECD countries. *Journal of University Research, 2*(1), 12-17.

Van der Walt, C. (2013). *Multilingual higher education: Beyond English medium orientations*. Multilingual Matters. https://doi.org/10.21832/9781847699206

Vila, F. X. (2021). The hegemonic position of English in the academic field. *European Journal of Language Policy, 13*(1), 47-73. https://doi.org/10.3828/ejlp.2021.5

Wu, Y., Silver, R. E., & Zhang, H. (2021). Linguistic schoolscapes of an ethnic minority region in the PRC. *International Journal of Multilingualism*. https://doi.org/10.1080/14790718.2021.1962326

Yergaliyeva, S., Anesova, A., Melnik, N., Uaikhanova, M., & Sarybayeva, B. (2022). Linguistic-personological strategies and practices of commenting on political texts in virtual space. *International Journal of Society, Culture & Language, 10*(3), 125-136. https://doi.org/10.22034/ijscl.2022.558154.2714