BRITISH COUNCIL

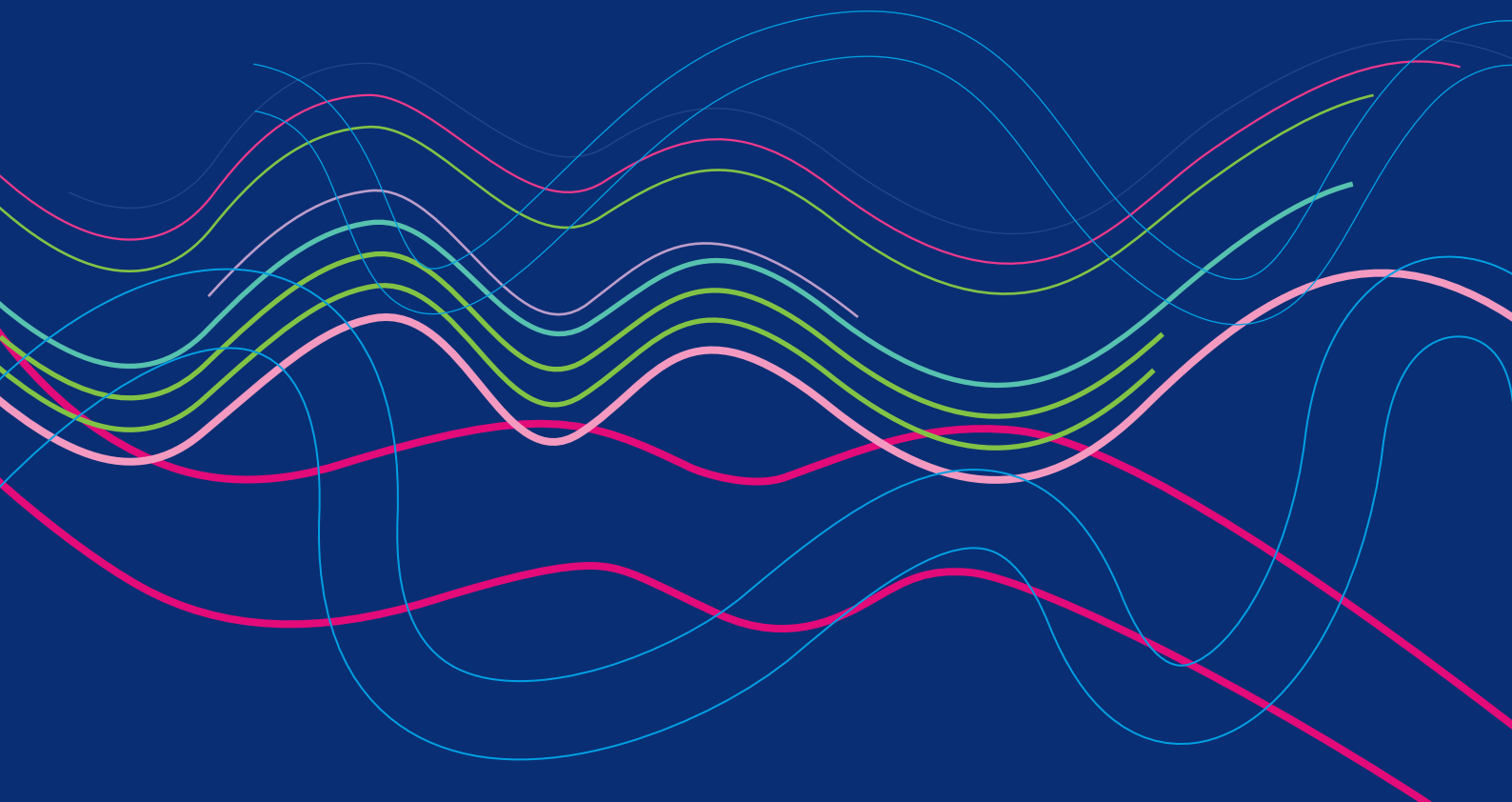
HIGHER EDUCATION INSIGHTS

THE MULTIFACETED ROLE OF ENGLISH

IN THE ARGENTINE HIGHER EDUCATION SYSTEM

Adolfo M. García,[1,2,3] Agustín Ibáñez,[1,2,4,5,6] Eugenia Hesse,[1,2]
Boris Kogan,[7,8] Sheila Sánchez,[1] María Filippini[9]

www.britishcouncil.org.ar
British Council Argentina
@arBritish



[1] Laboratory of Experimental Psychology and Neuroscience (LPEN), Institute of Cognitive and Translational Neuroscience (INCYT), INECO Foundation, Favaloro University, Buenos Aires, Argentina

[2] National Scientific and Technical Research Council (CONICET), Buenos Aires, Argentina

[3] Faculty of Education, National University of Cuyo (UNCuyo), Mendoza, Argentina

[4] Centre of Excellence in Cognition and its Disorders, Australian Research Council (ARC), Sydney, Australia

[5] Centre for Social and Cognitive Neuroscience (CSCN), School of Psychology, Universidad Adolfo Ibáñez, Santiago, Chile

[6] Universidad Autónoma del Caribe, Barranquilla, Colombia

[7] Institute of Basic and Applied Psychology and Technology (IPSIBAT), National University of Mar del Plata, Buenos Aires, Argentina

[8] National Agency of Scientific and Technological Promotion (ANPCyT), Buenos Aires, Argentina

[9] Glossa Language Services, Buenos Aires, Argentina

ACKNOWLEDGMENTS

The research team wishes to thank the staff of the British Council in Argentina for their support throughout the project. Our gratitude also goes to Fundación INECO for their efficiency in handling administrative matters. Finally, we are grateful for the disinterested collaboration obtained from hundreds of members of the Argentine higher education system, who kindly devoted their time and attention to our study.

AUTHORS' BIODATA

Dr. Adolfo M. García
Principal Investigator

Dr. García serves as Scientific Director of the Laboratory of Experimental Psychology and Neuroscience (INCYT, Fundación INECO), Researcher at CONICET, and Professor of Neurolinguistics at UNCuyo. He has completed studies in translation, foreign-language teaching, language sciences, and cognitive neuroscience. He now leads research projects in over ten countries across the globe. Moreover, he is Director of the Master's in Language and Cognition, a postgraduate program he has created at UNCuyo. His teaching career includes graduate and postgraduate courses in Latin America, North America, Europe, and Asia. He has more than 130 publications, including books, chapters, and papers in top journals within the fields of linguistics, bilingualism, and cognitive neuroscience. In addition, he has offered over 150 presentations at international academic meetings. His scientific contributions have been recognized by awards from the Linguistic Association of Canada and the United States, the Ibero-American Neuroeducation Society, the Argentine Association of Behavioral Science, and the Legislature of the City of Buenos Aires.

Dr. Agustín Ibáñez
Associate Investigator

Dr. Ibánez has an outstanding track record in the fields of cognitive neuroscience, experimental psychology, and neuropsychiatry. After obtaining his Ph.D., he specialized in electrophysiology at the Max Plank Institute for Brain Research and then did postdoctoral studies at the Neuroscience Centre of Cuba and at Universität Heidelberg. He is currently the Director of the Institute of Cognitive and Translational Neuroscience (INCYT); Independent Researcher of the National Scientific and Technical Research Council (CONICET); Researcher of the Centre for Social and Cognitive Neuroscience at the University of Chicago; Researcher of the Centre for Social and Cognitive Neuroscience at the Adolfo Ibáñez University; Associate Investigator of the ARC Centre of Excellence in Cognition and its Disorders; Atlantic Fellow of the Global Brain Health Institute (GBHI) at the University of California, San Francisco (UCSF); Co-Director of the Institute of Behavioral Sciences and Public Policies, hosted by the INECO Foundation; and Technical Director of Inter-American Development Bank (IDB) grant titled "Behavioural Insight group for social protection and health policies: A lifespan approach."

Dr. Eugenia Hesse
Quantitative Data Analyst

Dr. Hesse holds a major in Biomedical Engineering from the Faculty of Engineering and Natural and Exact Sciences at Favaloro University, and a Ph.D. in Engineering from the Faculty of Engineering of the University of Buenos Aires. Here, she also serves as a teaching assistant for Single Variable Calculus and Complex Calculus, and in a postgraduate program of neuroscientific

research for Introduction to Statistics and Neural Analysis. Her training over the years includes postgraduate courses on statistics, data science, and machine learning. Her doctoral studies were supported by a full scholarship from CONICET, which has also awarded her ongoing postdoctoral scholarship. Regarding her academic production, she has several papers in world-leading journals. Her current projects are focused on translational science by applying machine learning algorithms to analyze large sets of different neuroscientific data, focusing on the effectiveness of clinical treatment, the detection of early biomarkers of neurological disorders based on spontaneous discourse analysis, and the implementation of online data analysis tools.

Boris Kogan
Qualitative Data Researcher

Mr. Kogan is a Ph.D. student of the Faculty of Psychology at the National University of Mar del Plata (Argentina) and a research fellow at the Institute of Basic and Applied Psychology and Technology (IPSIBAT). His doctoral studies are supported by a full scholarship from the National Agency of Scientific and Technological Promotion (ANPCyT, Argentina). His current projects focus on embodiment effects and semantic transfer in Spanish-English bilinguals with different proficiency levels.

Certified Translator Clara María Filippini
Professional Language Assistant

Mrs. Filippini holds a major in Legal Translation and Technical-Scientific Translation from CAECE University, where she has also served as teaching assistant. Furthermore, she has worked as Assistant Professor at FASTA University in the subject Educational Research – a mandatory course in the Bachelor's English Program. Currently, she is a member of the Sworn Translators' Association of the City of Buenos Aires (CTPCBA) and the Sworn Translators and Interpreters' Association of the Province of Buenos Aires (CTPIPBA). Over the years, she has worked with several research teams in Argentina and abroad, developing and optimizing research materials such as informed consent forms, investigator manuals, participant satisfaction surveys, and validated questionnaires and instruments.

Mrs. Sheila Sánchez
Executive Secretary

Mrs. Sánchez currently works as Administrative Coordinator at the Institute of Cognitive and Translational Neuroscience (INCYT), a position she has held since 2016. She is the main liaison between INCYT and several national institutions, including CONICET and numerous universities. Her managerial skills were forged through her previous experience as Chief Accountant at NH Hotels, where she was in charge of various administrative duties.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The long-standing status of English as a *lingua franca* has impacted on several facets of academia, crucially including higher education (HE) institutions. This is evidenced, for instance, by its growing use as a medium of instruction across the globe, its undisputed position as the leading language of research, and its predominance in a context of massive international mobility. Therefore, understanding how English is framed at macro- and micro-organizational levels proves crucial to assess and improve relevant resources in national HE systems. Several research efforts have made progress in this direction by focusing on numerous regions and countries the world over. However, no study has yet offered a structured overview of the topic in the Argentine context, a scenario that hinders the identification of existing possibilities and challenges towards the internationalization of the country's educational capacity and its harmonization with global trends. To bridge this gap, the present report documents an unprecedented investigation on the role of English in Argentine HE. In particular, we aim to shed light on five major dimensions, namely: (i) English competencies across the system, (ii) the role of English in the learning and teaching of field-specific contents, (iii) the role of English in research, (iv) the role of English in international mobility schemes, and (v) the general standing of English in HE.

The study was undertaken by six professionals with specific roles, namely: a Principal Investigator (Dr. Adolfo M. García), an Associate Investigator (Dr. Agustín Ibáñez), a Quantitative Data Analyst (Dr. Eugenia Hesse), a Qualitative Data Researcher (Prof. Boris Kogan), a Professional Language Assistant (Certified Translator Clara María Filippini), and an Executive Secretary (Mrs. Sheila Sánchez). Collectively, the team brought together a vast skill set that allowed for the design of a comprehensive research framework, the construction of specific data-gathering instruments, the collection and organization of massive amounts of information, the implementation of convergent qualitative and quantitative analysis pipelines, the integrative interpretation of diverse empirical patterns, and the identification of potential lines of action therefrom.

Over the course of four months, data were gleaned through a multi-methodological approach encompassing (a) systematic analyses of over 100 official documents from 40 faculties belonging to 20 universities, (b) quantitative and qualitative data from a large-scale survey administered to 755 participants from 57 universities (including the previous 20), and (c) 12 semi-structured interviews with key actors across the system. Qualitative information was organized and interpreted via standard content-analysis approaches. Quantitative outcomes were analyzed through descriptive and inferential statistics, together with machine-learning methods. All findings were jointly assessed in the quest of (i) general tendencies across the system as well as patterns of similarity or differentiation between (ii) public and private institutions and (iii) faculties with humanistic and natural/exact orientations. The study yielded several core findings for each analytical dimension, as summarized next:

Regarding English competencies:

- Levels of (self-reported) competence are generally high, especially for receptive skills.
- A widespread desire exists to increase English competencies and expand relevant actions.
- English courses are generally useful, but impressions are mixed concerning their quantity and quality.
- Overall (self-rated) English competence proves greater in private than public universities.
- Engagement in curricular English courses is more prevalent in public than private universities and in faculties with natural/exact than humanistic orientations.

Regarding the role of English in the learning and teaching of field-specific contents

- The HE community is aware that leading bibliography is predominantly published in English. However, English-language materials are underrepresented across syllabi.
- Opinions are divided on whether curricular English materials prove sufficient.
- English sources are more common in faculties with natural/exact than humanistic orientations.
- Comprehension of English-language texts is mainly based on direct reading.
- Though not massive, the use of English as a medium of instruction (EMI) seems more common in private than public universities. The community calls for an expansion of this practice.
- EMI classes are typically taught by non-native users with varying proficiency.

Regarding the role of English in research

- English skills are recognized as highly important to forge a scientific career.
- Yet, there is a dearth of English courses tailored to research grantees and researchers.
- Scientific writing skills in English are varied, proving higher in researchers than other groups.
- English texts are predominant in research documentation, but their accessibility varies widely across the system.
- Publishing in English is associated with more international visibility, greater chances of reaching high-impact journals, and increased likelihood of success in funding applications.

Regarding the role of English in international mobility

- Abundant resources are available to encourage academic trips to English-speaking countries.
- Engagement in international mobility is high, especially for authorities, teachers, and researchers.
- Anglophone destinations are predominant and more widely favoured in private than public universities and in faculties with natural/exact than humanistic orientations.
- These activities are consistently positive, and the community calls for their expansion.

Regarding the general standing of English

- Recurrent objectives include the internationalization of curricula.
- Yet, no guidelines are available to holistically regulate the role of English in the HE system.
- English competencies are deemed key to the country's scientific and technical growth.
- As revealed by machine-learning analyses, the top features discriminating between public and private universities mainly concern the teaching of English and the role of EMI.
- Regarding the contrast between faculties with humanistic and natural/exact orientations, the top discriminating features are mainly related to the role of English-language bibliography.
- No biases against the development of English are apparent across the system.

These findings carry a number of implications. As regards English competencies, relevant courses are allotted comparatively few hours, with class time proving similar between university and faculty types. Thus, the high proficiency levels reported throughout the system, as well as the differences between institutions, are likely driven by system-external factors. Also, the desire to improve English competencies reflects awareness of the ensuing benefits for training, working, collaborating, and publishing across fields. Yet, considering that existing courses are generally deemed useful for academic development, calls for their expansion likely reflect their insufficiency more than their inefficiency.

Regarding the role of English in learning and teaching, four outstanding points emerge from our data. First, the Argentine system mirrors global trends in its need for explicit language policies, the predominant impression that EMI is promoted across institutions, the uneven proficiency levels observed in teachers using such a resource, and the stronger presence of English in classes from private compared to public universities. Still, the latter pattern reflects a missed opportunity for internationalization, since English-speaking students are more numerous in public than private institutions. Second, considering their appraisal of and actual contact with English bibliography, students are mainly exposed to materials that they know (or at least believe) to be below the highest worldwide standards. Yet, a reversal of this tendency is not univocally claimed across the system. Third, the greater presence of English materials in faculties with natural/exact than humanistic orientations might partly reflect a differential tendency to target relatively universal and culturally situated phenomena, respectively. Finally, the unsystematic presence of EMI in the HE system might be partially explained by the low proportion of non-Spanish speakers in Argentine universities (currently estimated to represent less than 0.2% of all students).

In terms of research, the widespread promotion of international collaborations echoes global trends, likely reflecting awareness of the weight of scientific output in university rankings. However, varying accessibility of English-language sources across the system suggests that some institutions may be handicapped by reduced opportunities for top-level documentation. This challenge for the system is mirrored and extended by the heterogeneous levels of scientific writing skills in English, for which relevant courses are inexistent or poor.

International mobility seems to be the system's best-developed area. In fact, Argentina seems to be on a par with worldwide tendencies regarding available resources, levels of engagement, the predominance of anglophone destinations (mainly the United States and the United Kingdom), and the greater proportion of relevant actions in private over public universities.

More generally, English figures prominently among internationalization objectives at an institutional level. However, those objectives, as laid out in official documents, do not fully reflect the priorities of the community with regards to English policy in HE. In particular, as compared to institutional documents, stakeholders place heavier emphasis on the importance of accessing top-level bibliography and broadening the visibility of local scientific outputs. Unfortunately, as in several other countries, standardized and publically available guidelines on how to achieve proposed goals are wanting. Also, the main points of contrast between public and private universities are related to the teaching of and in English, whereas those yielding the greatest discrimination between humanistic and natural/exact faculties are principally related to the importance English-language bibliography across academic activities. Finally, despite isolated opinions, there is no sign of bias against English-related initiatives – which could have been expected given the rejection of English culture that pervades certain sectors of Argentine society. A fertile path thus lies ahead to implement relevant actions.

Looking ahead, the present study offers firm empirical foundations for wider investigations across the country while paving the way for concrete interventions at several levels. These include dissemination campaigns to raise awareness of existing resources to profit from English across the system, scalable nation-wide courses to foster urgently required abilities (including workshops on scientific writing, EMI, and English-based distance-learning education), and focalized fora for generating consensual regulatory frameworks. Finally, a concerted replication of this research across Latin American countries would prove crucial to characterize the convergences and divergences in the role of English throughout the region, laying the groundwork for harmonized actions.

1. INTRODUCTION

Amid the 7,000 languages in existence (Gordon, 2005), English stands out by its dominant presence worldwide (Crystal, 2003). Current estimates indicate that different varieties of English are used daily by roughly 1,700 million people (British Council, 2013), more than half of whom are non-native speakers (Lewis et al., 2014). The latter fact holds major societal relevance, given that bilingualism represents a pillar of our global and virtual economy (Day & Wagner, 2009). Accordingly, English can justly be conceived as the *lingua franca* of our time (Baker & Prys Jones, 1998; Crystal, 2003).

Unsurprisingly, this sociolinguistic phenomenon has impacted on several facets of academia, crucially including higher education (HE) systems. For example, the use of English as a medium of instruction (EMI) is a growing tendency across countries with other majority native languages. Indeed, both graduate and postgraduate courses worldwide are increasingly relying on EMI for both face-to-face (Dearden, 2015; Earls, 2016; Smit, 2010; Wächter & Maiworm, 2014) and online (Kolowich, 2013; Online Course Report, 2017) education. Also, English has long asserted itself as the common language of research (Garfield, 1989; Di Bitetti & Ferreras, 2017), accounting for over 90% of all indexed papers in both the natural (Ammon, 2010, 2012; Hamel, 2007) and the social (Albarillo, 2014) sciences. Therefore, the production of high-impact publications, as well as their usability for documentation and teaching/learning purposes, is partially dependent on English-language skills. Moreover, the importance of English in HE has been boosted by the massive increase of international student mobility across the globe (UNESCO Institute for Statistics, 2015). In sum, the assessment and planning of HE strategies in the globalized world calls for a thorough understanding of how English is framed at macro- and micro-organizational levels.

Against this background, and in line with other region-specific projects (Atherton et al., 2018), the British Council has recently commissioned a pioneering report on the potential benefits of fostering English-specific skills for students, teachers, and researchers in the Argentine HE system (García, 2019). Yet, as noted in that publication, to date there is no nation-wide evidence on the topic.[1] In fact, large-scale reports on global HE tendencies have excluded Argentina from their sampling of the Americas (Ilieva & Peak, 2016; Ilieva et al., 2017) and the only British Council report on the Argentine HE system (Guaglianone et al., 2018) was not specifically concerned with the role of English across teaching, learning, research, and mobility activities. The dearth of information on these issues limits our understanding of the possibilities, needs, and challenges in order to improve English competencies and increase the visibility of local academia as well as international cooperation links and mobility options. This scenario is particularly unfortunate in present times, not only because Argentina has 15 of the top 1,000 universities worldwide – including Universidad de Buenos Aires, which ranks among the best 75 (Quaqcuarelli Symonds, 2019) –, but also because an agreement between Argentina and the United Kingdom now warrants full recognition of Master's degrees obtained in either country towards completion of a Ph.D. in the other (gov.uk, 2018).

Conceived as a first step towards bridging these gaps, the present report documents an unprecedented investigation on the role of English in Argentina's HE system. The project relies on a multi-methodological framework combining systematic analyses of official institutional documents, quantitative and qualitative data from a large-scale survey (completed by authorities, teachers, researchers, research grantees, and students), and interviews with key actors across institutions. In particular, our study targets five relevant dimensions, namely: (i) English competencies across the system, (ii) the role of English in the learning and teaching of field-specific contents, (iii) the role of English in research, (iv) the role of English in the country's international mobility schemes, and (v) the general standing of English in Argentine HE. Special emphasis is placed on tracing commonalities and dissimilarities between public and private universities, and between faculties with humanistic and natural/exact orientations.[2] Briefly, the present work seeks to illuminate vital aspects of this strategic topic while forging empirical bases for the development of constructive and scalable nation-wide policies.

[1] This paucity of research contrasts with the abundant work conducted on English teaching and learning in earlier educational stages (primary and secondary levels), including teacher training tendencies (Porto et al., 2016).

[2] By design, the project excluded any type of data from programs and individuals targeting English as their core topic or tool, namely: English teacher training programs and English-Spanish translation and/or interpreting programs. This allowed circumventing potential biases driven by idiosyncratic

2. SPECIFIC AIMS AND METHODS

2.1. AIMS

The general objective stated above comprised five specific aims, namely:

(a) surveying the key English-language trends and policies across the Argentine HE system;

(b) assessing the resources, goals, challenges, and attitudes regarding English across the five analytical dimensions;

(c) identifying core patterns in the opinions, experiences, and decision-making factors from actors in the system;

(d) comparing the role of English between public and private universities; and

(e) comparing the role of English between faculties within the humanities and the natural/exact sciences.

To these ends, we implemented a three-fold methodology within the framework depicted in Figure 1.

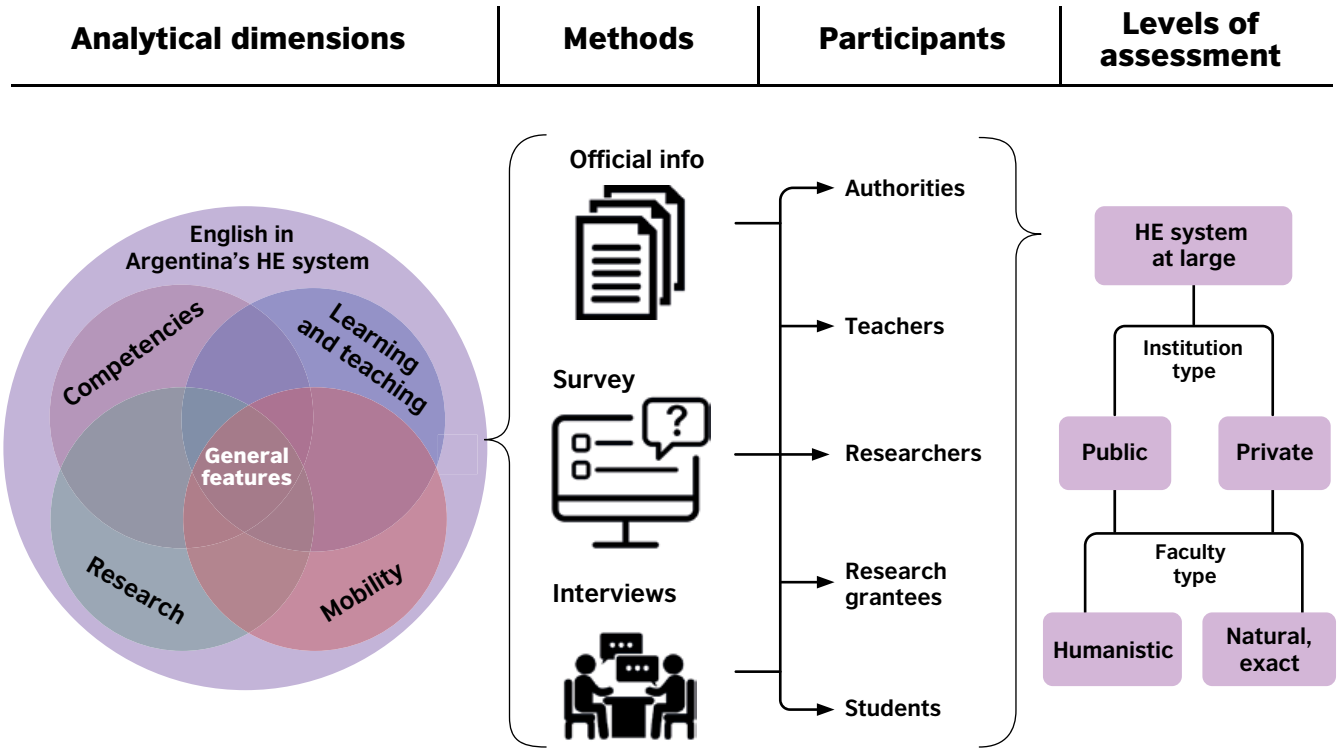


Figure 1. **RESEARCH FRAMEWORK.**

The study comprised five analytical dimensions concerning the role of English in Argentina's higher education (HE) system. Data were collected through a multi-methodological approach encompassing a protocol for analyzing official institutional information (provided by authorities from HE institutions) as well as a massive online survey and semi-structured interviews (administered to authorities, teachers, researchers, research grantees, and students). The information thus obtained was assessed in the quest of (i) general tendencies across the system at large as well as patterns of similarity and differentiation between (ii) public and private institutions and (iii) faculties with humanistic and natural/exact orientations.

2.2. METHODS

Data were collected, analyzed, and interpreted from March to June 2019. Below we describe how this was carried out for each method.

2.2.1. PROTOCOL FOR ANALYZING OFFICIAL INSTITUTIONAL INFORMATION

Our first approach consisted in the systematic analysis of official information from relevant institutions. A list was made of relevant faculties from key universities and several government agencies capable of providing useful data towards a global characterization of HE policies and practices in Argentina. Next, the websites of those institutions were perused in quest of relevant information directly available online or in downloadable files. Documents which were not available for download and additional pieces of information were requested through e-mail contact with personnel from pertinent departments. The webpages, documents, and complementary responses obtained were coded to identify their subject matter, institution type, and relevance for specific analytical dimensions – namely, curricular and extra-curricular English courses, resources and strategies to favour the use of English across academic programs, instruments to foster international research and mobility with anglophone institutions, objectives and regulations concerning the role of English, relevant institutional achievements, and presence of an English version of the website. The grid designed to create this qualitative database, including all collected information, can be found in Appendix 1A.

This protocol involved the systematic examination of 98 sources (including official documents and websites) from 40 faculties (half with humanistic orientations, half with natural/exact orientations) belonging to 20 universities (half public, half private), as well as 11 sources from five nation-wide research and education institutions (e.g., The National Scientific and Technical Research Council). These data were analyzed following well-established content-analysis techniques (Flick, 2013). First, information was distilled from each source into relevant columns in the analysis grid. Second, the grid was scrutinized in search of recurrent patterns and latent conceptual categories. Third, we established patterns of similarity or dissimilarity between institution types (public vs. private) and faculties with specific epistemological orientations (humanities vs. natural/exact sciences). These patterns are summarized in Appendix 1B.

2.2.2. ONLINE SURVEY

We also designed an online survey for massive dissemination across the system. The instrument comprised quantitative and qualitative items, including Likert scales as well as yes/no, multiple-choice, and open-ended questions. The initial selection of topics was based on the findings, recommendations, and themes highlighted in previous relevant reports (British Council, 2013; Dearden, 2015; García, 2019; Guaglianone et al., 2018; Ilieva et al., 2017), and then extended with additional items of specific importance for the present study.

The survey began with a brief introduction, followed by an initial form tapping on the respondent's personal information (e.g., age, gender) and position in the HE system (e.g., institution, role, years of experience). Then, successive forms were presented to address the project's five analytical dimensions, most of which were equally applicable to authorities, teachers, researchers, research grantees, and students. These forms comprised 49 items, dealing with topics such as the importance of English for the Argentine HE system, the presence of English-language materials across syllabi, the role of EMI, experiences with online courses in English, competencies in general and scientific English, and academic mobility options in anglophone countries. Importantly, options in multiple-choice questions were randomized across participants

to prevent positional or attentional biases. The survey was implemented online on Google Forms, and it can be accessed through the following link: https://bit.ly/2H7gHaZ. The full instrument can also be found in Appendix 2A.

The survey was circulated among 57 universities (including the 20 institutions considered in the analysis of official information), with respondents belonging to undergraduate and post-graduate programs from 144 different faculties.[3] Upon exclusion of invalid responses,[4] the final sample totalled 755 participants (65% women, 34% men, 1% undisclosed sex) from both public (n = 562, 74%) and private (n = 193, 26%) universities, including 469 respondents (62%) from faculties with humanistic (e.g., history, letters, philosophy) orientations and 286 (38%) from faculties with natural/exact (e.g., biology, physics, engineering) orientations. Participants were self-identified as authorities, teachers, researchers, research grantees or students (see Table 1 for details about each group; for additional specifications of the samples for each university and faculty type, see Supplementary Materials, section 1).[5] All but 11 participants were Argentine. Data were automatically compiled and organized in a quantitative database (see Appendix 2B).

Table 1. **DESCRIPTION OF SURVEY SAMPLE PER ROLE.**

Group	N	Sex[a]	Age[b]	Experience in role[c]
Authorities	56 (7%)	28/27/1	47.7 (11)	0-4 years: 30.8% 5-14 years: 42.3% 15+ years: 26.9%
Teachers	86 (11%)	50/35/1	43.5 (11.1)	0-4 years: 17.9% 5-24 years: 64.3% 25+ years: 17.9%
Researchers	213 (28%)	118/93/2	48.3 (10.4)	0-4 years: 7% 5-24 years: 68.5% 25+ years: 24.4%
Resarch grantees	90 (12%)	64/24/2	28.3 (5.7)	0-4 years: 47.1% 5-9 years: 47.1% 10+ years: 5.9%
Students	310 (41%)	228/81/1	23.8 (6.1)	0-4 years: 73.9% 5-9 years: 24.1% 10+ years: 2%

a Data presented as 'female/male/undisclosed'. **b** Data presented as 'mean (standard deviation)'.
c Excluding missing data.

[3] All participants were informed that personal data would be treated under strict anonymity and confidentiality and processed exclusively for research purposes in accordance with the provisions of relevant data protection laws. Prior to completing the survey, all participants provided explicit informed consent for their data to be used under such conditions.

[4] Respondents were excluded if they were members of the English-teaching and translation/interpreting communities (considering the constraint described in footnote 2) or if their forms featured incomplete responses and/or contradictory information across items.

[5] Whenever respondents were self-identified under more than one of these categories, they were assigned to their predominant role only. Thus, for example, an authority (e.g., chancellor, dean, academic secretary) who declared complementary teaching or research duties was tagged exclusively as an authority.

Data from this overall sample were examined through descriptive statistics to reveal general tendencies and patterns across the HE system, including comparisons (whenever appropriate) among roles, university types (public vs. private) and faculty types (humanistic vs. natural/exact orientations). For each item (or option within an item), we calculated the percentage of responses for (i) the whole sample, (ii) each role separately, (iii) each university type separately, and (iv) each faculty type separately. In addition, when responses for a given item (or an option within an item) in the latter two contrasts differed in more than 5%, the item/option was reanalyzed through inferential statistics in order to establish which of those differences actually proved significant. However, direct statistical comparisons were unfeasible between the *overall* samples for both university types and for both faculty types, as these differed in size and sociodemographic profiles, potentially leading to biased results. Therefore, to circumvent this problem, we created random subsamples that met key criteria enabling inferential analyses. Specifically, for both the comparisons between university and faculty types, we created 1,000 random subsamples approaching the N of the smallest group in each contrast, and then identified those in which both groups were (i) equal in size; (ii) identical in the number of participants for each of the five roles; (iii) statistically comparable in terms of sex, age, and cumulative years of experience in each subject's role; and (iv) homogeneous in their variance. We obtained one such pair of subsamples for the comparisons between public and private universities, and another one for the comparisons between faculties with humanistic and natural/exact orientations (as detailed in Table 2).

Data for these two pairs of subsamples were analyzed through gold-standard statistical approaches. Categorical variables were analyzed through chi-squared tests, corrected for multiple comparisons via the false discovery rate method. Numerical variables were analyzed through non-parametric tests (Mann-Whitney *U* test and Wilcoxon rank-sum test with continuity correction) for single-factor analyses, and via independent or repeated measures ANOVAs, as required, for multifactorial analyses (with alpha levels set at $p < .05$). Tukey's post-hoc tests were used to examine pairwise comparisons for significant ANOVA results. Effect sizes for main effects and interactions were calculated based on partial η^2 – depending on the value of this index, effect sizes can be established as small (> .02), medium (> .13), or large (> .26) (Cohen, 1988). Effect sizes for pair-wise comparisons were calculated via Cohen's d (Cohen, 1988) – depending on the value of d, an effect can be identified as very small (0-0.20), small (0.20-0.50), medium (0.50-0.80), or large (> 0.80).

Finally, we employed machine-learning classification to identify the top features discriminating between university and faculty types. To this end, we used the matched subsamples presented in Table 2 and, using a randomization algorithm, divided them in training and testing sets, comprised of 80% and 20% of the data, respectively. Each subset was separately preprocessed by (i) framing each possible response in multiple-option items as a separate feature and (ii) standardizing numerical variables (the mean of each column was individually calculated and then each value was divided by the standard deviation of the corresponding column's mean). Then, to identify the top features yielding robust discrimination between university types, on the one hand, and faculty types, on the other, we employed recursive feature elimination via random forests and ten-fold cross-validation (Hastie et al., 2001; James et al., 2014). The best model thus obtained (i.e., the most discriminative set of features, based on 80% of the data) was then used for predicting university and faculty type over the corresponding testing sets (comprised of the remaining 20% of the data). All analyses were performed using custom-made scripts on R software, coded by our team. The ensuing results were inspected vis-à-vis the patterns identified in the analysis of official institutional information in order to track patterns of congruency, discrepancy, and complementarity.

Table 2. **DESCRIPTION OF SURVEY SUBSAMPLES FOR STATISTICAL COMPARISONS BETWEEN UNIVERSITY AND FACULTY TYPES.**

Group	N	N per role[a]	Sex[b,c]	Age[d,e]	Years of experience in the role[e]	Variance[e]
Subsamples for comparisons between university types (public vs. private)						
Public	145	A: 13 T: 19 R: 31 G: 16 S: 31	92/53	34.1 (13.7)	8.64 (9.21)	———
Private	145	A: 13 T: 19 R: 31 G: 16 S: 31	89/56	31.1 (13.4)	6.80 (7.44)	———
Public vs. private	——	——	$\chi2$ = 0.05879 p = .81	t(287.81) = -1.9299 p > .05	t(263.31) = -1.8147 p > .07	F = 0.0625, p = .80
Subsamples for comparisons between university types (public vs. private)						
Humanistic orientation	197	A: 23 T: 34 R: 55 G: 32 S: 53	101/96	36.9 (13.9)	10.62 (9.45)	———
Natural/ exact orientation	197	A: 23 T: 34 R: 55 G: 32 S: 53	112/85	37.8 (14)	10.75 (9.93)	———
Humanistic vs. natural/ exact	——	——	$\chi2$ = 1.022 p = .30	t(391.97) = -0.5948 p > .55	t(367.99) = 0.12943 p > .89	F = 0.0612 p = .80

[a] Abbreviations refer to authorities (A), teachers (T), researchers (R), research grantees (G), and students (S). [b] Data presented as 'female/male'. [c] Comparisons performed via chi-squared test. d Data presented as 'mean (standard deviation)'. [e] Comparisons performed via Welch two-sample t-test. [f] Comparisons performed via Levene's test for homogeneity of variance.

2.2.3. COMPLEMENTARY INTERVIEWS

Finally, we gleaned information from 12 participants[6] through semi-structured interviews conducted via video-conference or in person, as required in each case.[7] To this end, we designed a flexible interview script composed of questions aimed to further assess subjective impressions (e.g., attitudes, prejudgments, knowledge, positive and negative biases) regarding the five theoretical dimensions covered in the survey (the full script can be found in Appendix 3A). All interviewees belonged to the universities that provided the greatest number of responses to the survey.

[6] The interviewees comprised three authorities, three teachers, three researchers, and three students. Eight of these participants belonged to public universities, and the remaining four were recruited from private universities.

[7] All interviewees provided written informed consent after being informed of the same stipulations detailed in footnote 3 above.

Interviews were audio-recorded in separate .mp3 files at a high resolution rate and coded in terms of the role of the interviewees (authority, teacher, researcher, student) and the type of institution to which they belonged. Responses were examined in terms of a specific analysis grid, based on the same conceptual categories established for the survey, to distill informative highlights in a systematic table (Appendix 3B). The script and the grid were constructed in agreement with validated approaches in social science research (Denzin & Lincoln, 1994).

The final table was analyzed in search of recurrent patterns and latent conceptual categories in the corpus. Here, too, we aimed to establish links between such emergent constructs and those stemming from the previous two methods, including patterns of congruency, discrepancy, and complementarity. These analyses were carried out in line with well-established qualitative procedures (Denzin & Lincoln, 1994; Flick, 2013). In short, the testimonies thus obtained served to enrich the more general insights derived from the qualitative and quantitative analyses described above.

3. FINDINGS

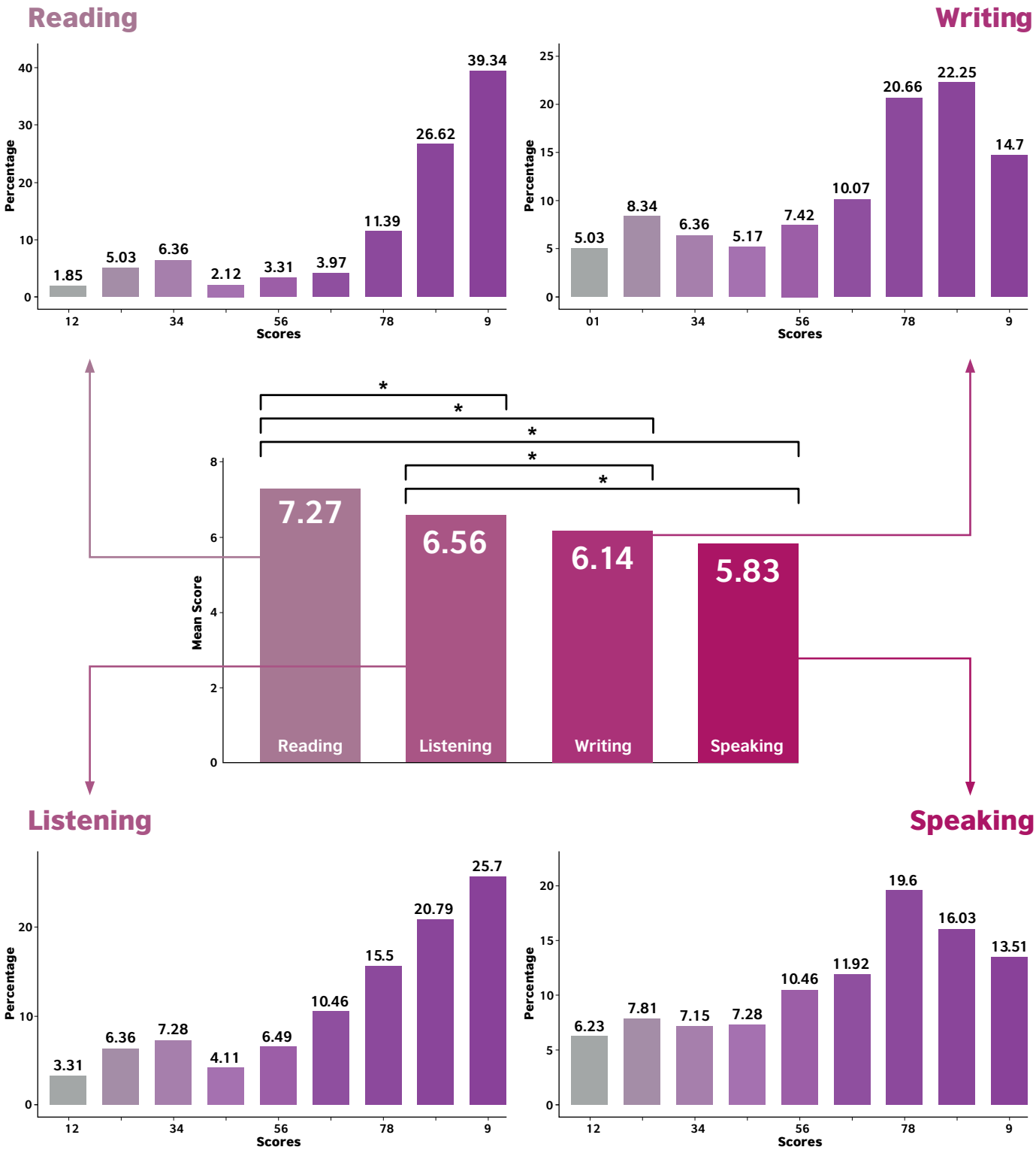
The outcomes of the study are reported with a three-tier structure for each dimension, including core findings from the qualitative and the quantitative databases (Appendices 1 and 2B). First, we report *overarching patterns that prove similar* across roles and between university and faculty types – i.e., the most general tendencies in the Argentine HE system. Second, we identify *patterns differing across roles*, considering data from the entire survey sample (as described in Table 1). Third, whenever present, we describe *patterns differing between university and/or faculty types*, including general contrasts observed in the qualitative database and differences confirmed to be statistically significant for the survey's matched subsamples (as described in Table 2). Also, specific aspects of the results are enriched with relevant excerpts from the interviews (these are translated idiomatically into English for the reader's convenience; original Spanish transcriptions can be found in Appendix 3B).

3.1. ENGLISH COMPETENCIES ACROSS THE SYSTEM

The first analytical dimension concerned English competencies across four macro-skills: reading, listening, writing, and speaking. Around 70% of all survey participants estimate that their competencies in each skill lies above intermediate levels (i.e., above 5 on a 1-to-9 scale), with a substantial proportion deeming them optimal or near optimal (Figure 2, corner panels). Of note, the four skills are not statistically similar in the overall sample [$F(3, 3016) = 51.57$, $p < .001$, partial $\eta^2 = 0.04878989$]. Post-hoc comparisons, via Tukey's HSD tests ($MSE = 5.64$, $df = 3016$), revealed a hierarchy of competencies, with reading at the top, followed by listening, and then by writing and speaking – all p-values $< .01$, except for the latter contrast which was not significant (Figure 2, centre panel).

Figure 2. **COMPARISON OF ENGLISH COMPETENCIES BETWEEN UNIVERSITY TYPES.**

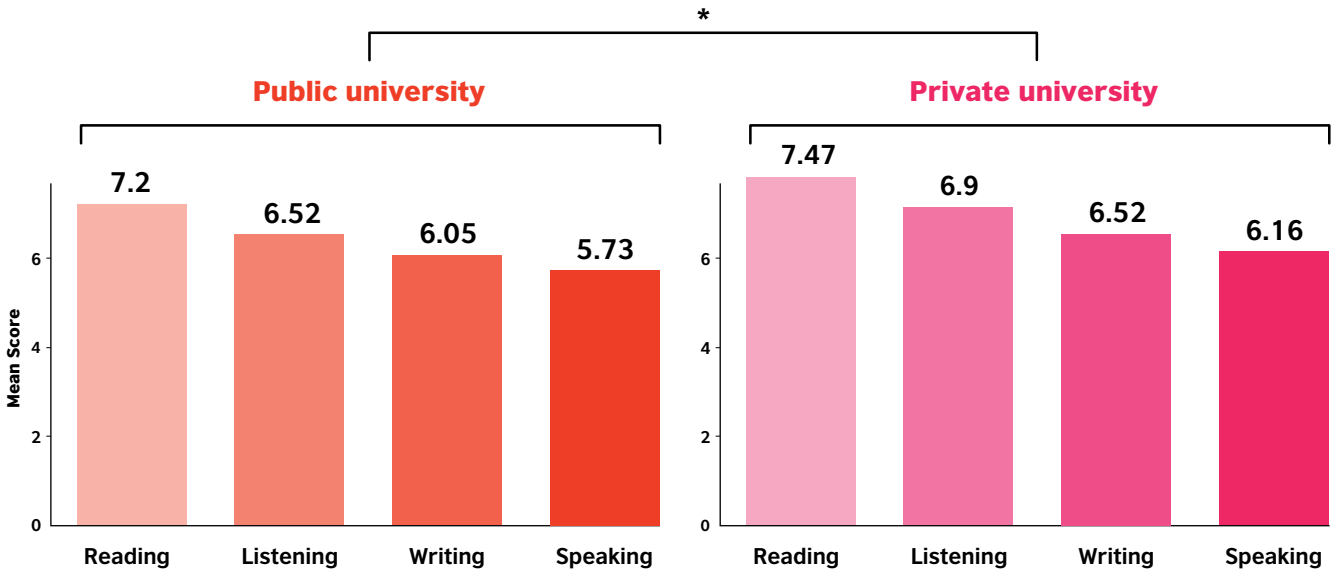
The centre panel shows statistical differences (*) among the four macro-skills, with whiskers indicating standard deviations in each case. The corner panels show the proportion of competence ratings for each macro-skill. Data correspond to item 1.6 in the survey, for the overall sample.



Interestingly, competence levels are not similar between university types. A direct statistical comparison between the matched subsamples showed greater self-rated competencies in private relative to public institutions [$F(3, 1152) = 8.417$, $p < .001$, partial $\eta^2 = 0.007253$]. However, the interaction between macro-skill and university type was not significant [$F(3, 1152) = 0.118$, $p = .95$, partial $\eta^2 = 0.0003066$], indicating that this difference was not driven by any of the four language skills in particular (Figure 3). This result substantiates an impressionistic contrast manifested in the interviews. For example, whereas a public university teacher noted that "our graduates have such difficulties with English that they find it hard to access updated bibliography and interact with colleagues from other countries",[a] another one from a private institution stated that "where I work, 95% of students can read English texts. Whether they find it hard and are willing to do it, that's another issue... but they can definitely do it."[b]

Figure 3. **COMPARISON OF ENGLISH COMPETENCIES BETWEEN UNIVERSITY TYPES.**

Overall English competencies collapsing the four macro-skills are significantly lower for public (left panel) than private (right panel) universities. Data correspond to item 1.6 in the survey, for the statistically matched subsamples.

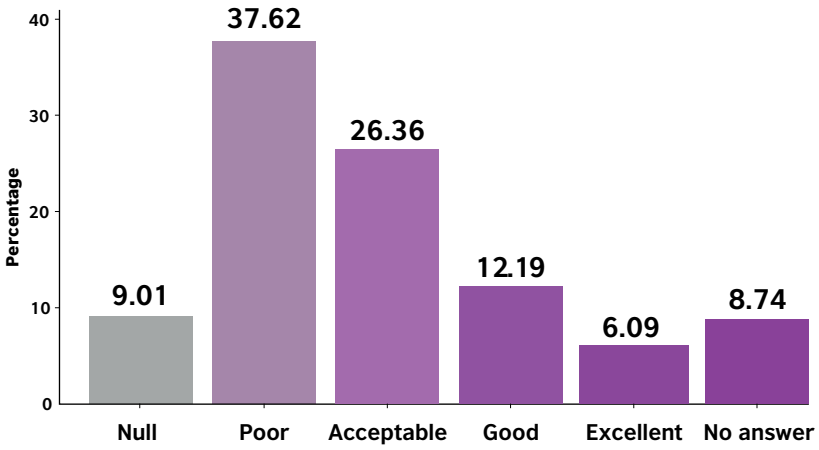


Notably, despite its relatively high overall ratings, the HE community seems dissatisfied with both its current levels of competence and with the possibilities of honing them within the system. Roughly 88% of respondents wish to boost their English skills to grow academically and professionally, this opinion proving more prevalent among research grantees and students than all other roles. Still, even authorities acknowledge institutional shortcomings on this score. In words of the dean of humanistic faculty at a private university, "[t]oday, our alumni, I mean from undergraduate programs, have no training, no practice of writing in English."[c] The caveat is evident, as there is widespread awareness and consensus that developing English-language competencies would increase (i) options for training overseas (89.27% endorsement), (ii) access to field-specific knowledge (85.17% endorsement), (iii) avenues for international collaboration (81.99% endorsement), (iv), possibilities of publishing research with worldwide impact (81.55% endorsement), and job opportunities in the future (77.75% endorsement).

Interestingly, three quarters of the survey respondents maintain that it is their institution's responsibility to offer spaces and resources to foster such competencies. Alarmingly, however, nearly half of the sample considers that existing institutional initiatives are either null or poor – the remaining half providing mixed positive opinions, ranging from 'acceptable' to 'excellent' (Figure 4). In this sense, an overview of syllabi across 48 faculties indicates that curricular English courses are allotted approximately 100 hours per year[8] and that extra-curricular ones are only rarely offered. It is therefore unsurprising that 84% of the survey respondents state that current actions to develop English competencies should be expanded.

Figure 4. **OPINIONS ABOUT ENGLISH-LEARNING OPTIONS WITHIN EACH RESPONDENT'S INSTITUTION.**

Data correspond to item 1.9 in the survey, for the overall sample.



[8] As seen in the overview of official information from 40 faculties in 20 universities, annual time devoted to English courses ranges from 45 to 240 hours in public institutions and from 32 to 98 hours in private institutions.

The restricted focus of available courses likely accounts for this plead. As evidenced throughout the abovementioned syllabi, emphasis is placed on basic grammatical, lexical, and communicative skills, with approximately half the courses considered presenting field-specific contents (e.g., for psychology or engineering). As far as our analysis of official documents is concerned, this focus on disciplinary relevant contents seems more widespread in public than in private universities, with no apparent difference between faculty types. Still, standard syllabi seem to fall short of the community's needs. For instance, as a researcher pointed out during an interview, "I was never faced with an English text or taught how to query a database containing English-language data."[d]

Of note, only one in three respondents has actually taken curricular English courses, a practice that proves significantly more prevalent in public than private universities (χ^2 = 10.501, p = .001) and in faculties with natural/exact than humanistic orientations (χ^2 = 4.5786, p = .03) – Figure 5. It follows that, at least in many programs, these offerings are elective rather than compulsory. Notably, most enrollees find such courses useful for the rest of their academic activities (Figure 6). It is thus possible that overall negative impressions about available offerings are driven by those who did not actually take curricular courses. In this sense, a researcher who learned English in private institutes outside the system maintains that her undergraduate program "did not contribute at all [to her English skills]. I had only one compulsory subject, focused on scientific English, but I simply took the final test rather than enroll in the course, as I don't think it would have been of much use for me."[e] It seems sensible to assume, therefore, that the relatively high English competencies reported by the community were mostly acquired outside the HE system proper.

Figure 5. **COMPARISON OF ENROLMENT IN CURRICULAR ENGLISH COURSES BETWEEN UNIVERSITY AND FACULTY TYPES.**

Enrolment proves significantly higher (A) in public than private universities and (B) in faculties with natural/exact orientations relative to those in the humanities. Data correspond to item 2.7 in the survey, for the statistically matched subsamples.

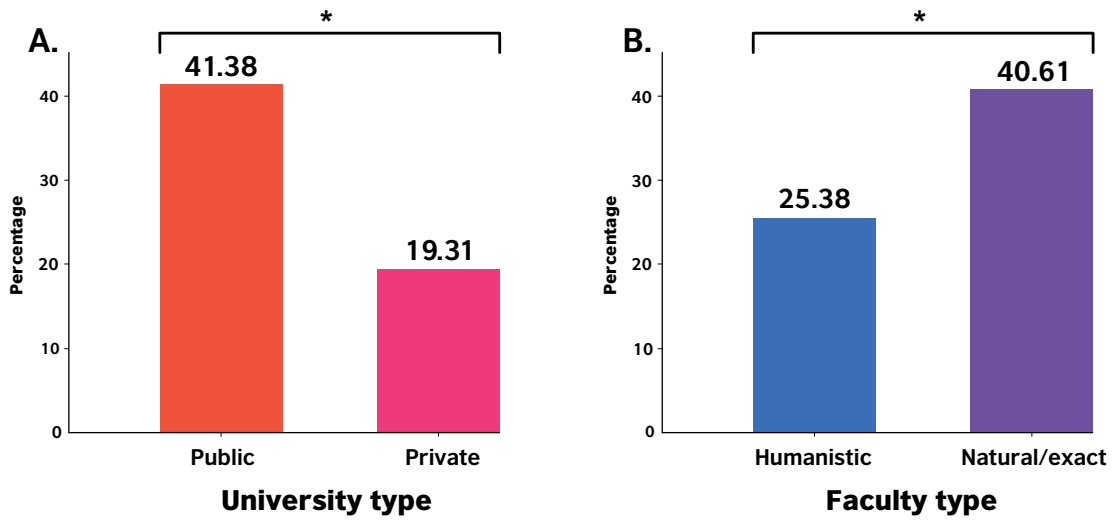
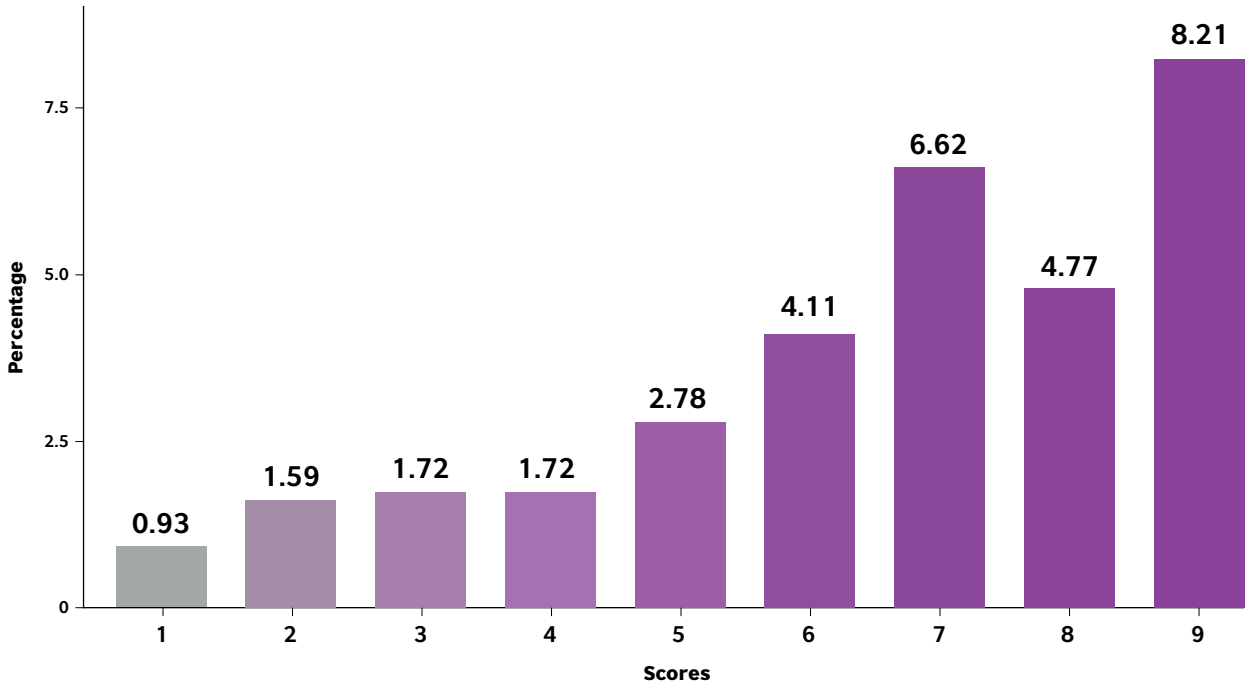


Figure 6. **OPINIONS ON THE USEFULNESS OF CURRICULAR ENGLISH COURSES FOR ACADEMIC ACTIVITIES AT LARGE.**

Scores range from 1 (totally useless) to 9 (totally useful). Data correspond to item 2.7.1 in the survey, for all respondents who have taken curricular English courses.



3.2. THE ROLE OF ENGLISH IN THE LEARNING AND TEACHING OF FIELD-SPECIFIC CONTENTS

Regarding the role of English in the teaching and learning of field-specific contents, most survey participants (40%) declare not knowing whether their institutions have an official policy on the matter. The remaining respondents are evenly divided between those who believe that such a policy exists (29%) and those who do not (31%). According to the former, that policy predominantly consists in an explicit promotion of the use of English, either partially (47.92% endorsement) or in every possible occasion (31.67% endorsement). Relatedly, during the interviews, several references were made to a generalized institutional indifference to the issue, with one teacher capturing the recurring motif that "there is no specific attitude at an institutional level; rather, each teacher adopts a given position. It's more of an individual matter."[f]

Additional insights come from a learner's perspective. Most survey respondents state that 70 to 100% of their field's leading bibliography is published in English, whereas only a minority of participants estimate this percentage below 50% (Figure 7A). Conversely, these tendencies are almost diametrically reversed when subjects estimate how much English-language bibliography they consult(ed) in their undergraduate studies (Figure 7B). Remarkably, copious responses obtained during the interviews highlight an institutional mandate to exclude English texts from obligatory readings.[g] Still, opinions are divided on whether the proportion of English literature in the curriculum proves adequate (48%) or insufficient (48%) – with only a few respondents vouching for a reduction of such materials. Also noteworthy is the fact that English-language sources are significantly more common (W = 14194, p < .001, d = 0.4337) in faculties with natural/exact than humanistic orientations (Figure 8).

Figure 7. APPRAISAL AND PRESENCE OF ENGLISH-LANGUAGE BIBLIOGRAPHY IN THE HE SYSTEM.

The figure shows the community's estimations of (A) the proportion of leading bibliography published in English and (B) the presence of such bibliography in their curricular (undergraduate) readings. Data correspond to items 2.3 and 2.4 in the survey, for the overall sample.

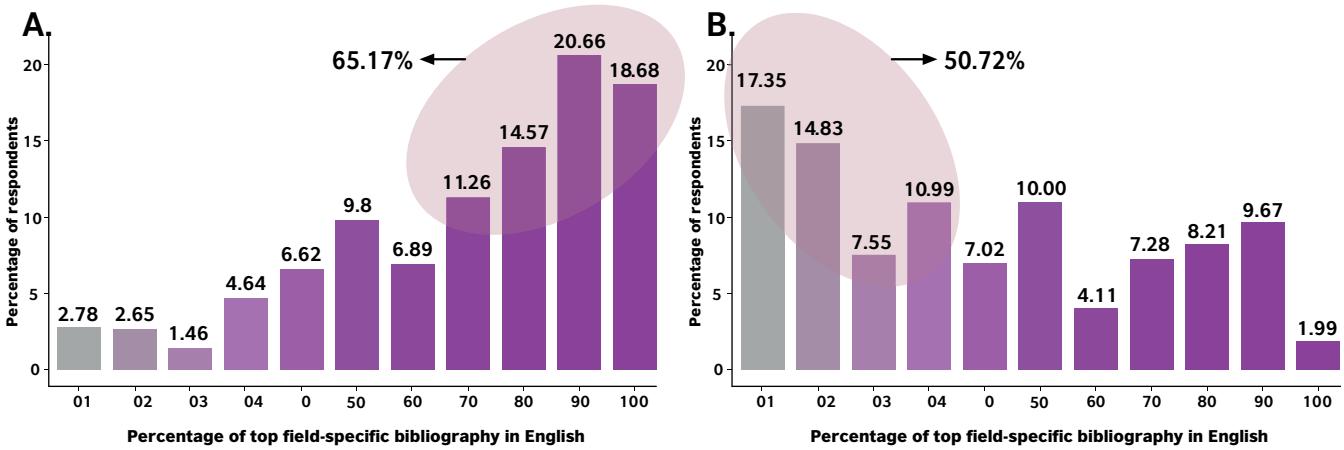
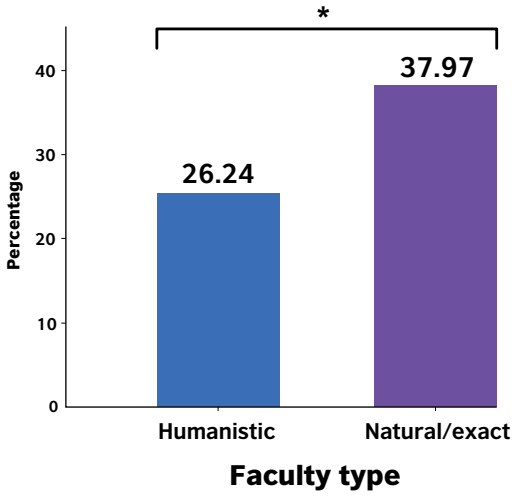


Figure 8. COMPARISON OF THE PRESENCE OF ENGLISH-LANGUAGE BIBLIOGRAPHY BETWEEN FACULTY TYPES.

English-language sources prove significantly more present in faculties with natural/exact than humanistic orientations. Data correspond to item 2.4 in the survey, for the statistically matched subsamples.



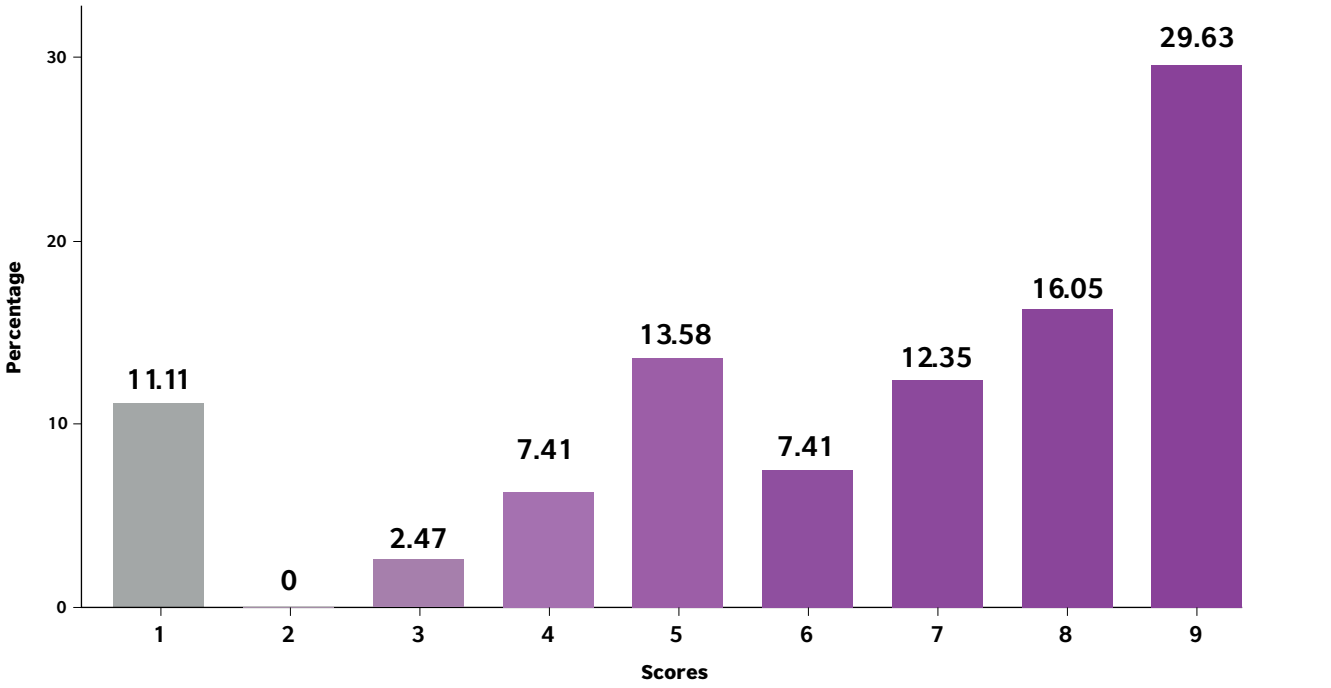
Regarding the strategies used to comprehend English-language materials, the vast majority (around 88%) of survey respondents resorts to straightforward, unassisted reading. Consultation of similar materials in Spanish is favoured by nearly 19%, whereas translations from peers are used by approximately 10% of participants. Curiously, not a single respondent declares using online translation services (e.g., Google Translate).

Further insights concern the role of EMI – defined as the use of English to teach disciplinary contents in countries or jurisdictions with a different majority native language (Dearden, 2015). Although few universities make reference to EMI in official websites and regulations, more than half of all survey respondents maintain that this is an actual practice in their institutions. This tendency proves more prevalent in private than public universities ($\chi^2 = 21.321$, $p < .001$), the former also being more explicit in their official documents about specific actions requiring this tool (e.g., offering classes or lectures in English).

Nonetheless, only 27% of respondents have taken classes in EMI.[9] This proportion is mainly driven by students, nearly half of whom declare having done so at some point. In the majority of cases (74%), such classes are taught by non-native English users with varying proficiency levels (Figure 9). For their part, as shown in Figure 10, native-speaker teachers are significantly more common in private than public institutions ($\chi^2 = 34.828$, $p < .001$).

Figure 9. **ENGLISH PROFICIENCY RATINGS OF NON-NATIVE TEACHERS USING EMI ACROSS THE HE SYSTEM.**

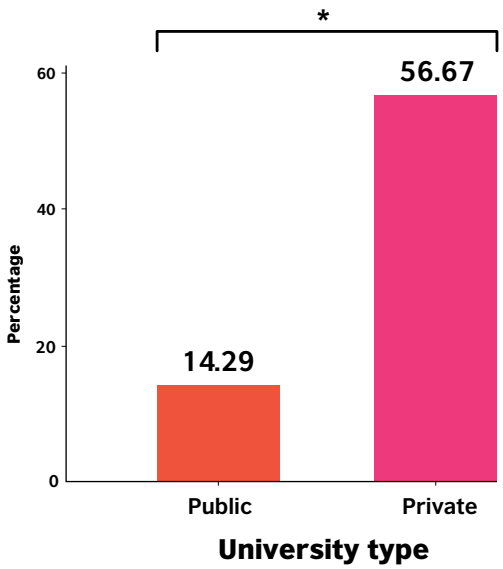
Scores range from 1 (totally low) to 9 (totally high). Data correspond to item 2.8.2 in the survey, for those respondents from overall sample who took EMI-based classes taught by non-native English speakers.



[9] Interestingly, nearly the same proportion (26%) of respondents have taken online courses in English (on any field of their interest) in platforms like Udacity, Coursera, EdX, Canvas, FutureLearn, or Khan Academy.

Figure 10. **COMPARISON BETWEEN UNIVERSITY TYPES REGARDING THE PROPORTION OF EMI-BASED CLASSES TAUGHT BY NATIVE USERS OF ENGLISH.**

The proportion of EMI-based classes taught by native English speakers proves significantly higher in private than public universities. Data correspond to item 2.8.1 in the survey, for the statistically matched subsamples.



Of note, the low rate of participants who have taken classes in EMI may not be primarily explained by the (un)availability of relevant offerings, as 61% of respondents prefer classes to be taught in Spanish rather than English. To this point, an authority from a private university adds: "It would be nice for some courses to be taught in English, but not for all. Which ones would fall in the latter group? Well, those that basically have to do with the use of Spanish proper, such as courses on clinical psychology."[h]

Nevertheless, 65% of respondents believe that courses in EMI should be expanded, with the greatest agreement coming from students and researchers. Moreover, although English-based distance-learning courses seem completely absent in the system, three out of four participants would agree to having classes in their institution filmed and subtitled/dubbed in English, allowing for their international dissemination. Moreover, 66% of teachers are willing to be trained to offer their courses in EMI.

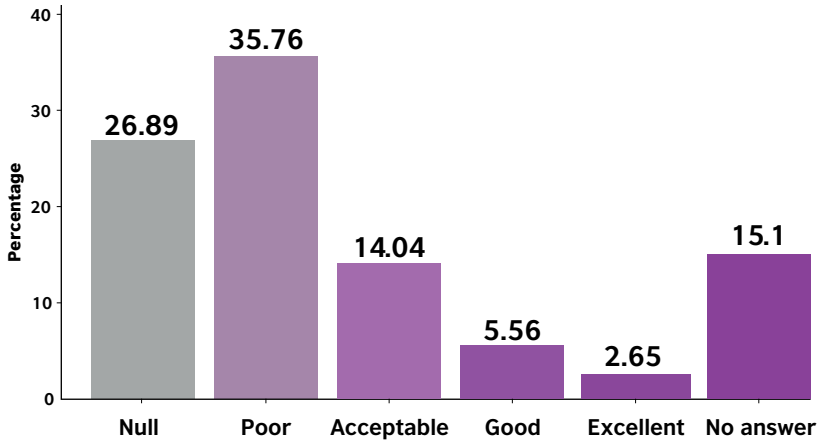
Such positions might reflect the positive perception of EMI in the system. Across all roles, the advantages of this practice are more consistently attributed to the possibility of improving English competencies among students (68.21% endorsement) and fostering cultural exchange and cooperation (64.5% endorsement). Less consistent importance is attached to other potential advantages, such as boosting local scientific production (53.91% endorsement), increasing competitiveness (52.98% endorsement), reducing the gap between study and testing materials (43.58% endorsement), augmenting institutional prestige (36.03% endorsement), and generating additional financial income (0% endorsement). Neither is there a clear consensus about the disadvantages of EMI, although the two main concerns revolve around imposing added comprehension difficulties for non-anglophone students (54.17% endorsement) and introducing a source of student inequality (63.91% endorsement).

3.3. THE ROLE OF ENGLISH IN RESEARCH

Abundant information has also been obtained about the role of English in research activities, which, as revealed throughout official documents, are explicitly promoted across the system – in particular, through international collaborations. Compatibly, nearly all survey respondents recognize the usefulness of English skills to forge a scientific career, predominantly regarding them as indispensable (66%) or desirable (31.26%). Unambiguous statements from several interviewees corroborate this opinion, highlighting that English is the "international"[i] or "common"[j] language of research, and that low proficiency levels can prevent one from entering the world of science.[k] However, our analysis of official documents reveals a dearth of English courses specifically tailored to the needs of research grantees and researchers (only one out of 48 faculties offers a course with such characteristics). This is confirmed by survey results, which show that offerings for teaching scientific English are mostly judged to be 'null' or 'poor' (Figure 11). Accordingly, most respondents (84%) believe that they should be expanded.

Figure 11. **OPINIONS ABOUT OFFERINGS FOR TEACHING SCIENTIFIC WRITING IN ENGLISH ACROSS THE HE SYSTEM.**

Data correspond to item 3.6 in the survey, for the overall sample.



Concerning documentation for research purposes, over 50% of respondents state that English materials (papers, chapters, books) amount to anywhere from 70 to 100% of the scientific texts they read (Figure 12). When asked about this point, a humanities student from a public university recounted: "When I began joining research groups and such, then all bibliography was completely in English. If you want to get into that and you don't know English, well, then I don't know..."[l] However, accessibility to these materials varies considerably across the system, mainly ranging from 'reduced' to 'abundant' (Figure 13).

Figure 12. **ESTIMATIONS OF THE PROPORTION OF ENGLISH-LANGUAGE BIBLIOGRAPHY USED IN READING FOR RESEARCH DOCUMENTATION PURPOSES.**

Data correspond to item 3.3 in the survey, for the overall sample.

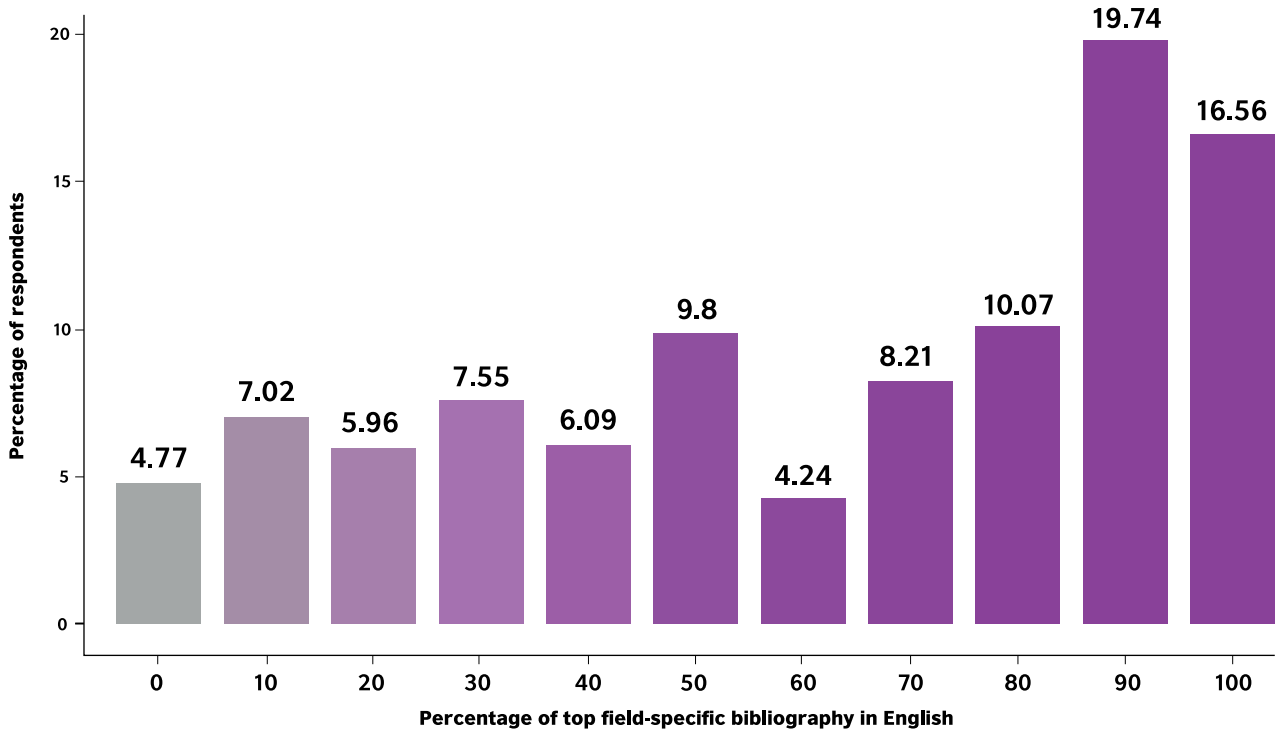
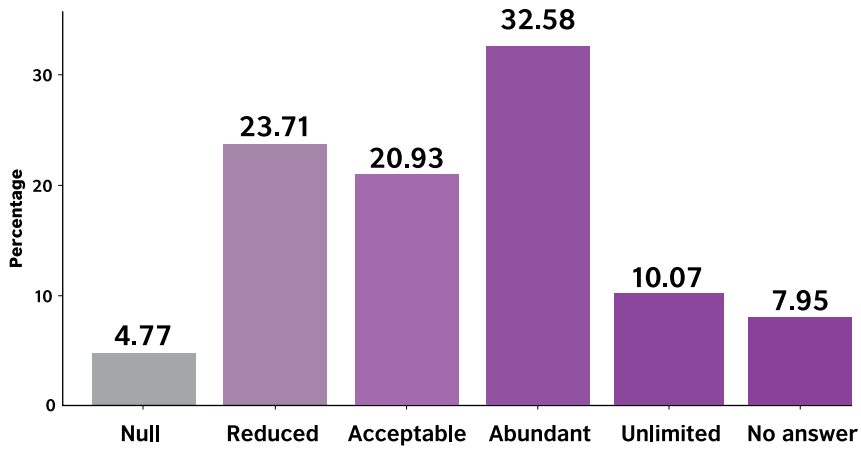


Figure 13. **ACCESSIBILITY OF ENGLISH-LANGUAGE BIBLIOGRAPHY IN EACH RESPONDENT'S INSTITUTION.**

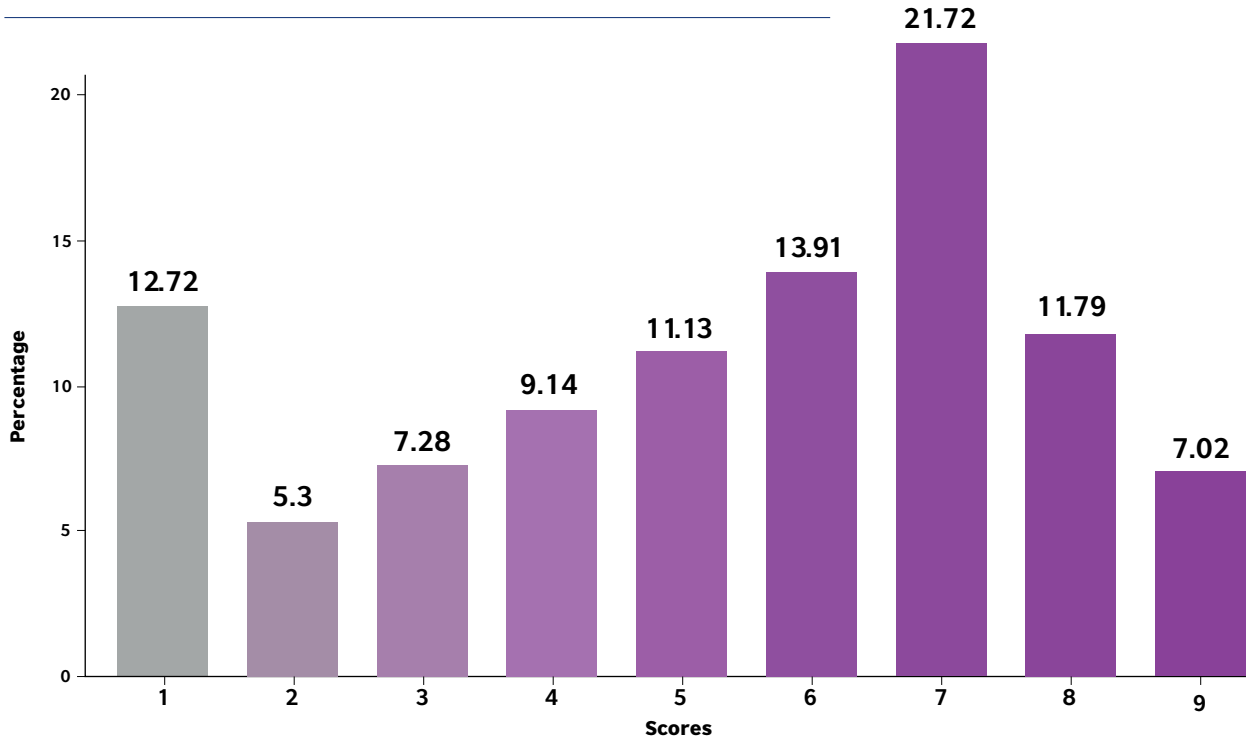
Data correspond to item 3.4 in the survey, for the overall sample.



As regards scientific writing, there is widespread awareness of the importance of publishing in English. This practice is associated with three main benefits, namely: increasing international visibility (88.87% endorsement), reaching high-impact journals (80.13% endorsement), and maximizing chances of success in grant and funding applications (74.3% endorsement). Notwithstanding, the system features considerable heterogeneity among its members' scientific writing skills in this language (Figure 14), which are predominantly acquired via self-instruction (56.03% endorsement) amid other means, such as workshops (30.99% endorsement), informal exchanges with colleagues and/or tutors (29.01% endorsement), or analysis of peer-review reports (26.49% endorsement). Predictably, these abilities are higher among researchers than other roles, 70% of whom rate them at different points between 'intermediate' and 'very high'.

Figure 14. **SELF-RATINGS OF SCIENTIFIC WRITING SKILLS IN ENGLISH ACROSS THE HE SYSTEM.**

Scores range from 1 (null) to 9 (of the highest world standards). Data correspond to item 3.5 in the survey, for the overall sample.



3.4. THE ROLE OF ENGLISH IN INTERNATIONAL MOBILITY SCHEMES

Our databases also afford informative patterns regarding the role of English in international mobility. The scrutiny of official documents reveals that all universities possess means to encourage academic trips to English-speaking countries (among others), often supported by formal agreements with relevant institutions. These resources, which appear to be more present in private than public universities, mainly include internal and external funding, frameworks for joint publication, and bilateral grant programs.

Engagement in relevant schemes is quite high across the system, with two out of three survey respondents having partaken in at least one academic program. However, participation is not evenly distributed across roles ($\chi^2 = 73.432$, $p < .001$), as it proves greater for authorities, teachers, and researchers than for research grantees and students (all p-values between the former three and the latter two roles < .001). Such activities have taken place at anglophone destinations in 57% of cases – mainly in the United States, followed by the United Kingdom and Canada (Figure 15). Interestingly, mobility to English-speaking countries is greater in private than public universities ($\chi^2 = 8.7877$, $p = .003$) – Figure 16A – and in faculties with natural/exact than humanistic orientations ($\chi^2 = 6.0206$, $p = .01$) – Figure 16B.

Figure 15. **DISTRIBUTION OF ACADEMIC MOBILITY ACTIVITIES AMONG ENGLISH-SPEAKING COUNTRIES.**

Data correspond to item 3.7.1.1 in the survey, for the overall sample.

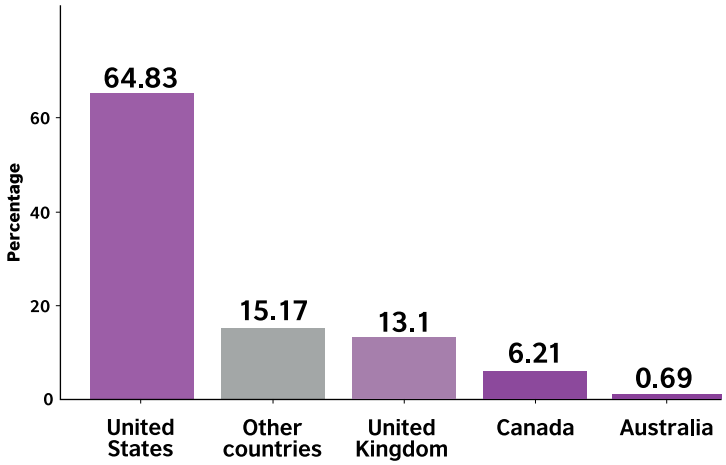
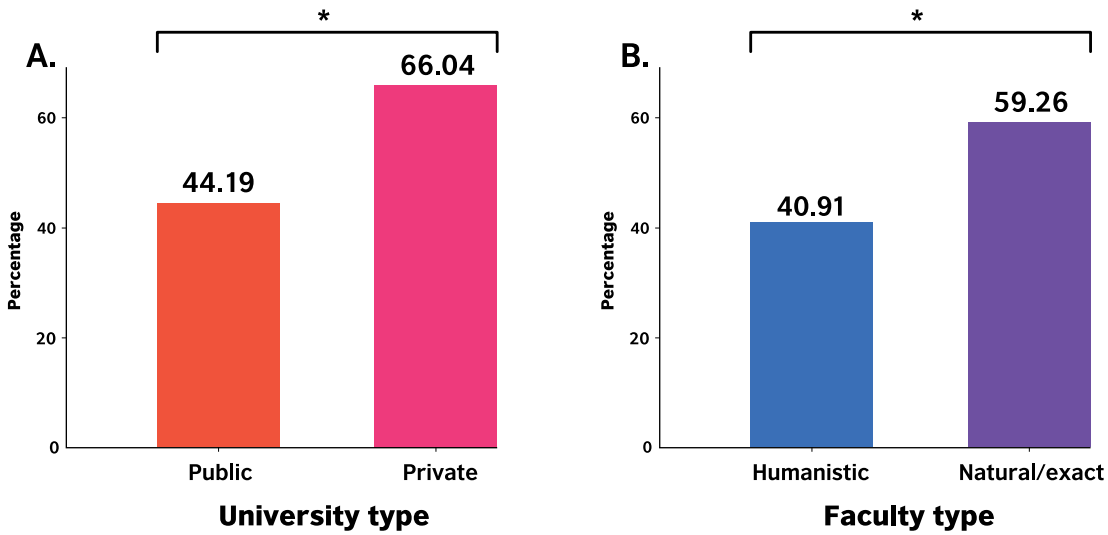


Figure 16. **COMPARISON OF MOBILITY TO ANGLOPHONE COUNTRIES BETWEEN UNIVERSITY AND FACULTY TYPES.**

Mobility to English-speaking destinations proves significantly higher (A) in private than public universities and (B) in faculties with natural/exact than humanistic orientations. Data correspond to item 3.7.1 in the survey, for the statistically matched subsamples.



These experiences have been consistently positive for participants, with 34% of respondents judging them 'good' and 63% deeming them 'excellent' (in line with the appraisal of the quality of HE in those countries, which is judged as 'good' or 'excellent' by 50% and 41% of respondents, respectively). However, at least among interviewees, there is wide agreement that the communicative tools acquired at their institutions are markedly insufficient to fully capitalize on stays in English-speaking countries.[m] Finally, the tacit consensus (85%) is that existing mobility programs, despite their relative abundance, should be expanded in the future.

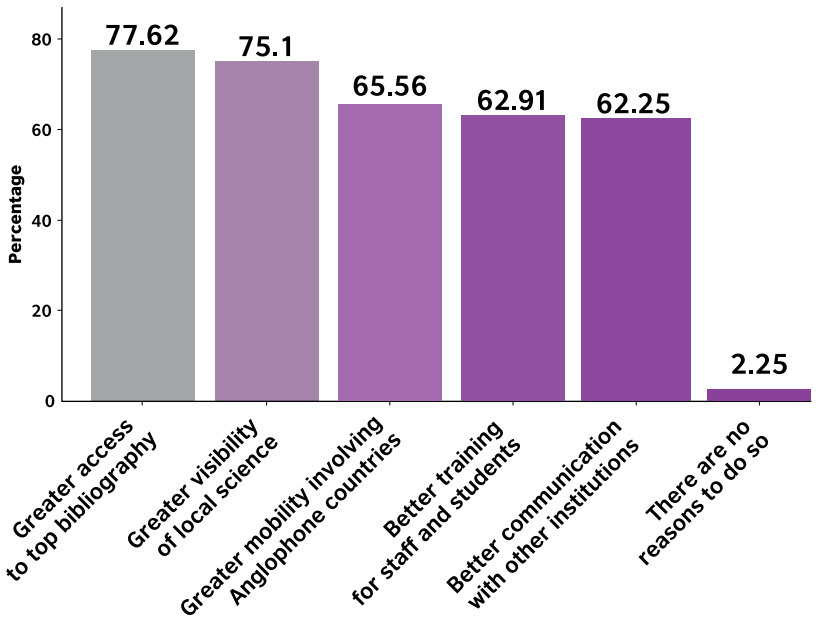
3.5. GENERAL STANDING OF ENGLISH IN ARGENTINE HE

To conclude, additional data provide hints on more general features of this language in Argentine HE. As observed throughout official documents, most of the above dimensions figure recurrently among institutional objectives concerning English. In particular, these include the modification and internationalization[10] of curricula to (i) promote foreign-language competencies, (ii) offer courses in languages other than Spanish, and (iii) develop instances of foreign-language training for the academic community. Yet, although all universities have various financial and otherwise formal resources to pursue those goals (including novel language policy schemes in some cases), no regulations or general provisions are available to holistically regulate the role of English in the country's HE system.

Regarding the reasons why English should be further developed across institutions, over 75% of survey respondents agree that it would be important to foster access to cutting-edge bibliography and boost the international visibility of local science. Less emphasis is placed on other reasons, namely, promoting training of personnel and students, increasing student mobility with anglophone countries, and fostering inter-institutional communications at large (Figure 17). Importantly, fewer than 3% of all respondents find no reasons to further promote the use of English – although roughly 8% of the survey sample adds that more urgent institutional needs should be prioritized.

Figure 17. **REASONS WHY ENGLISH SHOULD BE FURTHER DEVELOPED IN THE ARGENTINE HE SYSTEM.**

Data correspond to item 1.1 in the survey, for the overall sample.



[10] Still, nearly half of the 20 universities surveyed lack an English version of their websites (or specific resources therein), limiting accessibility to non-Spanish speakers.

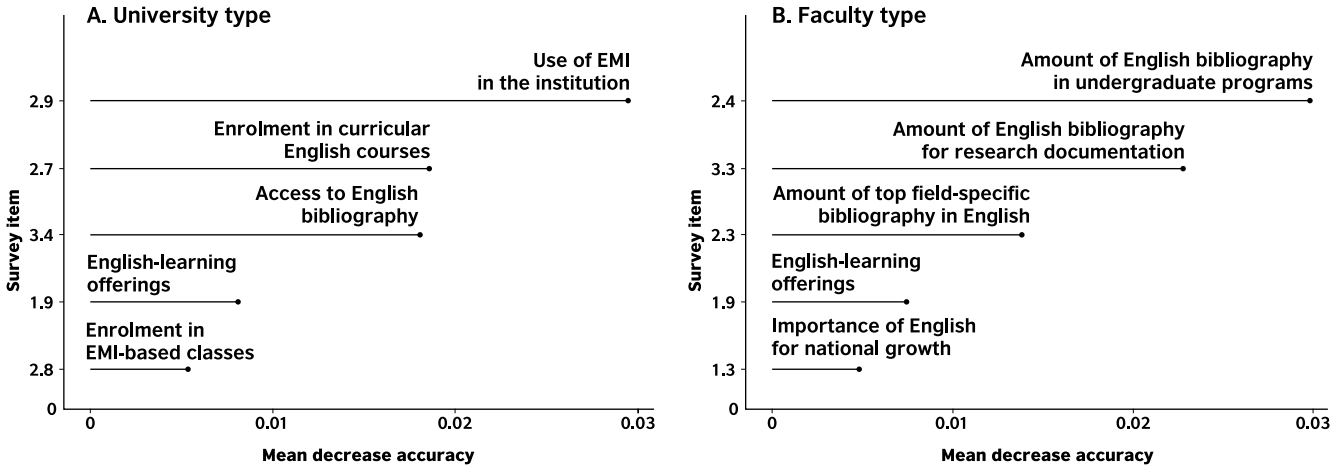
Revealingly, a panoptic view of survey outcomes across the five analytical dimensions reveals discriminatory patterns between public and private universities, on the one hand, and between faculties with humanistic and natural/exact orientations, on the other. In both cases, the analyses were performed considering 77 variables from the survey (consisting in items or options within an item, depending on the case).

Specifically, machine-learning analyses showed that the best discrimination between the training subsets of public and private universities (reaching an accuracy of 69.3%) was afforded by a collection of 16 variables. The top five features in this model, detailed in Figure 18A, concerned the overall use of EMI, enrolment in English courses and EMI-based classes, ratings of English-language training options, and access to English bibliography. Of note, information from the features in this model allowed classifying subjects in the testing set in terms of their university type with an accuracy of 70%. Succinctly, this indicates that the main points of contrast between public and private universities are related to the teaching of and in English.

As regards the classification of faculty types, the best training model reached an accuracy of 72% based on information from 34 variables. The top five features in this model were represented by the overall importance attached to English competencies for the country's scientific and technical growth, the ratings of English-language training options, and the percentage of English bibliography that is (i) leading in the field, (ii) obligatory in undergraduate programs, and (iii) read daily for research documentation (Figure 18B). Remarkably, the features selected by this model allowed classifying between subjects in the testing set as belonging to humanistic or natural/exact faculties with an accuracy of 72%. This result underscores the major importance of English bibliography in the differentiation of faculty types.

Figure 18. **MACHINE LEARNING CLASSIFICATION OF UNIVERSITY AND FACULTY TYPES.**

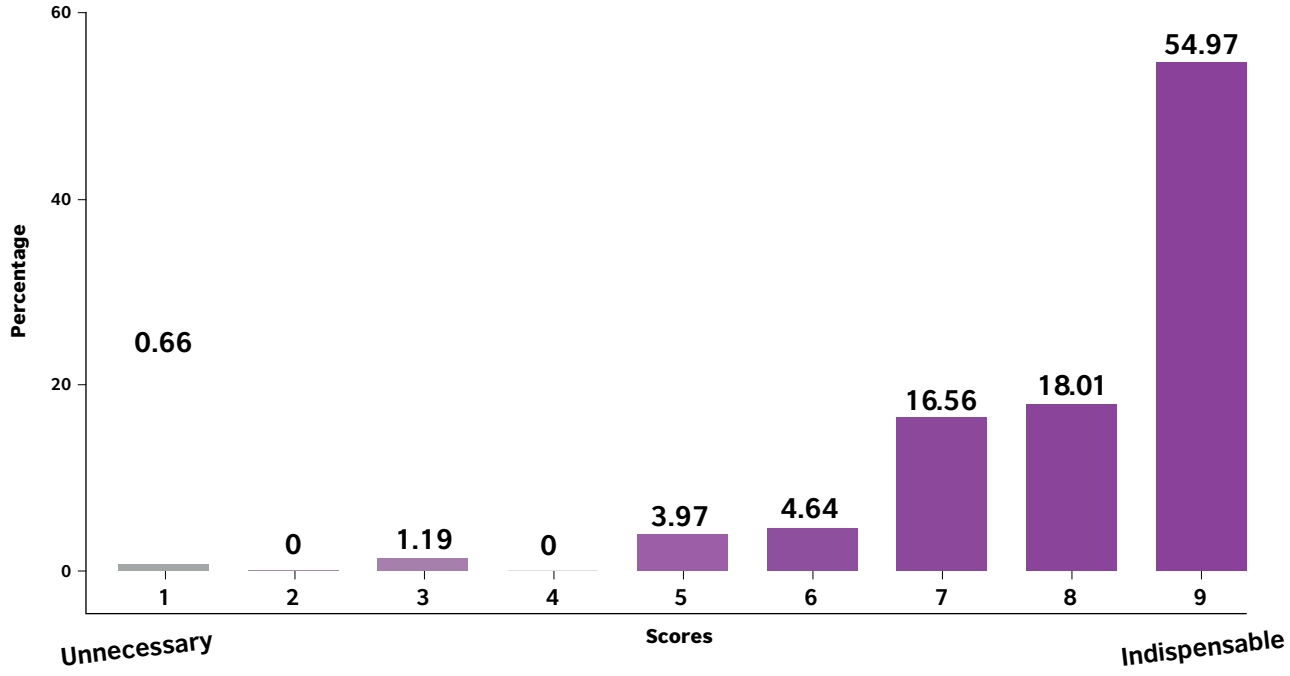
The figure shows the top features discriminating between (A) public and private universities and (B) faculties with humanistic and natural/exact orientations. The Y axis shows the number of the item in the survey (as reproduced in Appendix 2A). The X axis shows the discriminatory weight of the item in terms of its mean decrease accuracy. Data correspond to the statistically matched subsamples.



Despite such differences, additional patterns prove greatly consistent across roles, university types, and faculty types. In particular, the vast majority of respondents considers that the development of English competencies in the HE system is highly important for the country's scientific and technical growth (Figure 19). Notwithstanding, most participants (89%) declare having no knowledge of any state programs or initiatives favouring the use of this language. Of note, the remaining 11% mostly describe those initiatives as consisting in curricular English courses and the use of English-language bibliography, actually failing to identify specific nation-wide programs. Far from reflecting generalized ignorance on the part of the community, this pattern most probably attests to the paucity of specific governmental schemes.

Figure 19. **RATINGS OF THE NECESSITY OF ENGLISH COMPETENCIES FOR ARGENTINA'S SCIENTIFIC AND TECHNICAL GROWTH.**

Scores range from 1 (unnecessary) to 9 (indispensable). Data correspond to item 1.3 in the survey, for the overall sample.



4. DISCUSSION AND CONCLUSIONS

4.1. ASSESSING THE SYSTEM'S ENGLISH COMPETENCIES

Overall, findings concerning English competencies match and extend previous insights from relevant literature. First, the Argentine HE system is characterized by relatively good (self-perceived) proficiency levels across the four macro-skills. This observation fits well with results from the latest English Proficiency Index (Education First, 2018), which shows that, despite a substantial drop since 2011, Argentina currently possesses the highest levels in Latin America, reaching the twenty-seventh spot worldwide and featuring an overall increase relative to 2017. Also, the finding that receptive (reading, listening) skills are on the whole significantly higher than productive (writing, speaking) abilities mirrors well-established patterns documented at different linguistic levels in various populations (Laufer, 1998; Laufer & Paribacht, 1998; Zhong & Hirsh, 2009). Importantly, although our survey's competence measures might be partially affected by self-image biases, note that subjective ratings of foreign-language ability are standard in bilingualism research (García et al., 2016; Hulstijn, 2014) and that their outcomes can predict actual verbal performance (Marian et al., 2007) and replicate scores in multilingual naming tests (Gollan et al., 2012).

Now, considering the relatively few hours devoted to English teaching in the universities analyzed (on average, below 100 hours annually), the high levels reported across the four macro-skills are probably driven by factors peripheral to the HE system proper. Conceivably, these may include the compulsory inclusion of English in primary and secondary schools, starting with the Federal Law of Education in 1993 and continuing with the National Law of Education since 2006 (Porto, 2014); the high qualifications of English teachers in the country (Porto et al., 2016); and the language's dominant presence in the nation's media and social spheres, alongside its communicative ubiquity for diverse interpersonal, instrumental, regulatory, and innovative functions (Maersk Nielsen, 2003). Indeed, numerous passages from the interviews illustrate this point. For instance, a teacher claimed that "before starting my program I had a good command of English, which helped me move forward as it made studying easier for me, compared to others who were not so proficient;"[n] whereas another maintained that "I have always tried to be autonomous when it comes to learning English; if I can read something in Spanish or in English, I'll read it in English; if I can watch a movie in Spanish or in English, I'll watch it in English."[o]

Also noteworthy is the finding that (self-perceived) competencies are on the whole higher in private than public universities. Given that curricular class time does not seem to differ widely between both institution types, and that enrolment was actually found to be higher in public than private universities, this contrast, too, likely responds to extra-curricular practice or exposure. The same might account for the higher enrolment observed for faculties with natural/exact than humanistic orientations. In fact, previous evidence from undergraduate students indicates that instrumental motivation for developing English skills proves higher in those within the natural sciences than those in the humanities (Placci et al., 2012).

Beyond those results, the survey reveals a widespread call for improving competencies across the system, especially in grantees and students. This reflects a general awareness of the ensuing benefits (García, 2019), in particular for accessing expert knowledge and maximizing opportunities for training, working, collaborating, and publishing in specific fields. In particular, the prevalent opinion is that this goal falls under direct responsibility of the universities, which might reflect the long-standing national policy whereby English is offered routinely as part of public primary and secondary education (Porto, 2014). An authority from a public university expresses this position with eloquence, arguing that "I find it institutionally irresponsible to [create conditions in which] those who can boost their career with language competencies are those who studied English, French, on any other language in their own time."[p]

Pressure on the institutions proves high in this sense, given that half the participants judges that the existing offer of English courses is non-existent or poor. Arguably, an expansion of these courses' current focus would be useful, as the structural and communicative contents being taught at present may fall short of the needs of the HE community in a globalized (and linguistically anglicized) world (Amon, 2010; British Council, 2013; Crystal, 2003). Still, note that most of the respondents who have taken English courses at their institutions regard them as useful for their academic development at large. Therefore, the community's request for current offerings to be expanded does not mean that current options are inefficient, but rather insufficient.

4.2. ASSESSING ENGLISH IN LEARNING AND TEACHING ACROSS THE SYSTEM

The outcomes from our second analytical dimension shed light on some of the key challenges concerning the role of English for teaching and learning. Generally speaking, the community has no clear idea about whether institutions have an official position on the topic, although the predominant impression is that universities promote its use in one way or another. This might be symptomatic of the global but still inconsistent growth of EMI, for which (relatively) formal guidelines exist in only a few countries (Dearden, 2015; Macaro et al., 2017). In this sense, insofar as linguistic practices and standards can be shaped by myriad forces with self-centreed agendas, Argentina mirrors other non-anglophone countries in its "need for language policies to be formulated explicitly rather than being left to market pressures, national and international" (Phillipson, 2006: 13).

Still, international tendencies may prove inescapable in certain respects. This much seems true of the role of English as the language of knowledge and science at large. In fact, the participants' impression that most of their fields' leading bibliography is published in this language aligns with reports that 90% of indexed scientific papers in the humanities (Albarillo, 2014) and in the natural/exact sciences (Ammon, 2010, 2012; Hamel, 2007) appear exclusively in anglophone journals. Paradoxically, however, English materials represent a minority of the literature circulating in Argentine universities. The bottom line is that students are mainly exposed to materials that they know (or at least believe) to be below the highest worldwide standards. Still, this does not seem to cause generalized agitation, since only half of the respondents think that this should be changed.

Also noteworthy is the finding that English materials are more abundant in faculties with natural/exact than humanistic orientations. This might reflect a tendency for scientific endeavors in the former to tap relatively universal phenomena of relevance to large international audiences (calling for a globally accessible language), whereas humanistic research might prove more culturally situated and relevant for national or regional venues (Chinchilla-Rodríguez et al., 2015). Indeed, a survey of over 800 non-anglophone researchers indicates that those in the natural sciences favour English more heavily in their manuscripts (Stockemer & Wigginton, 2019).

When dealing with such texts, the Argentine HE community largely prioritizes straightforward reading, which proves consistent with the high competencies previously reported for this macro-skill. Only sparse use is made of cross-linguistic strategies to aid text comprehension, including translation and consultation of comparable Spanish-language sources. One of the reasons for the dismissal of these strategies was voiced during the interviews by a researcher, who claimed that "a good level of technical reading, at least, should be demanded so that we can access published [English] materials rather than coping with 'lousy' translations or limiting ourselves to Spanish bibliography."[q] This finding appears to be unprecedented in the literature. In fact, an overarching review of research on English learning in Argentina indicates that existing work on strategies has systematically considered all macro-skills except for reading comprehension (Porto et al., 2016). The trend identified here, therefore, opens fruitful avenues for further investigation.

At the same time, collected data yield informative insights on the role English from a teaching standpoint. A first observation is that, despite its generalized growth across the world (Earls, 2016; Macaro et al.,

2017; Smit, 2010; Wächter & Maiworm, 2014), EMI is not yet widespread in the HE system. This might be partially explained by the fact that native English-speaking individuals currently represent less than 0.2% of all students in Argentine universities (Guaglianone et al., 2018), so that linguistic adaptation pressure falls more on their shoulders than on institutional ones.

Be that as it may, our findings show that EMI proves more consolidated and frequent in private than in public universities. This replicates previous results from a worldwide survey revealing that, over a total of 54 countries, EMI-based teaching can be found in 90% of private universities but only in 78% of public ones (Dearden, 2015). In the Argentine context, this pattern reflects an incipiently missed opportunity for internationalization, given that English-speaking students, though certainly a minority, are much more numerous in public than in private institutions (Guaglianone et al., 2018).

When utilized in our country, EMI mainly falls in the hands of non-native speakers (especially in public universities) possessing uneven levels of proficiency. This observation also mirrors worldwide EMI trends (Dearden, 2015), with fully qualified professionals being the exception rather than the rule. According to Dearden (2015), this global tendency hinges on several factors, including the paucity of linguistically qualified teachers, the lack of formalized English proficiency expectations for the task, and the nearly complete absence of EMI content in teacher education programs (Dearden, 2015). An authority provided explicit support for these points, explaining that "we do not include English-based courses in our programs because although all teachers and researchers have some command of the language, we have each learned it our own way and we do not have enough knowledge to engage in teaching activities."[r] One could thus surmise that this is one of the reasons why Spanish remains the preferred language of instruction in the system.

Notwithstanding, EMI is far from rejected in Argentine HE. Actually, the community as a whole, mainly driven by students and researchers, has voiced a generalized call to expand EMI offerings and to promote teacher training in EMI. Promisingly, a crucial condition for addressing this need seems to have already been met, as teachers are mostly willing to be trained in order to effectively use EMI in their classes. In this sense, prospective initiatives should offer clear benefits for enrolled teachers. In fact, evidence from EMI training courses in Italy (Guarda & Helm, 2016), Sweden (Airey, 2011), and Spain (Aguilar & Rodríguez, 2012) indicates that teachers are motivated to develop the necessary skills as long as they improve their overall communicative abilities in English and their efforts are positively appraised in promotion applications. Also notable in this regard is the community's positive attitude towards filming classes and dubbing/subtitling them in English for distance-learning courses. Although this practice seems to be fully absent in the system, it might prove beneficial due to its affordability, scalability, and profitability (Literat, 2015), especially considering that most people enrolling in massive online open courses come from English-speaking countries (Liyanagunawardena et al., 2013).

Although the future of EMI in Argentina's HE remains hard to predict, predominant impressions about its advantages and disadvantages also seem encouraging regarding its possible acceptance. In line with previous reports (Chapple, 2015; Macaro et al., 2017), the benefits of EMI are perceived to lie mainly in its capacity to foster cultural exchange and cooperation while improving English competencies among students. On the other hand, caveats to its implementation are believed to consist mainly in the introduction of added comprehension difficulties for non-anglophone students, together with a new source of student inequality. Although these reservations are actually supported by specific studies (Hellekjaer, 2010; Vinke, 1995), it must be noted that other reports have found similar comprehension levels (Joe & Lee 2013) and final grades (Dafouz et al., 2014; Tatzl & Messnarz, 2013) between courses taught in EMI and in the students' mother tongue, even in a Spanish-speaking context (Dafouz et al., 2014). Moreover, the high levels of (self-rated) competence tracked throughout the system are encouraging in this sense, given that performance in EMI-based classes correlates positively with the students' English proficiency level (Kang & Park, 2005; Kim, et al. 2014). In sum, then, the Argentine HE community seems to be in a good position for capitalizing on a wider use of EMI.

4.3. ASSESSING ENGLISH IN RESEARCH ACTIVITIES ACROSS THE SYSTEM

Our results also illuminate various facets of the role of English in scholarly investigation. Research activities are explicitly promoted across the system, with special emphasis on the crystallization of international collaborations. This strong demand echoes global trends, as many countries are pushing academics towards collaborative funding and production schemes across borders (Ilieva et al., 2017), especially considering their weight on global university rankings (Ilieva & Peak, 2016). English plays a major role in this regard, since anglophone countries (mainly the United States and the United Kingdom) figure prominently among the top-ten countries with which Argentinean institutions engage in joint publications (Chinchilla-Rodríguez et al., 2015). Furthermore, co-authorship with colleagues from these nations represents a sensible bet towards increased scientific impact: indeed, papers in prestigious journals receive significantly more citations when authors belong totally or partially to institutions from developed countries than when they present exclusively Latin American affiliations (Meneghini et al., 2008).

English also proves dominant as the language of research documentation across the system. This is to be expected, not only because over 90% of indexed papers are published in this language across fields (Albarillo 2014; Ammon, 2010, 2012; Hamel 2007), but also because anglophone journals surpass their non-anglophone counterparts in both impact factor (Matías-Guiu & García-Ramos, 2011) and general reputation (Montgomery, 2013). These perceptions are explicit in testimonies from the interviewees, including authorities. Indeed, one of them, from a humanistic faculty, affirms that "[i]t is impossible to investigate the topics I'm interested in without English;"[s] whereas a dean working in the natural/exact sciences states that "virtually all research work in this faculty is produced in English; almost everything is published in international journals and conferences, and Spanish-language materials are marginal in the research arena."[t] However, access to these sources varies greatly across the system, suggesting that some institutions may be at a disadvantage for scientific development due to insufficient opportunities for top-level documentation.

Neither does the importance of English pass unnoticed for scientific writing activities. In fact, the majority of survey respondents deem it indispensable to develop solid English writing skills in the pursuit of a scientific career. In this sense, the main ensuing benefits identified by the community (increased visibility, higher impact, enhanced chances of success in applications) reflect a solid awareness of the links between academia and the publishing industry (Dean et al., 2015; Di Bitetti & Ferreras, 2017; Drubin & Kellogg, 2012; Garfield, 1989; Meneghini & Packer, 2007).

However, scientific writing courses are inexistent or poor in most universities considered, and existing skill levels (mainly acquired through self-instruction) prove heterogeneous across their members. This underscores a major challenge for the Argentine HE system. First of all, regardless of language of publication, research from non-anglophone countries has significantly less impact than that produced in anglophone contexts (Gregoire et al., 1995; Jiménez-Contreras et al., 2002), which augments the pressure for local scholars to hone their ability to produce manuscripts in English lest their research becomes invisible. In fact, following a trend started decades ago (Garfield, 1989), English papers are cited 250% more often than those written in other languages and, unlike the latter, they increase their number of citations with the passing of time (Liang et al., 2013). Furthermore, nearly half of all meta-analyses across scientific fields exclude, by design, any and all works in languages other than English, even if these are published in indexed journals (Matías-Guiu & García-Ramos, 2011).

Importantly, the high levels of English competence declared by the sample do not suffice to meet the imperatives of scientific writing. In fact, although English proficiency is a robust predictor of publication in leading journals (Man et al., 2004), scientific writing skills are not reducible to general English ability (Day, 1998; García, 2019; Kirkman, 2005; Lebrun, 2007). Moreover, linguistic errors and stylistic inadequacies in research manuscripts lead to biased evaluations (Drubin & Kellogg, 2012) and outright rejection (Meneghini & Packer, 2007) during the peer review process. More particularly, among researchers in other Latin American countries, such as Brazil, those with good English writing skills outperform less competent ones in number of publications, number of cumulative citations, and other relevant bibliometric indices

(Vasconcelos et al., 2008). These arguments underscore the need for more systematic writing training options in English across fields and specialties.

4.4. ASSESSING ENGLISH IN MOBILITY SCHEMES ACROSS THE SYSTEM

The large availability of resources for mobility (including numerous options to visit English-speaking countries) is arguably symptomatic of a global trend whereby universities, throughout regions and continents, are becoming increasingly international (Dearden, 2015). Indeed, a wide-ranging overview of HE across the world shows that financial support is strong in several countries and that student mobility ranks among the best developed areas across universities (Ilieva & Peak, 2016). Accordingly, mobility represents a dimension in which Argentine universities might be on a par with global standards.

Of note, available options seem to be fairly well exploited. Indeed, high levels of engagement have been documented in the system, especially for authorities, teachers, and researchers. Here, too, Argentina appears to be aligned with worldwide tendencies, as the global number of foreign students has jumped from 2.5 to 5 million since the turn of the century (UNESCO Institute for Statistics, 2015), markedly surpassing the 1.1% growth in world population (World Bank, 2017).

Anglophone countries are largely favoured for these activities across the system, with most mobility actions taking place in American institutions, followed by British ones. Therein lies another pattern of congruency with international trends, given that the United States and the United Kingdom, respectively, represent the first and second largest recipients of foreign students worldwide (UNESCO Institute for Statistics, 2015). Note, too, that mobility to English-speaking destinations is more frequent in private than public universities, which fits well with the qualitative observation that relevant resources are more abundant in the former. Such destinations are also more often favoured by faculties with natural/exact than humanistic orientations, although available data warrant no firm conclusions on the reasons behind this difference.

Finally, it is worth noting that mobility experiences are consistently rewarding for participants. This robust conclusion emerging from the survey is corroborated by testimonies from many interviewees, who maintain that "all professors were completely willing to understand those of us who spoke English as a foreign language,"[u] and that "English allowed me to greatly profit from my two mobility experiences, and these, in turn, allowed me to greatly strengthen my English."[v] In all likelihood, it is due to this overall appraisal that the community almost univocally calls for an increase of relevant programs.

4.5. A PANOPTIC VIEW OF ENGLISH ACROSS THE SYSTEM

The final set of results holistically confirms a pattern cutting through each analytical dimension: English figures prominently among internationalization objectives of universities, and different material and symbolic resources exist to this end. However, such goals only partially overlap with the predominant opinions of the HE community, the main coincidence lying in the importance of broadening the presence of English to increase competencies in that language. Suggestively, considering the trends in our survey, it would appear that individuals are more acutely aware than institutions of the importance of accessing top-level bibliography and broadening the visibility of local scientific outputs. Unfortunately, standardized and publically available guidelines on how to achieve proposed goals are wanting, a shortcoming that Argentina shares with multiple other countries the world over (Dearden, 2015; Phillipson, 2006). Nevertheless, the recent inauguration of a nation-wide series of seminars on language policy in the HE system shows that Argentine authorities are actively addressing the issue.[11]

[11] The event took place on June 24, 2019, at Palacio San Martín, Buenos Aires, under the organization of the Ministry of Education, Culture, Science, and Technology. Multidisciplinary views were included in the panels, ranging from international language policy to local university initiatives and science-based tenets for foreign-language teaching.

Also, machine-learning results revealed the main points of contrast between university and faculty types across all dimensions. On the one hand, among the top five features discriminating between university types (and predicting them at a subject-by-subject level), four of them concerned English courses and EMI offerings. These patterns are mainly driven by the higher enrolment in English courses observed for public universities, alongside the greater presence of EMI in private universities – a pattern that, as stated elsewhere mirrors worldwide trends (Dearden, 2015). This suggests that the main latent differences between both types of universities are rooted in the prevalence of English as a subject and a medium of instruction, beyond the distinctions observed for other dimensions. Therefore, at least as far as English is concerned, efforts to increase competitiveness between such institutions should be principally directed at teaching activities.

On the other hand, among the top five features discriminating between faculty types (and predicting them at a subject-by-subject level), three of them were related to English bibliography. Specifically, faculties with natural/exact orientations are characterized by a stronger presence of English materials in undergraduate courses and research documentation activities, and they also surpass humanistic faculties in the perception of how much of the word-leading literature for specific fields is published in English. Not only does this provide a strong confirmation of the finding that English materials are more copious in the natural/exact sciences (Chinchilla-Rodríguez et al., 2015; Stockemer & Wigginton, 2019), but it also suggests that reliance on anglophone literature is more discrepant between faculty than university types. Therefore, prospective interventions regarding English bibliography should be sensitive to the differential relevance of these materials for each epistemological orientation, irrespective of whether actions are being undertaken in public or private institutions.

Be that as it may, the strongest pattern cutting throughout this final, overarching dimension concerns the call to escalate English-related initiatives. In particular, the strength of this need is evinced by two additional observations. First, opinions in this direction are highly synergic across authorities, teachers, researchers, grantees, and students, irrespective of the university and faculty to which they belong. Second, despite isolated opinions, there is no sign of bias against the dissemination of English-related actions – which could have been expected given the rejection of English culture that pervades certain sectors of Argentine society (Porto et al., 2016). To this point, a teacher working in the humanities at a public university adds that "I believe that national universities have a certain ideological reaction to the use of English. They have a strong national component that, in some cases, tends to reject international components, specifically from Anglo-Saxon countries. Fortunately, this is not the most typical scenario, but discussions are sometimes shaped by these issues."[w] Taken together, the results of our study corroborate that this view is far from strong in the HE community.

5. LIMITATIONS, AVENUES FOR FUTURE STUDIES, AND POSSIBLE INTERVENTIONS

The present study features a number of limitations that pave the way for further research. First, although the number of institutions considered largely surpasses that of previous work on the Argentine HE system (Guaglianone et al., 2018), and while the survey sample is over a dozen times larger than that of previous HE studies commissioned by the British Council (Dearden, 2015), our coverage of the target population was only partial. Therefore, it would be useful to replicate this study contemplating more participants from a wider variety of regions and institutions throughout the country. Second, our examination of English competencies was based exclusively on subjective measures. Although these are standard and hugely informative in the field of bilingualism (Hulstijn, 2014), more fine-grained insights could be gained if future elaborations of the present work included objective language proficiency measures, including standardized English-language assessments.[12]. Third, more data should be collected regarding teaching and learning. In particular, it would be useful to tease apart the role of English in specific fields and subjects, while addressing additional learning-related factors beyond reading comprehension strategies (e.g., common practices, difficulties, reliance on dictionaries). Fourth, complementary information should be gleaned about research activities (including number of papers, average impact factor, and funds obtained per researcher or institution) so as to identify and understand drivers of productivity in the system. Fifth, follow-ups of this investigation should also track additional aspects of mobility in the system, including the duration of each stay, the activities performed abroad, and considerations on the adequacy of obtained funds.

At the same time, existing findings reveal several areas where concrete interventions could be carried out to meet outstanding challenges. Considering the low awareness of English-related opportunities, targeted dissemination campaigns (including face-to-face sessions and communications via e-mail and social media) should be set in motion for maximum exploitability of available resources. Also, scalable English-for-specific-purposes courses could be designed for nation-wide application in order to boost the most urgently required competencies. In particular, as previously proposed (García, 2019), scientific writing workshops would prove hugely rewarding at individual and institutional levels. Moreover, training courses devoted to using EMI in the classroom would endow teachers with a highly useful tool while augmenting their institutions' potential for internationalization (see Macaro et al., 2017). The latter goal could also be effectively pursued through the creation of a nation-wide platform for massive online open courses from Argentine universities, populated with classes recorded in Spanish and dubbed or subtitled in English. More generally, focalized fora should be created for institutional leaders to generate a consensual regulatory framework and harmonize English-related activities, face immediate challenges, and enter into coordinated dialogue with governmental offices towards the development of co-funded schemes. Indeed, national governments have been argued to represent key contributors to internationalization initiatives from HE institutions (Ilieva & Peak, 2016).

Finally, and more ambitiously, it would be very valuable to replicate the present study at a regional level. A concerted effort of multiple research teams operating in selected countries could provide unprecedented knowledge about the idiosyncrasies and commonalities of the role of English in Latin America. In particular, this would allow examining (and, eventually, increasing) the degree of harmonization within the region, in line with global HE trends (Ilieva et al., 2017).

[12] For details on the differences between both types of measure, see García et al. (2016).

6. FINAL REMARKS

English certainly plays a multifaceted role in the Argentine HE system. Its importance is manifest across roles in public and private universities, including faculties with distinct epistemological orientations. However, several discrepancies have been identified between institution types, which speaks to a complex interplay of factors influencing the weight of English-related activities and resources throughout the system. The strengths, weaknesses, possibilities, challenges, and demands identified here pave the way for novel, more focalized studies and, promisingly, for targeted interventions at a national level. Therefore, despite its concrete findings, the present study represents an empirical stepping stone towards a much-needed program of basic and applied research. Hopefully, we shall soon hit the next milestones of this incipient enterprise.

ENDNOTES

[a] Interviewee 1, quote 4.

[b] Interviewee 11, quote 8.

[c] Interviewee 8, quote 10.

[d] Interviewee 6, quote 2.

[e] Interviewee 11, quote 4.

[f] Interviewee 5, quote 4.

[g] See Appendix 3B for relevant passages, including excerpts from Interviewee 1 (quote 6), Interviewee 6 (quote 6), Interviewee 7 (quote 9), Interviewee 8 (quotes 6 and 7), and Interviewee 11 (quote 6).

[h] Interviewee 8 (quote 9).

[i] Interviewee 1 (quote 11).

[j] Interviewee 11 (quote 3).

[k] See highlights from Interviewee 6 (quote 3) and Interviewee 12 (quote 10).

[l] Interviewee 7 (quote 5).

[m] See highlights from Interviewee 1 (quotes 15 and 16), Interviewee 3 (quote 8), Interviewee 4 (quote 1), and Interviewee 7 (quote 12).

[n] Interviewee 5, quote 2.

[o] Interviewee 2, quote 2.

[p] Interviewee 9 (quote 5).

[q] Interviewee 6, quote 8.

[r] Interviewee 12 (quote 3).

[s] Interviewee 8 (quote 12).

[t] Interviewee 12, (quote 8).

[u] Interviewee 6 (quote 11).

[v] Interviewee 8 (quote 13).

[w] Interviewee 2 (quote 8).

REFERENCES

Aguilar, M. & Rodríguez, R. (2012). "Lecturer & student perceptions on CLIL at a Spanish university." *International Journal of Bilingual Education & Bilingualism* 15(2): 183-197.

Airey, J. (2011). "Talking about teaching in English: Swedish university lecturers' experiences of changing teaching language." *Ibérica* 22: 35-54.

Albarillo, F. (2014). "Language in social science databases: English versus non-English articles in JSTOR & Scopus." *Behavioral & Social Sciences Librarian* 33(2): 77-90.

Ammon, U. (2010). "The hegemony of English." In *World Social Science Report. Knowledge Divides*. Paris: UNESCO Publishing, 154 f. http://www.unesco.org/shs/wssr.

Ammon, U. (2012). "Linguistic inequality & its effects on participation in scientific discourse & on global knowledge accumulation— With a closer look at the problems of the second-rank language communities." *Applied Linguistics Review* 3: 333-355

Atherton, G., Siti, B., Shuib, M. & Crosling, G. (2018). *The Shape of Global Higher Education: Understanding the ASEAN Region*. Volume 3. London: The British Council.

Baker, C. & Prys Jones, S. (1998). *Encyclopedia of Bilingualism & Bilingual Education*. Avon, UK: Multilingual Matters.

British Council (2013). *The English effect. A British Council Report*. Online: http://www.britishcouncil.org/sites/britishcouncil.uk2/files/english-effect-report.pdf. Last access: 06/05/19.

Chapple, J. (2015). "Teaching in English is not necessarily the teaching of English." *International Education Studies* 8(3): 1.

Chinchilla-Rodríguez, Z., Miguel, S. E. & Moya Anegón, F. (2015). "What factors affect the visibility of Argentinean publications in humanities and social sciences in Scopus? Some evidence beyond the geographic realm of research." *Scientometrics* 102: 789-810.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*, second edition. Hillsdale, NJ: Erlbaum.

Crystal, D. (2003). *English as a Global Language*, second edition. Cambridge & New York: Cambridge University Press.

Dafouz, E., Camacho, M. & Urquia, E. (2014). "'Surely they can't do as well': A comparison of business students' academic performance in English-medium & Spanish-as-first-language-medium programmes." *Language & Education* 28(3): 223-236.

Day, D. & Wagner, J. (2009). "Bilingual professionals." In P. Auer & L. Wei (eds.), *Handbook of Multilingualism & Multilingual Communication* (pp. 391-404). Berlin: Mouton de Gruyter.

Day, R. A. (1998). *How to Write & Publish a Scientific Paper*, fifth edition. Phoenix: Oryx Press.

Dean, E., Nordgren, L. & Söderlund, A. (2015). "An exploration of the scientific writing experience of nonnative English-speaking doctoral supervisors and students using a phenomenographic approach." *Journal of Biomedical Education*, article ID 542781.

Dearden, J. (2015). *English as a Medium of Instruction – A Growing Global Phenomenon*. London: The British Council.

Denzin, N. K. & Lincoln, Y. S. (eds.) (1994). *Handbook of Qualitative Research*. Thousand Oaks, CA: SAGE Publications.

Di Bitetti, M. S. & Ferreras, J. A. (2017). "Publish (in English) or perish: The effect on citation rate of using languages other than English in scientific publications." *Ambio* 46(1): 121-127.

Drubin, D. G. & Kellogg, D. R. (2012). "English as the universal language of science: Opportunities and challenges." *Molecular Biology of the Cell* 23: 1399.

Earls, C. W. (2016). *Evolving Agendas in European English-Medium Higher Education: Interculturality, Multilingualism and Language Policy*. Basingstoke: Palgrave Macmillan.

Education First (2018). *English Proficiency Index* (2018 edition). Buenos Aires: EF Limited.

Flick, U. (2013). *The SAGE Handbook of Qualitative Data Analysis*. Thousand Oaks, CA: SAGE Publications.

García, A. M. (2019). *El rol del inglés como lengua extranjera en la internacionalización de la educación superior en Argentina*. Buenos Aires: The British Council.

García, A. M., Manoiloff, L. & Wagner, M. (2016). "Concepciones del bilingüismo y evaluación de la competencia bilingüe." In A. M. García & S. Suárez Cepeda (eds.), *Mente bilingüe: abordajes psicolingüísticos y cognitivistas* (pp. 17-49). Córdoba: Comunicarte.

Garfield, E. (1989). "The English language: The lingua franca of international science." *The Scientist* 3(10): 12.

Gollan, T. H., Weissberger, G. H., Runnqvist, E., Montoya, R. I. & Cera, C. M. (2012). "Self-ratings of spoken language dominance: A Multilingual Naming Test (MINT) and preliminary norms for young and aging Spanish-English bilinguals." *Bilingualism: Language and Cognition* 15(3): 594-615.

Gordon, R. (ed.) (2005). *Ethnologue: Languages of the World*, fifteenth edition. Dallas, Texas: SIL International.

Gregoire, G., Derderian, F. & Le Lorier, J. (1995). "Selecting the language of the publications included in a meta-analysis. Is there a Tower of Babel bias?" *Journal of Clinical Epidemiology* 48:159-163.

Guaglianone, A., Rabossi, M., Durand, J., Salto, D. & Dávila, M. (2018). La internacionalización de la educación superior en Argentina: Una perspectiva macro sistémica y micro organizacional y su vinculación con el Reino Unido. "Enlaces en educación superior: Creando vínculos académicos entre Argentina y el Reino Unido." Ministerio de Educación de la Nación Argentina, Buenos Aires. November 15, 2018.

Guarda, M. & Helm, F. (2016). "'I have discovered new teaching pathways': The link between language shift and teaching practice." *International Journal of Bilingual Education & Bilingualism* 36: 1-17.

Hamel, R. E. (2007). "The dominance of English in the international scientific periodical literature and the future of language use in science." *AILA Review* 20: 53-71.

Hastie, T., Tibshirani, R. & Friedman, J. (2001). *The Elements of Statistical Learning*. New York: Springer.

Hellekjaer, G. O. (2010). "Assessing lecture comprehension in Norwegian English-medium higher education." *Language Use and Language Learning in CLIL Classrooms* 7: 233.

Hulstijn, J. H. (2014). "The construct of language proficiency in the study of bilingualism from a cognitive perspective." *Bilingualism: Language and Cognition* 15(2): 422-433.

Ilieva, J. & Peak, M. (2016). *The Shape of Global Higher Education: National Policies Framework for International Engagement*. London: The British Council.

Ilieva, J., Killingley, P., Tsiligiris, V. & Peak, M. (2017). *The Shape of Global Higher Education: International Mobility of Students, Research and Education Provision*. Volume 2. London: The British Council.

James, G., Witten, D., Hastie, T. & Tibshirani, R. (2014). *An Introduction to Statistical Learning: with Applications in R*. New York: Springer.

Jiménez-Contreras, E., Delgado López-Cózar, E., Ruiz-Pérez, R. & Fernández, V. (2002). "Impact factor rewards affect Spanish research." *Nature* 417: 898.

Joe, Y. & Lee, H.-K. (2013). "Does English-medium instruction benefit students in EFL contexts? A case study of medical students in Korea." *Asia-Pacific Education Research* 22(2): 201-207.

Kang, S. & Park, H. (2005). "English as the medium of instruction in Korean Engineering education." *Korean Journal of Applied Linguistics* 21(1): 155-174.

Kim, J., B. Tatar & Choi, J. (2014). "Emerging culture of English-medium instruction in Korea: Experiences of Korean & international students." *Language & Intercultural Communication* 14(4): 441-459.

Kirkman, J. (2005). *Good Style: Writing for Science & Technology*, second edition. New York: Routledge.

Kolowich, S. (2013). "The professors who make the MOOCs." *Chronicle of Higher Education*. Online: http://chronicle.com/article/The-Professors-Behindthe-MOOC/137905/#id=overview. Last access: 05/20/19.

Laufer, B. (1998). "The development of passive and active vocabulary in a second language: Same or different?." *Applied Linguistics* 12: 255-271.

Laufer, B. & Paribacht, T. S. (1998). "The relationship between passive and active vocabularies: Effects of language learning context." *Language Learning* 48: 365-391.

Lebrun, J.-L. (2007). *Scientific Writing: A Reader & Writer's Guide*. New Jersey: World Scientific Publishing.

Lewis, M. P., Simons, G. F. & Fennig, C. D. (eds.) (2014). *Ethnologue: Languages of the World*, seventeenth edition. Dallas, Texas: SIL International. Online: http://www.ethnologue.com. Last access: 05/15/19.

Liang, L., Rousseau, R. & Zhong, Z. (2013). "Non-English journals and papers in physics and chemistry: Bias in citations?" *Scientometrics* 95(1): 333-350.

Literat, I. (2015). "Implications of massive open online courses for higher education: Mitigating or reifying educational inequities?" *Higher Education Research & Development* 34(6): 1164-1177.

Liyanagunawardena, T., Williams, S. & Adams, A. (2013). "The impact and reach of MOOCs: A developing countries' perspective." *eLearning Papers* 33.
Online: http://centaur.reading.ac.uk/32452/. Last access: 05/12/19.

Macaro, E., Curle, S., Pun, J., An, J. & Dearden, J. (2017). "A systematic review of English medium instruction in higher education." *Language Teaching* 51(1): 36-76.

Maersk Nielsen, P. (2003). "English in Argentina: A sociolinguistic profile." *World Englishes*, 22(2): 199-209.

Marian, V., Blumenfeld, H. K. & Kaushanskaya, M. (2007). "The language experience and proficiency questionnaire (LEAP-Q): Assessing language profiles in bilinguals and multilinguals." *Journal of Speech, Language and Hearing Research* 50(4): 940-967.

Matías-Guiu, J. & García-Ramos, R. (2011). "Editorial bias in scientific publications." *Neurología* (English Edition) 26(1): 1-5.

Meneghini, R. & Packer, A. L. (2007). "Is there science beyond English?." E*uropean Molecular Biology Organization Reports* 8(2): 112-116.

Meneghini, R., Packer, A. L. & Nassi-Calò, L. (2008). "Articles by Latin American authors in prestigious journals have fewer citations." *PLOS ONE* 3(11): e3804.

Montgomery, S. L. (2013). *Does science need a global language?: English and the future of research*. Chicago, IL: University of Chicago Press.

Online Course Report (2017). *The 50 most popular MOOCs of all time*.
Online: https://www.onlinecoursereport.com/the-50-most-popular-moocs-of-all-time/.
Last access: 06/02/2019.

Phillipson, R. (2006). "English, a cuckoo in the European higher education nest of languages?." *European Journal of English Studies* 10(1): 13-32.

Placci, G., Barbeito, M. & Valsecchi, M. (2012). "EAP students' motivation to learn English: What do they believe in?." In L. Anglada & D. Banegas (eds.), *Views on Motivation and Autonomy in ELT. Selected Papers from the XXXVII FAAPI Conference* (pp. 131-136). Bariloche: APIZALS.

Porto, M. (2014). "The role and status of English in Spanish-speaking Argentina and its education system: Nationalism or imperialism?." *SAGE Open* 4: 1-14. doi: 10.1177/2158244013514059

Porto, M., Montemayor-Borsinger, A. & López-Barrios, M. (2016). "Research on English language teaching and learning in Argentina (2007-2013)." *Language Teaching* 49(3): 356-389.

Quaqcuarelli Symonds (2019). *World University Rankings 2019*.
Online: https://www.topuniversities.com/university-rankings. Last access: 06/19/2019.

Smit, U. (2010). *English as a Lingua Franca in Higher Education. A Longitudinal Study of Classroom Discourse*. Berlin, Boston: De Gruyter.

Stockemer, D. & Wigginton, M. J. (2019). "Publishing in English or another language: An inclusive study of scholar's language publication preferences in the natural, social and interdisciplinary sciences." *Scientometrics* 118(2): 645-652.

Tatzl, D. & Messnarz, B. (2013). "Testing foreign language impact on Engineering students' scientific problem solving performance." *European Journal of Engineering Education* 38(6): 620-630.

The World Bank (2017). *Population Growth DataBank*. Online: https://data.worldbank.org/indicator/sp.pop.grow. Last access: 05/03/2019.

UNESCO Institute for Statistics (2015). *UIS-STAT*. Online: http://data.uis.unesco.org/. Last access: 08/21/18.

Vasconcelos, S., Sorenson, M. & Leta, J. (2008). "Researchers' writing competence: A bottleneck in the publication of Latin-American science?" *EMBO Reports* 9: 700-702.

Vinke, A. A. (1995). *English as the medium of instruction in Dutch Engineering education*. Ph.D. dissertation, Delft University of Technology. Online: https://repository.tudelft.nl/islandora/object/uuid%3A491b55f9-fbf9-4650-a44d-acb9af8412a8. Last access: 08/20/18.

Wächter, B. & Maiworm, F. (2014). *English-Taught Programmes in European Higher Education: The State of Play in 2014*. Bonn: Lemmens.

Zhong, H. & Hirsh, D. (2009). "Vocabulary growth in an English as a foreign language context." *University of Sydney Papers in TESOL* 4: 85-113.

www.britishcouncil.org.ar
British Council Argentina
@arBritish