

Institutional, Informational, International: Predicting International Student Enrollment and Rate by Online Information

Zachary W. Taylor^{a,*} and Ibrahim Bicak^{a,*}

^aUniversity of Texas at Austin, United States

*Corresponding authors: Email: zt@utexas.edu and ibrahimbicak@utexas.edu

Address: University of Texas at Austin, Austin, Texas, United States

Introduction

According to the most recent *Open Doors* (Institute for International Education, 2018) data, international student application to and enrollment in United States (US) institutions of higher education fell for the second year in a row in 2017-2018. Redden (2018) recently called attention to how international students may be deterred from US institutions due to political or social conditions, rendering life in the US less appealing than in previous years. However, extant research has hypothesized several reasons why international students may not be applying to and enrolling in US institutions beyond political or social conditions.

A recent study by Huang and Bilal (2017) found international students often faced hurdles in navigating institutional websites focused on international students. According to their work, international students were confused by a lack of international student information on institutional websites, often having to rely on peers to understand how to apply and enroll in US institutions. Regarding international graduate student admissions materials on institutional websites, Taylor's (2017) study found international graduate application instructions were written above the 15th-grade English reading comprehension level. However, these institutions only required international graduate students to demonstrate a 12th-grade English reading comprehension level as evidenced by minimum TOEFL scores for unconditional admission. This finding indicated that a reading comprehension gap existed between minimum reading ability evidenced by TOEFL scores and the reading ability necessary to comprehend international admissions materials.

As a result, US institutions of higher education may not be effectively communicating with prospective international students, potentially contributing to the decline of international student applications and enrollments. Therefore, to build upon Huang and Bilal (2017) and Taylor's (2017) previous work, this exploratory study is guided by one primary research question:

Controlling for the length, readability level, and translation of international student websites, what is the relationship between international student rate or enrollment and the online availability of minimum TOEFL score for unconditional admission?

Ultimately, this study's findings may inform professionals working in international education offices at US institutions regarding the clear communication of basic admissions standards, such as minimum TOEFL score. As basic admissions standards such as these do influence where international students apply and are admitted, it is important to understand whether the presence of this basic information is associated with greater international student enrollments or rates.

Method

Population and Sample

To establish a sample, the research team employed the Integrated Postsecondary Education Data System (IPEDS) and targeted all public and private non-profit four-year institutions of higher education in the US, producing in a total population of 2,327 institutions that admitted at least one international undergraduate student in 2016-2017. The team then employed a

random number generator set to the parameters of 1 to 2,327 to winnow the population to a sample size of 335 institutions, reflecting a 95 percent confidence level. A database of all institutions in this study can be provided by the research team upon request.

Data Collection

All data from this study was gathered from two sources: 2016 IPEDS data and institutional .edu web data, current as of February 10, 2018. Once the research team established the sample, the team used IPEDS to locate 2016-2017 international student rates and total international student enrollment. Then, the team employed the Google Advanced Search tool to locate each institution's website and the institution's minimum TOEFL score for unconditional admission for international students. Finally, the team used Readability Studio to calculate the length, readability level, and translation akin to Taylor's (2017) study.

Data Analysis

To best represent the data and answer this study's research questions, the research team employed two regression models, one for international student rate and another for enrollment. Within the multiple regression, we included online-content variables such as readability level of website content (READ), length of application instructions (LENGTH), availability of content translated into languages other than English (TRANS), online availability of minimum TOEFL scores for unconditional admission (bTOEFL), and minimum TOEFL score published on institutional websites (minTOEFL). These website variables emerged from research work focused on institutional website information for prospective international students, as these variables may influence whether a prospective international student applies to or enrolls in a certain institution. Institutional variables—derived from IPEDS—included in the separate multiple regression models were international student rate and overall international student enrollment.

In the first stage of analysis, we compared international student rates (RATE) and enrollments

(ENROLL) to online-content variables, expressed by the formulae below:

$$Y(RATE)_i = \beta_0 + \beta_1(READ_i) + \beta_2(LENGTH_i) + \beta_3(TRANS_i) + \beta_4(bTOEFL_i) + e$$

$$Y(ENROLL)_i = \beta_0 + \beta_1(READ_i) + \beta_2(LENGTH_i) + \beta_3(TRANS_i) + \beta_4(bTOEFL_i) + e$$

The second stage of analysis included the 260 institutions that did publish minimum TOEFL scores on their institutional websites. The research team compared international student rates (RATE) and international student enrollments (ENROLL) to minimum TOEFL scores for unconditional admission published in online international application instructions, expressed by the formulae below:

$$Y(RATE)_i = \beta_0 + \beta_1(READ_i) + \beta_2(LENGTH_i) + \beta_3(TRANS_i) + \beta_4(minTOEFL_i) + e$$

$$Y(ENROLL)_i = \beta_0 + \beta_1(READ_i) + \beta_2(LENGTH_i) + \beta_3(TRANS_i) + \beta_4(minTOEFL_i) + e$$

Findings

Results in Table 1 suggest there is no relationship between the grade-level readability of application instructions, the length of the instructions, or the translation of instructions and international student rate or enrollment. However, a relationship exists between international student enrollment and institutions publishing minimum TOEFL scores as part of their international undergraduate application instructions.

Results in Table 2 suggest there is a relationship between minimum TOEFL scores for unconditional admission and international student rate (0.000) and enrollment (0.031). In this sub-sample of institutions that did publish minimum TOEFL scores, findings also suggest there is no relationship between the grade-level readability of application instructions, the length of the instructions, or the translation of instructions and international student rate or enrollment.

TABLE 1

RELATIONSHIP BETWEEN INTERNATIONAL STUDENT RATE AND INTERNATIONAL STUDENT ENROLLMENT AND ONLINE-CONTENT VARIABLES, BY AVAILABILITY OF MINIMUM TOEFL SCORES ON INSTITUTIONAL WEBSITES (N=332)

<u>International student rate</u>	<u>Coef. (Std. Err.)</u>	<u>t</u>	<u>P> t </u>	<u>95% Conf. Int.</u>
Readability level	0.001 (0.002)	0.38	0.709	-0.003, 0.005
Length (in words)	6.93e-06 (0.001)	0.17	0.868	-0.001, 0.001
Translation	0.003 (0.013)	0.22	0.826	-0.023, 0.029
Availability of TOEFL scores online	-0.013 (0.008)	-1.52	0.128	-0.029, 0.004
<u>International student enrollment</u>	<u>Coef. (Std. Err.)</u>	<u>t</u>	<u>P> t </u>	<u>95% Conf. Int.</u>
Readability level	5.35 (15.004)	0.36	0.722	-24.164, 34.869
Length (in words)	0.217 (0.311)	0.70	0.486	-0.395, 0.829
Translation	92.915 (97.372)	0.95	0.341	-98.643, 28.473
Availability of TOEFL scores online	142.575 (62.564)	2.28	0.023*	19.496, 265.655

* $p < 0.05$

TABLE 2

RELATIONSHIP BETWEEN INTERNATIONAL STUDENT RATE AND ENROLLMENT AND ONLINE-CONTENT VARIABLES, BY MINIMUM TOEFL SCORES FOR UNCONDITIONAL ADMISSION (N=260)^

<u>International student rate</u>	<u>Coef. (Std. Err.)</u>	<u>t</u>	<u>P> t </u>	<u>95% Conf. Int.</u>
Readability level	-0.001 (0.002)	-0.17	0.867	-0.005, 0.004
Length (in words)	0.001 (0.001)	0.40	0.688	-0.001, 0.001
Translation	-0.006 (0.013)	-0.43	0.670	-0.032, 0.020
Minimum TOEFL score for unconditional admission	0.001 (0.001)	3.94	0.000***	-0.029, 0.004
<u>International student enrollment</u>	<u>Coef. (Std. Err.)</u>	<u>t</u>	<u>P> t </u>	<u>95% Conf. Int.</u>
Readability level	-0.07 (19.133)	-0.04	0.971	-38.386, 36.972
Length (in words)	0.190 (0.388)	0.49	0.624	-0.573, 0.953
Translation	74.976 (115.703)	0.56	0.518	-152.88, 302.83
Minimum TOEFL score for unconditional admission	6.606 (3.050)	2.17	0.031*	0.599, 12.613

^Note: 72 institutions did not publish minimum TOEFL scores for unconditional admission on their institutional websites.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion and Conclusion

As international undergraduate student enrollment in US institutions has witnessed its sharpest decline in a decade, US institutions should ensure that institutional websites include all critical information and are easy to navigate for a wide variety of international students. Although this study did not find readability level, length, or translation of application instructions were related to international student rate or enrollment, institutional admissions officers should explore ways to clarify, bolster, and differentiate website content for a wide audience to promote a more equitable and accessible path to US higher education for international students.

For instance, by embracing simpler international student material and translating that material into the native languages of international students, the institution itself could appear more international student-friendly, inclusive, and willing to embrace a diverse, global population. Moreover, simple and translated international student information may prove more economically-inclusive of low-income international students who cannot afford an international education agent or similar services to help them navigate the US higher education system and find a US institution of good fit. If a low-income international student is better able to navigate many international student processes on their own or with limited assistance—such as exploring institutions, applying for a Visa, or procuring housing in the United States—these students may be able to attain a US education and improve their socioeconomic status. Ultimately, as an exploratory study, future research should explore what information is most important to international students and whether that information is present in online settings.

Harkening back to Huang and Bilal's (2017) study, international students may feel an institutional website lacks information necessary to apply to a US institution of higher education. As a result, institutions of higher education across the US and beyond should examine their own websites and ask, "Does our website include all of the information necessary for international students to apply to our institution?" Although this

study focused primarily on admissions instructions readability, translation, and presence of minimum TOEFL scores, there are numerous other pieces of institutional information that international students may find necessary in order to make the most informed decision possible. This study did not capture housing information, tuition policies, mandatory and additional fee structures, and international student organizations or clubs as factors that may influence where an international student applies and enrolls. From here, future research could address these factors—in both quantitative and qualitative studies—to learn what is most important to international students and whether that information is included on institutional websites.

In all, institutions should engage with their own international student population and learn about what information is necessary and most informative for international students during the search process and application process. Here, institutions could improve their website, and thus, improve international student access, resulting in a more inclusive experience for international students.

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