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Nonresident Undergraduates' Performance in English Writing Classes—Hierarchical Linear Modeling Analysis

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Abstract

Do undergraduates whose native language is not English have writing deficiencies leading to academic struggles? The present study showed that the answer to this question was "no" at an American West Coast public university. This university's nonresident undergraduates on average earned B- to B+ in their colleges' English intensive-writing programs' classes, C in community college English classes, and term grade point averages between 2.5 (C+ to B-) and 3.2 (B) in the fall term of the five most recent academic years. Hierarchical linear modeling analyses showed that the predictors with the largest effect sizes were English writing programs and class level; however, each predictor accounted for less than 25% of the total variance.

Keywords: Academic success, English as a second language, international undergraduates, permanent residents, TOEFL, writing

How can American universities maximize the academic success of their nonresident undergraduates whose native language is not English? This question has become increasingly important in recent years due to the dramatic increase in the nonimmigrant international undergraduate population attending American universities (Institute for International Education [IIE], 2013a). Universities' admissions offices potentially could maximize the likelihood that admitted applicants will succeed academically by establishing appropriate entrance requirements.

One entrance requirement that many American universities have been using to predict applicants' academic success is the Test of English as a Foreign Language (TOEFL). Approximately 260 American universities require nonresident applicants whose native language is not English to submit TOEFL scores (American Exam Services, 2013); TOEFL scores are used as an indicator of English proficiency to predict future academic success (Andrade, 2006).

If English proficiency is a valid predictor of academic success for nonresident applicants who are not native English speakers (Andrade, 2006), then admitted applicants who subsequently

struggle with English—despite having acceptable TOEFL scores—might be expected to struggle academically. To the contrary, a recent study (Fass-Holmes & Vaughn, 2014) demonstrated that at one American university the majority of nonimmigrant international undergraduates succeeded academically (term grade point averages [GPA] above 2.0 [C]) despite showing evidence of struggling with English. The evidence was that a majority of these students failed the university's mandatory English writing proficiency exam, and they were required to attend community college classes in English Composition and/or English as a Second Language (ESL).

Nonresident undergraduates' English proficiency and academic success could be influenced by numerous variables, some of which are student-specific and readily accessible for statistical analysis (e.g., students' citizenship country, class level, etc.), others are school-specific (e.g., classes which are taught in a particular academic term versus ones that span across several academic terms, majors within academic departments, colleges within universities, etc.), and others are unknown and/or cost-prohibitive to collect (e.g., parents' English proficiency, parents' highest level of education, etc.) (Osborne, 2000; Raudenbush & Bryk, 2002). Such variables need to be managed properly, and hierarchical linear modeling (HLM) offers many advantages in this regard. HLM analyzes data that are nested at multiple levels, computes an estimation of individual effects, partitions variance across levels, determines how much variance is accounted for at individual and group levels (Raudenbush & Bryk, 2002), uses full-information maximum likelihood estimation to handle missing data (Little & Rubin, 2002) and avoids the need to use multiple imputations (Little & Rubin, 2002). This statistical technique is more advantageous than ordinary least squares (OLS) regression, another predictive statistical technique, because OLS regression assumes independence of observations; nested data rarely fulfill this key assumption (Ker, 2014; Raudenbush & Bryk, 2002). Consequently, OLS regression tends to underestimate level 2 effects (in the present study, individual level) whereas HLM does not (Osborne, 2000).

HLM analyses previously have shown that country of origin and major department were significant predictor variables for term GPAs of the aforementioned international undergraduates who succeeded academically despite failing an English proficiency exam (Fass-Holmes & Vaughn, 2014). Each of these variables accounted for less than 5% of the total variance—"small" effect sizes (Cohen, 1988; Raudenbush & Bryk, 2002), indicating that they did not explain the students' academic success in spite of English struggles. The present study took the opposite approach by using an indicator of English struggles (academic marks in required English intensive-writing classes) instead of an indicator of academic success (term GPAs) in HLM analyses.

If nonresident undergraduates with acceptable TOEFL scores do have English deficiencies, they might be expected to struggle in English intensive-writing classes. This hypothesis was tested in the present study. Specifically, this study's goals were to evaluate the degree to which nonresident undergraduates attending a West Coast public university (hereafter referred to as "University") struggled in English intensive-writing classes, and to use HLM for identifying what variables predict struggles in these classes.

The present study's goals originated from a request by the University's College Writing Programs' directors for a longitudinal analysis of nonresident (nonimmigrant international, permanent resident [PR], and undocumented [OT]) undergraduates' academic performance in the programs' required English intensive-writing classes. The issue/concern which prompted the request was whether or not these students were progressing satisfactorily through these classes. The directors' concern arose because of a generalization repeated by faculty, administrators, and advisors that the University's undergraduates whose native language was not English, as a

whole, had deficient English skills which were inadequate to meet the University's academic requirements. The University's academic requirements, beyond the minimum TOEFL score for admission (83 or higher on the internet-based version), included the following:

• *Demonstrating a minimum level of English writing proficiency*—The University's undergraduates (including domestic students) must fulfill this requirement during their freshman year by scoring above a specified level on various standardized college entrance exams or on the University's proprietary writing exam, earning at least a C in a transferable college-level English composition class, or scoring above a specified level on an advanced placement English exam. Any undergraduate who fails this requirement must attend a writing program consisting of English Composition (EC) and ESL classes, earn a C or above, and pass an exit exam. These classes are taught on the University's campus by instructors from a local community college.

• *Successfully complete College Writing Program classes*—After fulfilling the English writing proficiency requirement, the University's undergraduates also must take two of the College Writing Programs' classes. Each student belongs to one of the University's colleges, each of which has its own unique writing program with distinctive number, content, and sequence of intensive writing classes. This is a graduation-related requirement.

Literature Review

American universities have admitted an increasing number of international undergraduates in recent years. According to IIE's annual Open Doors snapshot survey (IIE, 2013a), the total number of international students enrolled in fall 2013 (FA13) was higher than in fall 2012 (FA12) at 72% (274) of the American universities that participated in the survey. IIE's Open Doors report for academic year (AY) 2012–13 showed an increase in the total number of international students in American higher education. This was the seventh consecutive year that the number increased. The 7.2 % increase in new internationals who enrolled in AY2012–13 compared with 2011–12 was largely due to Chinese undergraduates studying in the United States. Enrollment of Chinese undergraduates increased 21% from AY2011–12 to 2012–13 (IIE, 2013b).

An increase in the number of international undergraduates also has occurred at the University that is the focus of the present study (IIE, 2013a,b). This University is located in a large city's suburbs; it has more than 20,000 undergraduates; it has earned national recognition for academic and research excellence (*U.S. News and World Report's* top ten); and it is one of 380 universities that participate in IIE's Open Doors snapshot survey. Snapshot survey data show that the number of international undergraduates enrolled at the University increased 19.7% in FA13 compared to FA12, and enrollment increased 87.6% in FA12 compared to fall 2011 (FA11) (IIE, 2013a).

The University's increase in international undergraduates has been accompanied by a campus-wide generalization that these students, as a whole, are struggling academically due to deficient English skills which are inadequate to meet the University's academic requirements and challenges (cf. Bretag, 2007). If international undergraduates experience academic struggles which are due to deficient English skills, then one and the same internationals who struggle with English would be expected to struggle academically also. This expectation has some support in the research literature on the TOEFL. TOEFL scores not only have been used in making admissions

decisions (Oliver, Vanderford & Grote, 2012), but also in predicting English proficiency (Ling, Powers & Adler, 2014) and academic success (reviewed by Andrade, 2006; Graham, 1987; Stoynoff, 1997). For instance, Johnson (1988) found that international undergraduates whose TOEFL scores were below 500 earned significantly lower grades than counterparts whose TOEFL scores were at or above 500. Johnson concluded that the lower a student's English proficiency (as reflected by the TOEFL score), the more important its role in academic success. Johnson (1988) also found that international undergraduates whose TOEFL score was at the low end of its range were more successful academically in courses that required a low level of English skills than in ones that required a high level. These findings suggest that international undergraduates' English struggles (as indicated by low TOEFL scores) are associated with academic struggles (as indicated by low grades) at American universities.

Although the research literature provides some support for using TOEFL scores in predicting English proficiency and academic success (Ling, Powers & Adler, 2014), it also provides some contradictory evidence. Several studies have shown no correlation between TOEFL scores and international undergraduates' GPA at American universities (Chen & Sun, 2006; Fass-Holmes & Vaughn, 2014; Wongtriat, 2010). The absence of a correlation between TOEFL scores and academic success might signify that the scores meet admissions requirements due to non-native English speaking students' having attended test preparation classes (Hamp-Lyons, 1998; Raimes, 1990) and/or cheating (Jung, 2013), but they do not reflect the students' English proficiency. TOEFL scores therefore might have limited usefulness in resolving the question of whether international undergraduates' English struggles are associated with academic struggles at American universities (Des Brisay, 1994; Fass-Holmes & Vaughn, 2014).

Instead of using TOEFL scores as an indicator of English proficiency that predicts academic success, a recent study (Fass-Holmes & Vaughn, 2014) compared the percentage of degree-seeking international freshmen who were required to take EC and/or ESL community college classes (i.e., struggling with English) with the percentage whose term GPAs during their first academic year were below 2.0 (struggling academically). More than one-third of the cohort that entered the University in FA09, almost one-half of the cohort that entered in FA10, and almost two-thirds of the cohort that entered in FA11 were required to take the community college classes. Five percent of the FA09 cohort, 10% of the FA10 cohort, and 42% of the FA11 cohort earned D or F (struggled) in these classes. However, these same students earned mean GPAs between 3.2 and 3.3 (succeeded academically) and less than 10% earned term GPAs below 2.0 (struggled academically) in their University classes. These findings therefore suggest that a majority of the international freshmen succeeded academically despite evidence of struggling with English.

Research Method

To fulfill the request by the College Writing Programs' directors, demographic and academic achievement data for AY2009–10 through 2013–14, inclusive, were extracted from the University's student information system using structured query language (SQL) programs (only fall terms' results are reported below; other terms' results are available from the authors upon request). The demographic data included academic status (good vs. not good; not good included probation, subject to dismissal, and dismissed), admit term (which was used to compute a calculated field *enrollment history* indicating whether each student was new or continuing), class level (freshman, sophomore, etc.), citizenship country, course title, department, major, subject

code (which was used to compute a calculated field *English intensive-writing programs* to distinguish students who attended College Writing Programs' classes from students who attended the community college writing classes), and visa status (United States Department of State, n.d.). Academic achievement data included marks in the College Writing Programs' (CWP) and community college's (CC) English intensive-writing classes plus term GPAs. The SQL programs also extracted each undergraduate's unique campus ID and first and last names to facilitate accurate organization (using IRB-approved procedures) of all data within records within data files. The extractions excluded only domestic students because of their lack of relevance to this study's goals.

Descriptive statistical analyses were performed (using spreadsheet and PSPP software) on the data files to characterize the undergraduates and to determine the extent to which they struggled (earned marks below C) in the CWP or CC classes. HLM analyses were performed (using STATA 13 software; StataCorp, 2013) to evaluate the role of individual-level variables on academic marks. All of the present study's models were run with one predictor at a time (or set of predictors, in the case of multiple groups like citizenship country or department). The outcome variable (academic marks) was nested within student; therefore, writing classes' marks were level 1 whereas the students' more stable traits (e.g., citizenship country) were level 2. Most of the categorical predictors were dummy-coded, including citizenship country (i.e., China vs. all others; South Korea vs. all others; these were the citizenship countries of the University's two largest nonresident populations), English intensive-writing programs (i.e., CWP vs. CC classes), enrollment history (i.e., new student vs. continuing), immigration status (i.e., F-1 vs. all others; PR vs. all others; United States Department of State, n.d.), and major departments (i.e., Economics vs. all others; engineering vs. all others; science vs. all others; these specific major departments were chosen because of campus-wide generalizations that undergraduates whose native language was not English gravitated toward majors which were less sensitive to English weaknesses; cf. Johnson, 1988). Class level retained its ordinal form (i.e., freshman, sophomore, junior, senior).

Results

Descriptive Analyses—Demographics

The total number and demographic characteristics of nonresident undergraduates attending the CWP's and CC's English intensive-writing classes in the fall terms of AY2009–10 through 2013–14, inclusive, are shown in Table 1. Several noteworthy trends are evident. While PR accounted for about two-thirds of these undergraduates in FA09 and FA10, F-1 accounted for about two-thirds in FA12 and FA13. China was the citizenship country for less than 25% of the writing classes' participants in FA09 and FA10, then it increased to almost 50% by FA13. Also in FA13, about one-third of the nonresident undergraduates attending writing classes were in the CC's; this value was up from less than 20% in FA09. Engineering and science majors comprised approximately half of the undergraduates in the writing classes between FA09 and FA13, and less than 10% of participants in these classes were in bad academic status.

The annual change in numbers of nonresident undergraduates attending the English intensive-writing classes between FA09 and FA13, inclusive, is shown in Figure 1. Approximately the same number of these students attended in FA10 as in FA09. However, in FA11, participation in these writing classes increased by about 10%, then by almost a third in

FA12 and in FA13. These increases were largely attributable to year-over-year increases in the number of F-1 undergraduates attending these classes (Figure 2) and the number whose citizenship country was China (Figure 3).

Table 1: Demographic Characteristics of Nonresident Students in English Intensive-Writing Classes

Characteristics	FA09		FA10		FA11		FA12		FA13	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
F-1	142	18.0	190	24.3	405	45.4	745	63.9	1,016	66.8
OT	33	4.2	25	3.2	28	3.1	25	2.1	43	2.8
PR	551	70.0	486	62.1	403	45.1	342	29.3	418	27.5
Other visa categories	61	7.8	81	10.4	57	6.4	54	4.6	44	2.9
China	148	18.8	155	19.8	312	34.9	482	41.3	736	48.4
South Korea	209	26.6	227	29.0	208	23.3	247	21.2	252	16.6
other countries	430	54.6	400	51.2	373	41.8	437	37.5	533	35.0
community college	133	16.9	128	16.4	262	29.3	376	32.2	490	32.2
other writing programs	654	83.1	654	83.6	631	70.7	790	67.8	1,031	67.8
economics majors	136	17.3	131	16.8	172	19.3	239	20.5	316	20.8
engineering majors	151	19.2	158	20.2	206	23.1	283	24.3	360	23.7
science majors	246	31.3	234	29.9	225	25.2	278	23.8	482	31.7
other majors	254	32.3	259	33.1	290	32.5	366	31.4	363	23.9
good academic status	735	93.4	724	92.6	813	91.0	1,050	90.1	1,415	93.0
bad academic status	52	6.6	58	7.4	80	9.0	116	9.9	106	7.0
TOTAL	787	100	782	100	893	100	1,166	100	1,521	100

Abbreviations: FA09=fall 2009; FA10=fall 2010; FA11=fall 2011; FA12=fall 2012; FA13=fall 2013; N=number of nonresident undergraduates; F-1=degree-seeking internationals (United States Department of State, n.d.); OT=undocumented undergraduates; PR=permanent residents

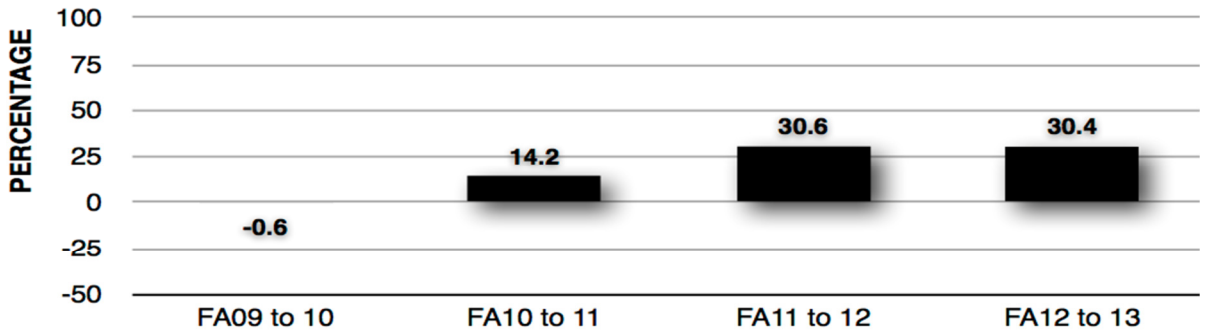

Figure 1. The annual percentage change in the number of nonresident undergraduates attending the University's English intensive-writing classes amounted to almost a third in each of the two most recent fall terms for which data were available at the time of this study. Values above each bar represent percentage change from the previous fall term. Abbreviations: FA09=fall 2009; FA10=fall 2010; FA11=fall 2011, FA12=fall 2012

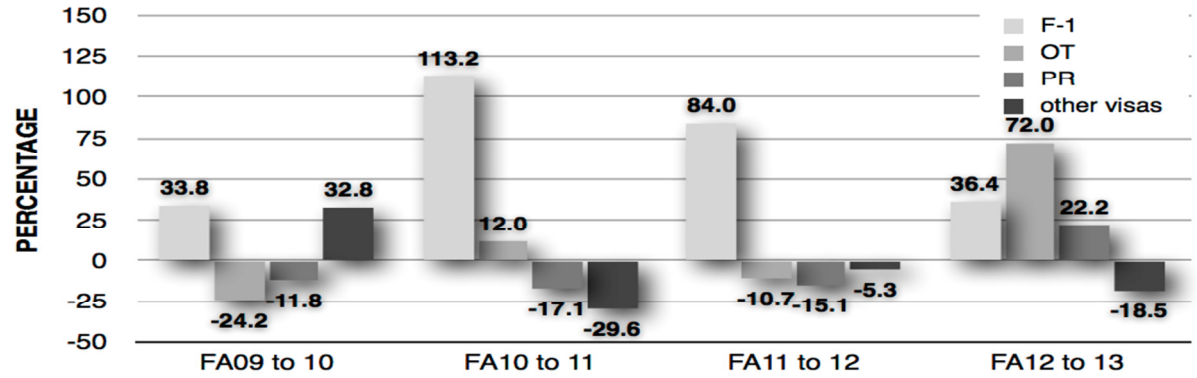

Figure 2. The annual percentage change in the number of nonresident undergraduates attending the University's English intensive-writing classes (Figure 1) was largely attributable to F-1 (degree-seeking, nonimmigrant) students. Values above or below each bar represent percentage change from the previous fall term. Abbreviations: FA09=fall 2009; FA10=fall 2010; FA11=fall 2011; FA12=fall 2012; OT=undocumented undergraduates; PR=permanent residents

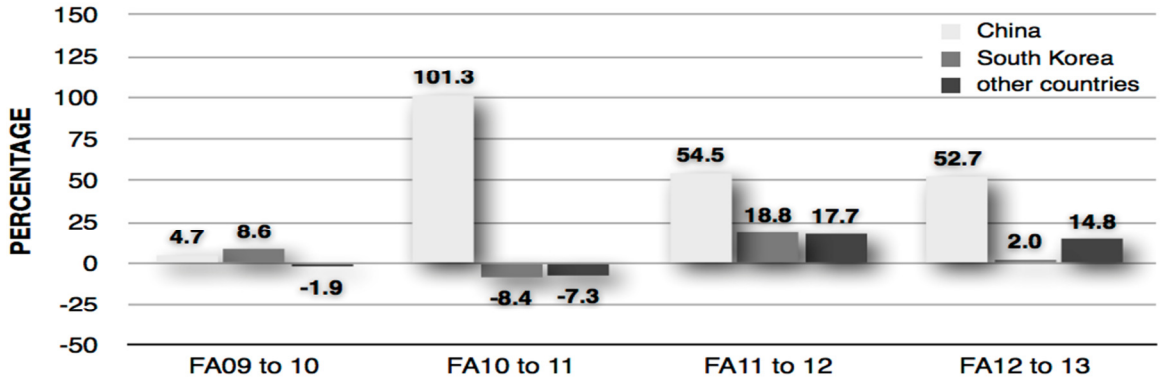

Figure 3. The annual percentage change in the number of nonresident undergraduates attending the University's English intensive-writing classes (Figure 1) is largely attributable to Chinese students. Values above each bar represent percentage change from the previous fall term. Abbreviations: FA09=fall 2009; FA10=fall 2010; FA11=fall 2011; FA12=fall 2012

Descriptive Analyses—Performance in English Intensive-Writing Classes

Figure 4 shows nonresident undergraduates' academic marks in English intensive-writing classes for FA09 through FA13, inclusive. F-1, OT, and PR undergraduates' average marks were at or above C+ in these classes (aggregated over all citizenship countries and writing programs). Nonresident undergraduates' average marks were between B- and B in the CWP classes (aggregated over all citizenship countries and visa categories; United States Department of State, n.d.). However, their average marks ranged between C- and C+ in the CC classes (same aggregations), thus indicative of some struggles in EC and/or ESL. Chinese undergraduates' average marks were between C+ and B-, while nonresidents from all other countries averaged between B- and B in the English intensive-writing classes (aggregated over all visa categories and writing programs).

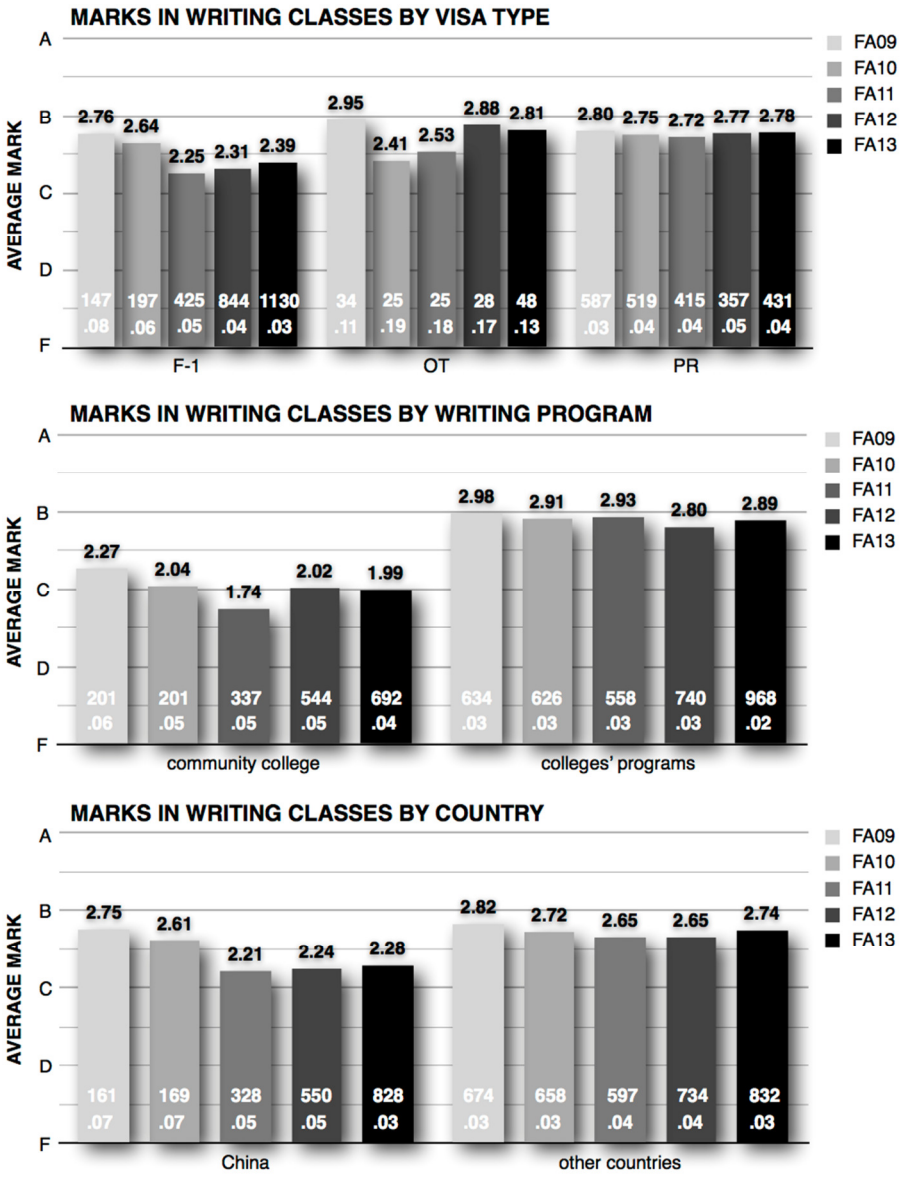

Figure 4. Nondomestic undergraduates' average academic marks in English intensive-writing classes between fall 2009 and fall 2013 (inclusive) are disaggregated by visa category in the top graph, by writing programs in the middle graph, and by citizenship country in the bottom graph. Only the average marks for the community college classes show evidence of struggling (below 2.0). Values above each bar represent average marks (A=4; B=3; C=2; D=1; F=0); values at the base of each bar represent counts and standard errors. Abbreviations: FA09=fall 2009, FA10=fall 2010, FA11=fall 2011, FA12= fall 2012, FA13=fall 2013; OT=undocumented; PR=permanent resident

Frequency distributions of the nonresident undergraduates' marks in the most recent fall term's (FA13) English intensive-writing classes are shown in Figure 5.

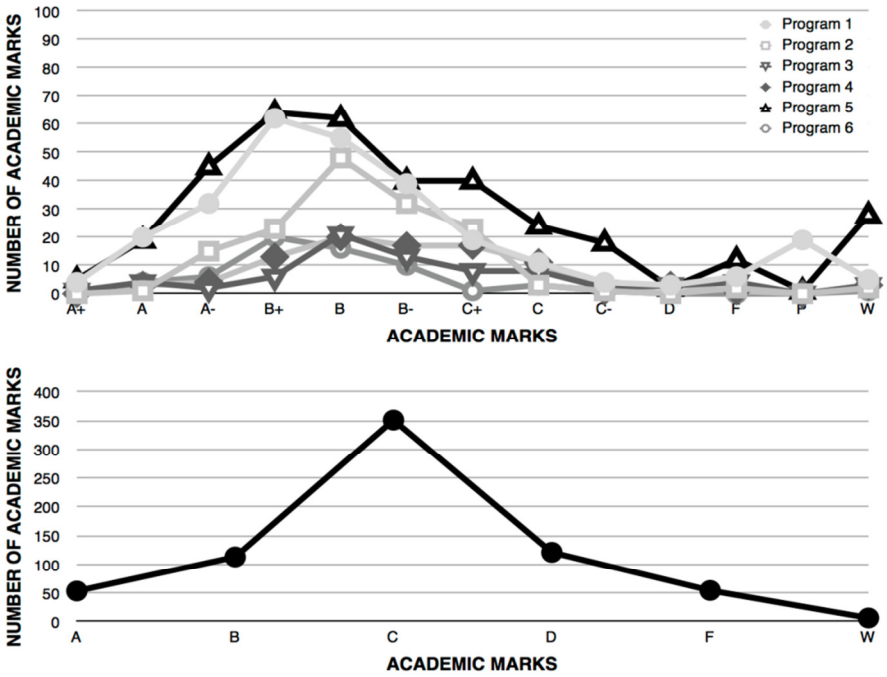

Figure 5. The frequency distributions of academic marks which nonresident undergraduates earned in the College Writing Programs' fall 2013 (FA13) English intensive-writing classes (upper graph) are skewed to the right with modal values between B and B+. By contrast, the corresponding frequency distribution for the community college program's FA13 classes (lower graph) resembles a bell curve with a modal value of C.

Whereas the CWPs' frequency distributions are skewed to the right, the CC program's frequency distribution approximates a bell curve. Out of 1,033 marks issued by the FA13 CWPs' classes, 87.6% were at or above C; the modal mark was B (N=222; 21.5% of the total). The corresponding values for the FA13 CC program's classes were 698, 74.1%, and C (N=351; 50.3% of the total), respectively. Frequency distributions for the other academic years' fall terms show a similar pattern and are available from the authors upon request.

Descriptive Analyses—GPAs

The University considers students with a term GPA below 2.0 (C) to be struggling academically. GPA analyses showed that nonresident undergraduates who participated in the English intensive-writing classes earned term GPAs which averaged between 2.7 (B-) and 3.2 (between B and B+) in FA09 through FA13, inclusive. Disaggregating the data by visa category, the fall average GPAs ranged from 2.98 to 3.17 for F-1, 2.55 to 2.93 for OT, and 2.92 to 3.01 for PR. Disaggregating by writing programs, the fall average GPAs ranged from 2.92 to 3.04 for nonresident undergraduates who participated in CWP classes (the University includes these classes' academic marks in term GPAs), and 2.95 to 3.14 for participants in CC classes (the University excludes these classes' academic marks from term GPAs). Chinese undergraduates' fall average GPAs ranged from 3.13 to 3.25, South Koreans' from 2.72 to 2.96, and other countries' from 2.94 to 3.03. The corresponding fall average GPAs for Economics majors ranged from 2.79 to 2.97, for engineering majors from 3.00 to 3.07, for science majors from 3.06 to 3.21, and for other majors from 2.95 to 3.07. Tables and graphs of these data are available from the authors upon request.

HLM Analyses

The data extracted for the HLM analyses yielded 1,189 nonresident undergraduates' records for AY2009–10 CWP and CC classes, and these undergraduates had a total of 2,331 writing classes' marks used in the HLM analyses. On average, each undergraduate in AY0910 had about two writing classes' marks (M = 1.9). The corresponding values for AY2010–11 were 1,254 nonresident undergraduates, 2,262 writing classes' marks, and an average of almost two writing classes' marks per student (M = 1.8). For AY2011–12, 1,366 nonresident undergraduates, 2,526 writing classes' marks, and an average of almost two classes' marks (M = 1.8) per student. For AY2012–13, 1,703 nonresident undergraduates, 3,514 writing classes' marks, and an average of two classes' marks per student (M = 2.1). Lastly, for AY2013–14, 2,150 nonresident undergraduates, 4,296 writing classes' marks, and an average of two classes' marks per student (M = 2.0).

In the current study, all of our models were run with one predictor (or set of predictors – in the case of dummy-coded predictors) at a time on two-level models. Writing classes' marks (the outcome variable) are considered a lower level (level 1 or time-varying) variable, whereas the various predictors are considered higher level (level 2 or individual, stable) variables. These included citizenship country, class level, enrollment history, English intensive-writing programs, major department, and visa category (United States Department of State, n.d.). An example model is shown below.

Level 1: Grade = $\beta_{0j} + r_{ij}$
Level 2: $\beta_{0j} = \gamma_{00} + \gamma_{01}$ (class level) + μ_{0j}

For each HLM model, only statistically significant results ($p<.05$) are presented in Table 2. This table shows that class level was a significant predictor of AY2009–10 writing classes' marks—as class level increased, these marks also increased. Citizenship country, English intensive-writing programs, enrollment history, major department, and visa category all were significant predictors of writing classes' marks—Chinese and South Koreans, CWP participants, and continuing nonresident undergraduates had higher writing classes' marks compared to other nationalities, CC writing classes' participants, and new nonresident undergraduates. Economics and engineering majors and F-1 undergraduates had lower writing classes' marks compared to all other majors and visa categories. The HLM results for AY2010–11 writing classes' marks were the same with one exception—only Economics majors had lower grades when compared to all other majors (engineering majors were not significantly different from the rest). The results for AY2011–12 were also the same as AY2009–10's except that major department was not a significant predictor at all. AY2012–13's results were similar to AY2010–11's except that only Economics majors had lower marks in writing classes when compared to all other majors (engineering majors were not significantly different from the rest). AY2013–14's HLM results were similar to AY2009–10's with two exceptions—enrollment history was not a significant predictor and only Economics majors had lower marks when compared to all other majors (engineering majors were not significantly different from the rest).

Although the HLM analyses revealed that the aforementioned predictors were statistically significant, most of them accounted for only a small portion of the total variance (less than 6%; small effect sizes) in writing classes' marks. However, two exceptions were notable—class level explained 3–18% (small effect size) of the total variance in writing classes' marks, and English

intensive-writing programs (CC and CWP) explained 9–27% (small effect size) of the total variance in writing classes' marks.

Table 2: Statistically Significant Univariate Predictors of English Intensive-Writing Programs' Grades (HLM Analyses)

AY	Predictor	β	*SE* β	*p*	sr^2
2009–10	Citizenship country				
	China	.139	.058	.016	.005
	South Korea	.229	.048	<.001	.015
	Class level	.098	.017	<.001	.028
	English intensive-writing programs				
	College Writing Programs	.404	.044	<.001	.093
	Enrollment history	.065	.029	.026	<.001
	Major department				.010
	Economics	-.137	.060	.024	.007
	Engineering	-.114	.056	.044	.006
	Visa category				
	F-1	-.172	.081	.034	.004
2010–11	Citizenship country				
	China	.222	.056	<.001	.009
	South Korea	.325	.050	<.001	.027
	Class level	.137	.018	<.001	.046
	English intensive-writing programs				
	College Writing Programs	.774	.043	<.001	.189
	Enrollment history	.234	.043	<.001	.015
	Major department				
	Economics	-.106	.053	.044	.004
	Visa category				
	F-1	-.158	.051	.002	.008
2011–12	Citizenship country				
	China	.453	.050	<.001	.050
	South Korea	.354	.054	<.001	.025
	Class level	.229	.018	<.001	.084
	Enrollment history	.204	.045	<.001	.010
	English intensive-writing programs				
	College Writing Programs	.948	.039	<.001	.267
	Visa category				

	F-1	-.313	.045	<.001	.031
2012–13	Citizenship country				
	China	.533	.043	<.001	.067
	South Korea	.404	.050	<.001	.023
	Class level	.202	.017	<.001	.054
	English intensive-writing programs				
	College Writing Programs	.744	.034	<.001	.188
	Enrollment history	.203	.041	<.001	.007
	Major department				
	Economics	-.230	.055	<.001	.009
	Visa category				
	F-1	-.454	.039	<.001	.060
2013–14	Citizenship country				
	China	.542	.037	<.001	.068
	South Korea	.355	.049	<.001	.018
	Class level	.175	.016	<.001	.175
	English intensive-writing programs				
	College Writing Programs	.886	.029	<.001	.232
	Major department				
	Economics	-.227	.050	<.001	.006
	Visa category				
	F-1	-.383	.076	<.001	.047

Note. Abbreviations: AY = academic year; β = regression coefficient; *SE* β = standard error of the regression coefficient; *p* = probability (significance level); sr^2 = semi-partial correlation squared (analogous to R^2), the proportion of variance accounted for; effect size.

Discussion and Conclusions

The present study tested the hypothesis that if the University's nonresident undergraduates had English deficiencies despite having a TOEFL score that was acceptable for admission, they might be expected to struggle (earn Ds or Fs) in English intensive-writing classes. To the contrary, this study showed that a sizable majority of these students earned C or better in AY2009–10 through 2013–14, inclusive.

One of the goals in testing this hypothesis was to evaluate the degree to which the University's nonresident undergraduates struggle in English intensive-writing classes. The only evidence of English struggles in this study was the average academic marks in the CC program's classes (EC and ESL) in FA11 and FA13. Otherwise, this study's results indicate that, regardless of how the data were disaggregated, the University's nonresident undergraduates earned at least C on average in the English intensive-writing classes; in many cases instead, these students' average marks in the English intensive-writing classes were at or above B-.

This study's other goal was to use HLM for identifying what variables predict struggles in the English intensive-writing classes. The HLM results showed that the predictor variable *English intensive-writing programs* was statistically significant and explained a larger percentage—9–27%—of the total variance in writing classes' marks than any of the other significant predictor variables. While this predictor's coefficient suggests a difference of about one letter grade (e.g., D vs. C; B vs. A), the percentage of the total variance that it explains is considered a small effect size (Cohen, 1988). It might be sufficiently compelling for use in decision making about implementing or changing policies and programs that target nonresident undergraduates at risk of bad academic status, but it might not be sufficiently compelling for nonresident undergraduates who are earning B or A. All of the other significant predictor variables in the HLM analyses explained even smaller percentages of the total variance and thus might not be sufficiently compelling (Kirk, 1996).

What accounts for the finding that nonresident undergraduates' marks are significantly worse in CC classes than in CWP counterparts? CC and CWP classes are similar in that they all are taught on the same university campus. These classes are dissimilar, however, in that the former are administered and taught by CC instructors whereas the latter are administered and taught by the University's faculty (cf. Callahan & Chumney, 2009). One possible explanation for the HLM results, then, is that CC instructors teach and/or grade English writing differently than the University's faculty. Another possibility is that CC classes (EC and ESL) are focused more on fundamental English skills and those classes' grades consequently are more reflective of struggles with English, whereas the CWP classes are more focused on writing in a particular field (e.g., humanities) and those classes' grades consequently are less reflective of struggles with English. A third possibility is that students might invest less time and effort in CC classes than in CWP classes because the University excludes the former and includes the latter in GPA calculations. Further research will be necessary to evaluate these possibilities.

The present findings further refute campus generalizations that the University's nonresident undergraduates collectively struggle academically, and that the academic struggles are due to English deficiencies (cf. Fass-Holmes & Vaughn, 2014). These generalizations of extensive academic struggles and English deficiencies cannot readily be attributed to insufficient assistance and/or support; the University historically has delivered a diverse range of programs and services—academic and immigration advising, intramural sports, mentoring and transition programs, one-on-one English tutoring, social and cultural events, student organizations, welcoming events, etc.—to promote its non-native English speaking undergraduates' engagement, retention, and satisfaction. However, the present findings do not refute or address additional generalizations about nonresident undergraduates' behaviors that violate academic integrity policies (e.g., cheating, collaboration, plagiarism, etc.). Further studies will be needed to determine the extent to which such behaviors account for nonresident undergraduates' performance in English intensive-writing classes.

The present study's findings additionally rule out two alternative explanations for alleged English deficiencies: (a) the struggling undergraduates include immigrant students (applicants for permanent residency, amnesty-seekers, asylees, refugees, OT, and/or PR) rather than or in addition to non-immigrant (international) students; and (b) continuing, rather than new, international undergraduates are the ones who struggle. This study showed that OT and PR undergraduates had *better* marks in the English intensive-writing classes than non-immigrant F-1 counterparts (Figure 4; Table 2), and that continuing nonresident undergraduates had *better* marks than new counterparts (Table 2). These findings are the opposite of what would be

expected if the above alternatives were correct. Instead, a recent study provided evidence that the University's generalizations are more likely attributable to annual increases in international undergraduates entering the University. As international undergraduate enrollment has increased, the number of these students who struggle academically also has increased proportionally (Fass-Holmes & Vaughn, 2014).

In conclusion, only a minority of the University's nonresident undergraduates has struggled in English intensive-writing classes and/or academically. This finding is contrary to expectations originating from campus-wide generalizations about nonresident undergraduates. Policies and programs intended to promote undergraduates' academic success would be most cost effective if they focused on the specific students with demonstrable deficiencies rather than all who are not native English writers.

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