



DREXEL UNIVERSITY

English

Language Center

College of Arts and Sciences

**REVERSE ENGINEERING THE SUCCESS OF INTERNATIONAL STUDENTS
IN AND AFTER
AN UNDERGRADUATE CONDITIONAL ADMISSION PROGRAM**

“UNIVERSITY AWARD FOR PEDAGOGY AND ASSESSMENT, 2014-15”

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1. The Drexel University International Gateway Program

As the number of international students pursuing tertiary education in the United States continues to increase, measurements of international college student performance vis-à-vis domestic college student performance have become a more important component of institutional assessment (Abel 2002, Andrade & Evans 2009, Lee 2010, Mamiseishvili 2012, Stoyhoff 1997, Ying 2003). Among international university students, however, a subset is admitted after successfully completing a university-administered “bridge” or “pathway” program.

Drexel University is at the forefront of these developments in international education by offering a one-year conditional admission program designed to prepare qualified undergraduate international students with low English proficiency for successful matriculation into the university. Administrated by the Drexel University English Language Center, the “International

Gateway” program provides participants a foundational course of three to four terms of study including intensive English coursework, standardized test preparation as well as selected credit-bearing university courses (see Appendix I for course listings). In addition to maintaining satisfactory progress through a sequence of intensive English and university courses, participants in the Gateway program are also required to achieve term-by-term standardized IELTS or TOEFL iBT benchmarks in order to remain in good standing. This commitment to “high-stakes” English proficiency testing is rare among university-sponsored conditional admission programs. For while it projects a higher degree of uniformity and objectivity among potential matriculates, it imposes significant burdens on teachers (in terms of “test washback,” see Green 2013), poses challenging questions to administrative stakeholders (in terms of “cut-scores,” enrollment management, finances and retention, see Feast 2002) and tends to produce great anxiety among the participants themselves. Nevertheless, standardized language proficiency data from this year-long program—including first-of-its-kind directly comparative score gain data across two testing platforms (IELTS and TOEFL iBT, see Heitner & Hoekje, unpublished manuscript)—provide a comprehensive picture of the development and assessment of academic English language in the context of a conditional admission program at a U.S. university. (For a review of university “bridge” or “pathway” programs which exempt students from standardized exit scores, see Cross & O’Loughlin 2013.)

2. The Life Cycle of University Assessment

Assessing the program and post-program performance of conditionally admitted students at Drexel is a collaborative priority among the faculty, staff and administrators at the English Language Center in partnership with Dean Murasko of the College of Arts and Sciences, and is also part of the Provost’s campus-wide mission of student assessment. In our efforts to evaluate the strengths and weaknesses of the Gateway program, the English Language Center conducts

statistical analyses of large data sets consisting of demographic data, prior course work, standardized test scores, program progression, matriculation rates and (among successful participants) longitudinal GPA data tracking the collegiate performance of program alumni. Whereas data issuing from our program play an important role in the internal process of program evaluation, the testing data from the standardized component of the program are the first published account of IELTS “score gains” in the United States (Heitner, Hoekje & Braciszewski 2014) and matriculation rates, academic performance and collegiate retention are relevant to university-wide stakeholders including recruiters, faculty, advisers and administrators. With respect to the former, language proficiency testing data are also examined in relation to progression through the program, performance in credit-bearing university courses and matriculation rates in an effort to detect significant correlations among these program variables. With respect to the latter, comparisons among first-year, term-by-term GPAs and second-year retention rates among students (both international and domestic) admitted directly to Drexel University on the one hand, and first-year term-by-term GPAs and second-year retention rates among successfully matriculated Gateway program graduates on the other are also analyzed for statistical parity. Table 1 of Appendix II provides an overview of Gateway enrollment, demographic, matriculation and second-year retention data.

3. Tracking Successive Cohorts (2009-2015)

Having administered the Gateway program since AY 2009-2010 (a six-student pilot year), Drexel University has educated successive cohorts of Gateway alumni now studying at all levels of undergraduate instruction—with one of the earliest cohorts of Gateway alumni poised for graduation in June 2015. How have these post-Gateway matriculated students, now numbering over 300, performed? GPA data indicate Gateway alumni are statistically competitive and sometimes superior (see Appendix II) to their directly admitted peers, especially during their first

years of study, a source of great comfort among their Gateway teachers, staff and administrators, and pride among the alumni themselves.

Tables 2 through 5 of Appendix II provide term-by-term GPA averages for four successive Gateway cohorts during their first-year of matriculated study—alongside comparative term-by-term GPA averages of their international and domestic directly admitted peers. This first-year data is very encouraging: Gateway alumni typically lead their peers, whether directly admitted domestic or directly admitted international students. Tables 6 through 8 compare the GPA performance of Gateway students to their Drexel peers after completing their first, second and third years. Again, the data is encouraging with Gateway alumni average GPAs ranging from a low of 3.04 to a high of 3.16 though they do appear to slip a little, unable to follow directly admitted third-year domestic students and break into 3.2 GPA territory (Table 6).

Though comprising a small minority among Drexel undergraduate students (less than 2%), this tripartite comparison among direct domestic, direct international, and conditionally-admitted international students provides institutional-wide data by which to compare the undergraduate careers of three groups across several measures including English language admission scores, university enrollment patterns, course selection, as well as retention and eventually, graduation rates. As indicated in Table 1, at most only two Gateway alumni failed to re-enroll for second-year study. Disregarding an initial pilot year of only six participants, second-year retention rates ranging between 94% and 100% are proof positive of the value of the program and its success in mainstreaming conditionally admitted students. Third-year retention rates are also becoming available on a rolling basis, as indicated on Table 6 of Appendix II. Among the 32 Gateway alumni who started their first year of matriculated study in AY 2011-2012, 26 completed their third year of study, a retention rate of 81%—exceeding the Drexel retention rates of all their peer groups. Other criteria being equal, comparability in terms of

academic performance as well as university retention is the *sine qua non* of any conditional admission program.

Through the success of its participants, the efforts of its teachers, and the oversight of its administrators at the English Language Center, the Drexel University International Gateway program is positioning itself to answer Green (2007) who asked “Are learners who pursue pre-sessional programs in EAP better able to cope with [the demands of university study] than those accepted on the basis of proficiency scores alone?” (p. 314). If not always “better,” we can begin to say that our Gateway program alumni are, indeed, at least equally ready for college. They were presented with proverbial keys to college, and over the course of a one-year conditional admission program, some of them not only figured out how to open the collegiate gates, but step through, study hard and stay the course. Unlocking their success by reverse engineering their accomplishments is the ongoing responsibility of the teachers, staff and administrators at the English Language Center.

APPENDIX 1

INTERNATIONAL GATEWAY COAS COURSES

CHEM 201 (“Why Things Work: Everyday Chemistry”) covers chemical explanations of everyday materials and phenomena. Focuses on conceptual understanding, as opposed to a detailed quantitative treatment.

MATH 100 (“Fundamentals of Mathematics”) covers properties of real numbers, algebraic expressions, rational expressions, linear and quadratic functions and graphs. This course is intended to give students the background needed to enroll in MATH 101.

MATH 101 (“Introduction to Analysis I”) covers linear, quadratic, exponential, and logarithmic functions; systems of linear equations; elementary linear programming; matrix algebra; inverse; and mathematics of finance.

MATH 102 (“Introduction to Analysis II”) covers limits, continuity, derivatives, indefinite and definite integrals, and applications.

MATH 110 (“Pre-calculus”) reviews topics from algebra, geometry, and trigonometry essential for the study of calculus. For students planning to take Calculus I.

MATH 121 (“Calculus I”) covers functions, limits and continuity, derivatives, transcendental functions, and applications.

MATH 122 (“Calculus II”) covers definite integrals, Fundamental Theorem of Calculus, integration techniques, applications of integration, numerical integration and differential equations.

APPENDIX II
GATEWAY STUDENT ENROLLMENT, RETENTION AND GPA DATA

| Table 1 Gateway Student Enrollment and Retention 2009-2014 | | | | | | |
|---------------------------------------------------------------------------------------|---------------------|---------------------------|-------------------------------------------------------|----------------------|--------------------------|------------------------------------------------------|
| PRE-MATRICULATION | | | | MATRICULATION | | |
| COHORT | GATEWAY YEAR | GATEWAY ENROLLMENT | COUNTRIES OF ORIGIN | ACADEMIC YEAR | DREXEL ENROLLMENT | RETENTION (returning for 2nd year) |
| Pilot | 2009-2010 | 6 | ✓ Kuwait ✓ Saudi Arabia | 2010-2011 | 5 | 3 |
| Cohort I | 2010-2011 | 44 | ✓ China ✓ Columbia ✓ Saudi Arabia | 2011-2012 | 32 | 30 |
| Cohort II | 2011-2012 | 95 | ✓ China ✓ Saudi Arabia ✓ Taiwan | 2012-2013 | 56 | 54 |
| Cohort III | 2012-2013 | 74 | ✓ China ✓ Saudi Arabia ✓ Taiwan | 2013-2014 | 45 | 45 |
| Cohort IV | 2013-2014 | 72 | ✓ China ✓ Japan ✓ Korea ✓ Oman ✓ Thailand | 2014-2015 | 42 | Available September 2015 |
| Cohort V | 2014-2015 | 71 | ✓ China ✓ Japan ✓ Venezuela | 2015-2016 | Available August 2015 | Available September 2016 |

Table 2
Gateway Average & Comparative GPAs
AY 2011-2012

| GATEWAY COHORT I (2010-2011) | | | | | DREXEL MATRICULATION AY 2011-2012 | | | |
|-----------------------------------------|--------|--------|--------|--------|-------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|
| | WI | SP | SU | CUM | FALL 1ST TERM | WINTER 2ND TERM | SPRING 3RD TERM | TOTAL CUM |
| GPA | 3.13 | 2.94 | 3.47 | 3.05 | | | | |
| <i>n</i> | 38 | 38 | 6 | 38 | | | | |
| <i>s.d.</i> | .89891 | .62435 | .11667 | .52839 | | | | |
| Gateway alumni | | | | | 3.10 (<i>n</i> = 32) <i>s.d.</i> = 0.39999 | 3.04 (<i>n</i> = 31) <i>s.d.</i> = 0.59076 | 3.18 (<i>n</i> = 30) <i>s.d.</i> = 0.61229 | 3.04 (<i>n</i> = 32) <i>s.d.</i> = 0.5258 |
| International direct | | | | | 2.95 (<i>n</i> = 375) <i>s.d.</i> = 0.80455 | 3.01 (<i>n</i> = 373) <i>s.d.</i> = 0.78357 | 3.13 (<i>n</i> = 366) <i>s.d.</i> = 0.74668 | 3.06 (<i>n</i> = 375) <i>s.d.</i> = 0.70958 |
| Domestic direct | | | | | 3.00 (<i>n</i> = 2,751) <i>s.d.</i> = 0.82721 | 2.87 (<i>n</i> = 2,654) <i>s.d.</i> = 0.8416 | 2.99 (<i>n</i> = 2,580) <i>s.d.</i> = 0.7857 | 2.97 (<i>n</i> = 2,751) <i>s.d.</i> = 0.78856 |
| All 1st year | | | | | 3.00 (<i>n</i> = 3,126) <i>s.d.</i> = 0.82 | 2.89 (<i>n</i> = 3,027) <i>s.d.</i> = 0.84 | 3.01 (<i>n</i> = 2,946) <i>s.d.</i> = 0.78 | 2.98 (<i>n</i> = 3,126) <i>s.d.</i> = 0.78 |

Table 3
Gateway Average & Comparative GPAs
AY 2012-2013

| GATEWAY COHORT II (2011-2012) | | | | | DREXEL MATRICULATION AY 2012-2013 | | | |
|------------------------------------------|---------|--------|--------|--------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| | WI | SP | SU | CUM | FALL 1ST TERM | WINTER 2ND TERM | SPRING 3RD TERM | TOTAL CUM |
| GPA | 2.71 | 3.24 | 3.11 | 2.64 | | | | |
| <i>n</i> | 91 | 64 | 12 | 91 | | | | |
| <i>s.d.</i> | 1.36963 | .63944 | .23335 | 1.3240 | | | | |
| Gateway alumni | | | | | 2.80 (<i>n</i> = 56) <i>s.d.</i> = 0.69362 | 3.17 (<i>n</i> = 56) <i>s.d.</i> = 0.61256 | 3.16 (<i>n</i> = 56) <i>s.d.</i> = 0.54933 | 3.10 (<i>n</i> = 56) <i>s.d.</i> = 0.44855 |
| International direct | | | | | 2.85 (<i>n</i> = 424) <i>s.d.</i> = 0.88675 | 2.88 (<i>n</i> = 415) <i>s.d.</i> = 0.83728 | 3.01 (<i>n</i> = 400) <i>s.d.</i> = 0.80391 | 2.87 (<i>n</i> = 424) <i>s.d.</i> = 0.80557 |
| Domestic direct | | | | | 3.12 (<i>n</i> = 2,636) <i>s.d.</i> = 0.71314 | 3.03 (<i>n</i> = 2,556) <i>s.d.</i> = 0.79498 | 3.05 (<i>n</i> = 2,468) <i>s.d.</i> = 0.76598 | 3.04 (<i>n</i> = 2,640) <i>s.d.</i> = 0.72032 |
| All 1st year | | | | | 3.08 (<i>n</i> = 3,060) <i>s.d.</i> = 0.75334 | 3.01 (<i>n</i> = 2,971) <i>s.d.</i> = 0.80248 | 3.05 (<i>n</i> = 2,868) <i>s.d.</i> = 0.77923 | 3.01 (<i>n</i> = 3,064) <i>s.d.</i> = 0.73464 |

Table 4
Gateway Average & Comparative GPAs
AY 2013-2014

| GATEWAY COHORT III (2012-2013) | | | | | DREXEL MATRICULATION AY 2013-2014 | | | |
|-----------------------------------|--------|--------|--------|--------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| | WI | SP | SU | CUM | FALL 1 ST TERM | WINTER 2 ND TERM | SPRING 3 RD TERM | TOTAL CUM |
| GPA | 2.99 | 2.72 | 3.24 | 2.75 | | | | |
| <i>n</i> | 72 | 64 | 17 | 72 | | | | |
| <i>s.d.</i> | .56519 | .67000 | .86605 | 1.0472 | | | | |
| Gateway alumni | | | | | 2.96 (<i>n</i> = 45) <i>s.d.</i> = 0.7922 | 2.99 (<i>n</i> = 45) <i>s.d.</i> = 0.7371 | 3.01 (<i>n</i> = 45) <i>s.d.</i> = 0.8968 | 3.08 (<i>n</i> = 45) <i>s.d.</i> = 0.5985 |
| International direct | | | | | 2.92 (<i>n</i> = 548) <i>s.d.</i> = 0.90919 | 2.87 (<i>n</i> = 539) <i>s.d.</i> = 0.9023 | 2.96 (<i>n</i> = 526) <i>s.d.</i> = 0.83048 | 2.89 (<i>n</i> = 551) <i>s.d.</i> = 0.8361 |
| Domestic direct | | | | | 2.94 (<i>n</i> = 2,493) <i>s.d.</i> = 0.85306 | 2.82 (<i>n</i> = 2,444) <i>s.d.</i> = 0.86389 | 2.87 (<i>n</i> = 2,349) <i>s.d.</i> = 0.84863 | 2.88 (<i>n</i> = 2,503) <i>s.d.</i> = 0.8073 |
| All 1st year | | | | | 2.94 (<i>n</i> = 3,041) <i>s.d.</i> = 0.86337 | 2.83 (<i>n</i> = 2,983) <i>s.d.</i> = 0.87091 | 2.89 (<i>n</i> = 2,875) <i>s.d.</i> = 0.8460 | 2.88 (<i>n</i> = 3,054) <i>s.d.</i> = 0.8124 |

Table 5
Gateway Average & Comparative GPAs
AY 2014-2015

| GATEWAY COHORT IV (2013-2014) | | | | | DREXEL MATRICULATION AY 2014-2015 | | | |
|----------------------------------|---------|---------|---------|---------|------------------------------------------------------------|--------------------------------|--------------------------------|--------------|
| | WI | SP | SU | CUM | FALL 1 ST TERM | WINTER 2 ND TERM | SPRING 3 RD TERM | TOTAL CUM |
| GPA | 2.63 | 2.67 | 3.55 | 2.66 | | | | |
| <i>n</i> | 67 | 60 | 12 | 67 | | | | |
| <i>s.d.</i> | 1.03451 | 1.03161 | 1.03161 | 0.94539 | | | | |
| Gateway alumni | | | | | 2.95 (<i>n</i> = 41) <i>s.d.</i> = 0.76498 | | | |
| International direct | | | | | 3.00 (<i>n</i> = 282) <i>s.d.</i> = 0.82009 | | | |
| Domestic direct | | | | | 3.06 (<i>n</i> = 2647) <i>s.d.</i> = 0.77829 | | | |
| All 1st year | | | | | 3.05 (<i>n</i> = 2929) <i>s.d.</i> = 0.78242 | | | |

Table 6
Gateway Average & Comparative GPAs
AY 2015-2016

| GATEWAY COHORT V (2014-2015) | | | | | DREXEL MATRICULATION AY 2014-2015 | | | |
|-----------------------------------------|----|----|----|-----|----------------------------------------------|---------------------------------------|---------------------------------------|----------------------|
| | WI | SP | SU | CUM | FALL 1ST TERM | WINTER 2ND TERM | SPRING 3RD TERM | TOTAL CUM |
| GPA | | | | | | | | |
| <i>n</i> | | | | | | | | |
| <i>s.d.</i> | | | | | | | | |
| Gateway alumni | | | | | | | | |
| International direct | | | | | | | | |
| Domestic direct | | | | | | | | |
| All 1st year | | | | | | | | |

| Table 7 Gateway Average & Comparative GPAs | | | | | | |
|-----------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------|------------------------------------------|-------------------|
| | DREXEL MATRICULATION | | | | | |
| | 1st YEAR 2011-2012 | 2nd YEAR 2012-2013 | 3rd YEAR 2013-2014 | 4th YEAR 2014-2015 | 5th YEAR 2015-2016 | GRADUATION |
| GATEWAY 2010-2011 COHORT I | 3.04 (<i>n</i> = 32) <i>s.d.</i> = 0.5258 | 3.12 (<i>n</i> = 29) <i>s.d.</i> = 0.45349 | 3.16 (<i>n</i> = 26) <i>s.d.</i> = 0.46339 | AVAILABLE SEPTEMBER 2015 | | |
| International direct | 3.06 (<i>n</i> = 375) <i>s.d.</i> = 0.70958 | 3.14 (<i>n</i> = 333) <i>s.d.</i> = 0.56024 | 3.18 (<i>n</i> = 288) <i>s.d.</i> = 0.50316 | | | |
| Domestic direct | 2.97 (<i>n</i> = 2,751) <i>s.d.</i> = 0.78856 | 3.15 (<i>n</i> = 2,265) <i>s.d.</i> = 0.56312 | 3.22 (<i>n</i> = 2,080) <i>s.d.</i> = 0.49385 | | | |
| All students | 2.98 (<i>n</i> = 3,126) <i>s.d.</i> = 0.78 | 3.15 (<i>n</i> = 2,598) <i>s.d.</i> = 0.56264 | 3.21 (<i>n</i> = 2,368) <i>s.d.</i> = 0.49506 | | | |

| Table 8 Gateway Average & Comparative GPAs | | | | | | |
|-----------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|-------------------|
| | DREXEL MATRICULATION | | | | | |
| | 1st YEAR 2012-2013 | 2nd YEAR 2013-2014 | 3rd YEAR 2014-2015 | 4th YEAR 2015-2016 | 5th YEAR 2016-2017 | GRADUATION |
| GATEWAY 2011-2012 COHORT II | 3.10 (<i>n</i> = 56) <i>s.d.</i> = 0.44855 | 3.14 (<i>n</i> = 54) <i>s.d.</i> = 0.4273 | AVAILABLE SEPTEMBER 2015 | | | |
| International direct | 2.87 (<i>n</i> = 424) <i>s.d.</i> = 0.80557 | 3.04 (<i>n</i> = 358) <i>s.d.</i> = 0.59505 | | | | |
| Domestic direct | 3.04 (<i>n</i> = 2,640) <i>s.d.</i> = 0.72032 | 3.18 (<i>n</i> = 2,283) <i>s.d.</i> = 0.53862 | | | | |
| All students | 3.01 (<i>n</i> = 3,064) <i>s.d.</i> = 0.73464 | 3.16 (<i>n</i> = 2,641) <i>s.d.</i> = 0.54873 | | | | |

Table 9
Gateway Average & Comparative GPAs

| | DREXEL MATRICULATION | | | | | |
|---------------------------------------------|------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|-------------------|
| | 1st YEAR 2013-2014 | 2nd YEAR 2014-2015 | 3rd YEAR 2015-2016 | 4th YEAR 2016-2017 | 5th YEAR 2017-2018 | GRADUATION |
| GATEWAY 2012-2013 COHORT III | 3.08 (<i>n</i> = 45) <i>s.d.</i> = 0.5985 | AVAILABLE SEPTEMBER 2015 | | | | |
| International direct | 2.89 (<i>n</i> = 551) <i>s.d.</i> = 0.8361 | | | | | |
| Domestic direct | 2.88 (<i>n</i> = 2,503) <i>s.d.</i> = 0.8073 | | | | | |
| All students | 2.88 (<i>n</i> = 3,054) <i>s.d.</i> = 0.8124 | | | | | |

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