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Discovering the Benefits of a First-Year Experience Program for At-Risk Students

Quantitative Follow-up Analysis

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Introduction

In 2008-09, Lakehead University undertook a study to examine the effectiveness of its Gateway program, an academic intervention program offered to a select population of incoming students. The Gateway program at Lakehead is designed for students who exhibit academic potential but who do not meet the traditional entrance requirements of the university at the time of application. The program not only provides access to a university education but also provides support for success. The intentional and holistic programming provided to students admitted through the Gateway program includes special academic support programming and mandatory academic advising.

Qualitative analysis conducted in 2008-09 indicated that students found the Gateway program to be helpful in their transition to university. The study revealed that almost all participants felt that at least one component of the Gateway program had contributed to their overall success as a student (Browne & Doyle, 2010).¹ All participants identified the ongoing individual advising sessions as being the most helpful component of the Gateway program. As a follow-up to the study conducted in 2008-09, a quantitative analysis of the success of students admitted to Lakehead University through the Gateway program is conducted five to seven years after entry. The performance of three cohorts of Gateway students – those admitted in 2007, 2008 and 2009 – are analyzed on four success measures: academic average, retention rate from year one to year two, academic eligibility to return, and graduation rate.

The Gateway Program

Lakehead University is a comprehensive university, which offers its 8,600 students a range of undergraduate and graduate programming across ten faculties. The main campus is located in Thunder Bay, Ontario, while the Orillia campus brings the Lakehead University experience to Central Ontario. As a comprehensive university, Lakehead is committed to excellence in teaching and learning. This commitment extends to providing access to a university education to non-traditional students through a series of programs and initiatives.

Lakehead University's Gateway program is one initiative designed to encourage the enrolment of non-traditional² students and students who do not meet the university's traditional entrance requirements but who exhibit academic potential. The Gateway program helps promote success, retention and graduation so that these students may have access to the opportunities and benefits associated with a university education. The program is modelled after first-year experience programs in the United States and is based

¹ The first report on the Gateway program, written by Browne & Doyle, was published by HEQCO in 2010 and can be found at <http://www.heqco.ca/SiteCollectionDocuments/Lakehead%20ENG.pdf>

² For the purposes of this report, non-traditional students include first-generation students, Aboriginals, visible minorities, mature students and students with disabilities. For the purposes of its Multi-Year Accountability Agreements, the Ontario Ministry of Training, Colleges and Universities has focused on Aboriginals, first-generation students and students with disabilities in their definition of non-traditional students.

on the theory that high school marks are not necessarily indicative of a student's ability to be successful in postsecondary studies. Admission criteria for Gateway students evolved over the study years (i.e., 2007-2009) and may have, depending on the year, included a review of applicants' marks, a review of a supplementary application form wherein applicants described why they wanted to attend Lakehead University and how they planned to be successful, and a review of a reference provided by a person who could speak to the applicant's ability to perform at the university level.

The content and structure of the Gateway program was developed using best practices from student retention research. As outlined in the offer of admission, during their first year, students take part in mandatory monthly academic advising sessions, during which they work on transition issues and goal setting. Gateway advisors stay in regular contact with students and act as referral sources, helping connect students to resources like the Student Success Centre and Student Health and Counselling. In the early years of the Gateway program, students were required, in their first year, to successfully complete a special student success course designed specifically for Gateway students. For the 2007 cohort, this course was a graded half-credit seminar course that focused on enhancing critical thinking, writing, research and comprehension skills. For the 2008 cohort, the student success course was modified to provide practical support to students, including study skills, time management, test preparation and personal health and wellness. The course was changed from a half-credit course to a full-year, non-credit course with a pass-fail structure. Attendance was mandatory, forming a major part of the evaluation. In 2009, the course was removed in favour of the completion of five student success seminars.

Methods

Gateway Cohorts

The Gateway cohorts are defined as students admitted to Lakehead through the Gateway program and who remained enrolled at the university for at least eight weeks (until the November 1 official count date). The eight-week enrolment threshold was chosen to ensure that all students tracked by this study had received sufficient exposure to the Gateway program as an intervention. Cohorts were determined using Lakehead University's student information system by identifying students with a Gateway applicant code and cross-referencing Lakehead's official fall enrolment files to ensure that each individual was registered for a minimum of eight weeks. Gateway cohorts ranged in size from 71 students in 2007 to 30 students in 2008.

Success Measures

Four quantitative measures were used to gauge students' success: academic average in year one, retention to year two, academic eligibility to return, and graduation rate. Each of these measures reflects a slightly different aspect of success.

1. Academic grade point average (GPA) in year one provides a measure of the level of academic success or difficulty students experience while enrolled in the Gateway program. The literature shows that first-year GPA is correlated with degree completion (e.g., Chen, 2005). The mean cohort GPA is reported, as is the median.
2. Retention rates are a common measure of success in postsecondary education. Retention to year two is measured as the proportion of individuals in each cohort who return to Lakehead University the following fall, whether full-time or part-time. Retention is a function of a student being academically eligible to return to studies, as well as whether the student chooses to return. Retention to year two is an important measure as retention rates are typically lower between years one and two than between any two other years (Grayson & Grayson, 2003; Tinto, 1993).
3. Academic eligibility to return after first year is used as a third measure of success. By isolating the academic eligibility function of retention we remove some of the external factors affecting the retention rate. Research shows that non-traditional students are more likely to face external barriers to continuation in postsecondary education such as family and financial circumstances (e.g., Engle & Tinto, 2008). Browne and Doyle (2010) found that family and employment are common barriers to academic endeavours for Gateway students.
4. Finally, graduation rates of those who were admitted via the Gateway program are also examined, as graduation and the completion of a credential are considered the ultimate measure of success in postsecondary education. In Ontario, the graduation rate is tracked as one of the government's required Key Performance Indicators (Ministry of Training Colleges and Universities, 2015). Sufficient time has passed to calculate the six-year graduation rate for only the 2007 and 2008 Gateway cohorts.

Comparison with non-Gateway Students

For comparative analysis, students admitted into each of the Gateway cohorts were compared with a control group of students who were not admitted through the Gateway program. Forty students were selected for each comparison cohort using random, stratified sampling to ensure similar proportions of mature students³, male students⁴ and part-time students in order to control for any effects these factors may have.

³ Mature students were defined as those over the age of 20 on September 1 of the year in question.

⁴ In the 2007-2009 cohort years, the Gateway population had a larger proportion of males than did the overall undergraduate student population. Lakehead has typically seen a difference in retention rates between males and females. For the 2007-2009 academic years, the retention of first-time, full-time freshman males at Lakehead University exceeded that of first-time, full-time freshman females.

Results

Academic Average

After their first year at Lakehead, the mean year one grade point average (GPA) for each of the Gateway cohorts ranged from 56% to 59%, or a D (see Table 1).⁵ The median year one GPA in each of these three cohorts was also D, with the exception of the 2007 cohort where the median year one cohort GPA was 63% or a C. In many faculties at Lakehead University, a grade point average of D is sufficient to proceed to the next level of a program provided an average of C is obtained in courses in the student's major.

Compared to the comparison cohorts, the Gateway cohorts had slightly lower mean and median cohort GPAs, ranging from 1% to 3% lower. Note that in 2007-08 the mandatory Gateway student success course was a graded course and that the content and difficulty of this course may have had an impact on the students' averages. 2007-08 was the only year the Gateway course was graded; in 2008-09 the course was pass/fail and therefore did not affect grade point average, while in 2009-10 the Gateway students did not have to attend a scheduled course but instead were required to complete a series of five student success modules (for no academic credit).

Table 1: Mean and Median Year One Grade Point Averages (GPA) of the Gateway and Comparison Cohorts

| Cohort | Gateway GPA | | | Comparison GPA | | |
|--------|--------------|------|--------|----------------|------|--------|
| | Sample size | Mean | Median | Sample size | Mean | Median |
| 2007 | <i>N</i> =71 | 59% | 63% | <i>N</i> =40 | 62% | 64% |
| 2008 | <i>N</i> =30 | 58% | 59% | <i>N</i> =40 | 60% | 61% |
| 2009 | <i>N</i> =38 | 56% | 58% | <i>N</i> =40 | 58% | 60% |

Retention

Retention of students in the three Gateway cohorts ranges from a high of 80% for the 2008 cohort to a low of 68% for the 2009 cohort (Table 2). In two of the three years studied, the Gateway cohorts averaged a lower retention rate than their comparison cohorts. In 2007 the retention rate of the Gateway cohort into year two was 12% lower than the comparison cohort, while in 2009 it was 20% lower. In 2008 the retention rate of the Gateway cohort into year two was slightly higher than the comparison cohort at 80% versus 78%.

⁵ At Lakehead University 50%-59% equals a D and 60-69% equals a C.

Table 2: Year One to Two Retention Rates of the Gateway and Comparison Cohorts

| Cohort | Gateway | | Comparison | |
|--------|-------------|----------------|-------------|----------------|
| | Sample size | Retention Rate | Sample size | Retention Rate |
| 2007 | N=71 | 73% | N=40 | 85% |
| 2008 | N=30 | 80% | N=40 | 78% |
| 2009 | N=38 | 68% | N=40 | 88% |

The retention rate measure seems to reflect a lower success rate for Gateway students than for their comparison cohort counterparts. However, using retention rates to compare the success of the Gateway cohorts and the Comparison cohorts may not be as fair a comparison as originally thought. First off, students admitted through the Gateway program may be negatively influenced by external factors such as personal issues, family issues, disabilities and/or dependencies that can play a role in whether the student chooses to return to studies in year two (see Browne & Doyle, 2010). Many Gateway students are classified as at-risk students who, without the Gateway program, would not have been eligible to engage in university studies. The fact that these students are continuing on for a second year of their academic program at rates upwards of 80% suggests that the Gateway program has helped them overcome some of the challenging factors they may have faced.

Secondly, students who are regularly admitted to Lakehead University and who fail to meet the required GPA for year-to-year continuation in their first year are usually allowed to continue in their program under a ‘probation’ status. However, students admitted through Gateway are already considered to be on ‘probation’ during their Gateway year, meaning that they are not eligible to continue in their university studies if they fail to meet the year-to-year continuation GPA. This is a key difference between the students in the comparison cohorts, who would have the option to return the following year on probation, and the Gateway students, who did not have that option. This difference will negatively skew the retention rates of Gateway students. Working with their advisors, Gateway students not meeting continuation requirements received additional coaching around exploring their aspirations, including whether other educational pathways would be more appropriate for achieving success.

Academic Eligibility to Return

Academic eligibility to return is the first component of retention. Isolating academic eligibility removes some of the external confounding factors that affect the retention rate. Since Gateway students tend to be disproportionately influenced by external factors, examining eligibility helps assess whether the Gateway program is helping students to succeed even if they may not be able to or choose not to continue their studies because of external factors.

A higher proportion of Gateway students are academically eligible to return for a second year (Table 3) than those who actually do choose to return to studies (retention rate). The proportion of Gateway students eligible to return for a second year ranged from 82% in 2009 to 93% in 2008 (see Table 3). Eligibility to return was lower than for the comparison cohorts, a fact that may be partially explained by the possibility for comparison cohort students to continue on probation status as explained above. For this reason, eligibility to return may not be a fair indicator to use for this comparison. Insufficient data exist to further explore this indicator by trying to control for these different standards and more research is required. Taking the different standards into account when considering the difference in retention rates and academic eligibility to return rates between the Gateway and comparison cohorts, we could conclude that Gateway students performed quite well and that the variances between the two groups are explainable.

Table 3: Proportion of each of the Gateway and Comparison Cohorts that were Academically Eligible to Return to Lakehead

| Eligible to Return in Second Year Cohort Year | Gateway | | Comparison Cohort | |
|--|-------------|----------|-------------------|----------|
| | Sample size | Eligible | Sample size | Eligible |
| 2007 | <i>N=71</i> | 85% | <i>N=40</i> | 93% |
| 2008 | <i>N=30</i> | 93% | <i>N=40</i> | 93% |
| 2009 | <i>N=38</i> | 82% | <i>N=40</i> | 90% |

Graduation

Fifty-one per cent of individuals enrolled in the 2007 Gateway cohort and 43% of individuals enrolled in the 2008 Gateway cohort had received a degree within six years of enrolment (Table 4). These numbers are similar to the 48% of the 2007 comparison cohort and 50% of the 2008 comparison cohort who had also received a degree within six years. While not enough time has passed to calculate the six-year graduation rate for the 2009 cohorts, based on the five-year graduation rate the 2009 Gateway cohort is achieving a higher success rate (as measured by graduation) than its comparison cohort.

Table 4: Six-Year Graduation Rates of the Gateway and Comparison Cohorts

| Six-year Graduation Rate Cohort | Gateway | | Comparison Cohort | |
|------------------------------------|-------------|-----------------|-------------------|-----------------|
| | Sample size | Graduation Rate | Sample size | Graduation Rate |
| 2007 | <i>N=71</i> | 51% | <i>N=40</i> | 48% |
| 2008 | <i>N=30</i> | 43% | <i>N=40</i> | 50% |
| 2009 | <i>N=38</i> | 5 year = 45% | <i>N=40</i> | 5 year = 40% |

Despite the three early indicators (year one GPA, retention to year two and academic eligibility to return) showing lower success, the Gateway cohorts examined here did appear to reach graduation rates at similar levels as their comparison cohorts. Although not explicitly part of this study, year-to-year retention rates after year two were explored. Year-to-year retention after year two appears to be higher for Gateway cohorts than for comparison cohorts, allowing the Gateway cohorts to reach a six-year graduation rate similar to those of the comparison cohorts.

This evidence suggests that the added supports and academic skills students developed through the Gateway program may have better equipped these ‘at-risk’ students to reach graduation at a rate similar to or even higher than the comparison group.

Limitations

Caution must be used when drawing generalized conclusions from these data since the sizes of both the comparison and Gateway cohorts are small. Gateway cohorts range in size from 71 students in 2007 to 30 students in 2008; comparison cohorts contain 40 students each year. In addition, despite attempts to control for external variables, a difference exists between the Gateway and comparison cohorts in terms of admission GPA. By definition, the Gateway cohorts exhibited a slightly lower admission GPA (65%-66.9%) than the comparison cohorts (67%-69.9%). This is an important factor to consider as research shows a link between admission requirements, high school averages and success rates (e.g., Finnie & Qiu, 2008). Furthermore, researchers were not able to control for range of program mix between the Gateway and comparison cohorts, nor were they able to control for disability status.

Despite the range of indicators presented here, it should be noted that all are geared toward a narrow definition of success: completion of a postsecondary credential. In the initial study of the Gateway program, several students indicated that their Gateway year was a success for non-academic reasons, such as helping them gain personal insight (Browne & Doyle, 2010). Alternate definitions of success such as this must not be discounted in the overall evaluation of the Gateway project.

Discussion

Lakehead University’s Gateway program remains a flagship access program that provides students with the opportunity to engage in university studies and to achieve their educational aspirations.

The Gateway program has evolved since this project was initiated due in part to the findings of the qualitative study (Browne & Doyle, 2010). There is no longer a mandatory Gateway course as was the case in 2007-08 and 2008-09, since the qualitative analysis indicated that students did not perceive the course to be particularly helpful. Instead, students who are now admitted to Lakehead University via the Gateway program are required to attend a series of Skills for Success seminars and must meet with a student success advisor on a regular basis for ongoing support and coaching.

As a result of positive feedback on the benefits of the support services and advising, the Gateway program has been expanded to include all students with entering averages below 70%, not just those with entering averages of 65%-66.9% as was the case with the three cohorts studied here. This expansion of intentional advising and supports ensures that these students who are 'at-risk' or on the cusp of becoming so forge connections with advisors early on in their academic career and can benefit from early intervention supports.

Lakehead continues to evaluate the Gateway program on an ongoing basis. Some questions that warrant further exploration include:

1. In the qualitative part of the study, students indicated that one-on-one advising was the most effective aspect of the Gateway program. Are similar advising supports indicated for year two and beyond?
2. Should additional support be mandated for all Gateway students beyond year one? What balance should be struck between the provision of ongoing supports and services and focusing on developing resilience and 'grit' in students so they become independent learners?

With answers to these and other questions, the Gateway program can continue to evolve to assist students in realizing their potential.

Conclusion

Lakehead University's Gateway program provides an exciting opportunity for students who would not otherwise be eligible for admission to university to embark on the pursuit of a university education. While students admitted to Lakehead University's Gateway program did not achieve the same early rates of success as students in the comparison cohorts, those who persisted in their studies appear to achieve graduation at similar rates.

While attempting to define and measure 'success' for such an access program is challenging, when one looks holistically at both the quantitative and qualitative data, the Gateway program can and has been considered to be a success. Success is measured in terms of both a student's academic achievements and in their personal growth and development.

The 'at risk' students enrolled in the Gateway Program often faced complex challenges and pressures of both an academic and personal nature. The Gateway program seeks to support students in overcoming these challenges. For the 67 students from the three cohorts who have thus far graduated with their bachelor's degree, the Gateway program was instrumental in contributing to their success. In the end, for each student who achieves a moment of personal discovery, comes to realize their true potential or eventually crosses the convocation stage to receive their degree, their journey through Gateway may be deemed a success.

References

- Browne, S., & Doyle, H. (2010). *Discovering the Benefits of a First-Year Experience Program for Underrepresented Students: A preliminary assessment of Lakehead University's Gateway program*. Toronto: Higher Education Quality Council of Ontario.
- Chen, X. (2005). *First-Generation Students in Postsecondary Education: A Look at their College Transcripts*. Washington, DC: National Center for Education Statistics.
- Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first generation students*. Retrieved from <http://www.pellinstitute.org>
- Finnie, R., & Qui, H. T. (2008). 'Is the Glass (or Classroom) Half-Empty or Nearly Full? New Evidence on Persistence in Post-Secondary Education in Canada'. In R. Finnie, R. E. Mueller, A. Sweetman & A. Usher (eds.), *Who goes? Who stays? What matters? Accessing and Persisting in Post-Secondary Education in Canada* (pp. 179-207). Montreal & Kingston: Queen's University Press.
- Grayson, P., & Grayson, K. (2003). *Research on Retention and Attrition*. Montreal: Canada Millennium Scholarship Foundation.
- Ministry of Training Colleges and Universities (2015). Graduation, Job and Canada-Ontario Integrated Student Loan (COISL) default rates. Retrieved from <http://www.tcu.gov.on.ca/pepg/programs/osaprates/>
- Tinto, V. (1993). *Leaving College: Rethinking the causes and cures of student attrition*. Second ed. Chicago, IL: University of Chicago Press.



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