



Executive Summary

Foundations for Success:
[Short-Term Impacts Report]



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**Foundations for Success:
Short-Term Impacts Report
(Executive Summary)**

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EXECUTIVE SUMMARY





Introduction

Foundations for Success (FFS) is a pilot project sponsored by the Canada Millennium Scholarship Foundation (hereafter “the Foundation”) and launched in partnership with Confederation College, Mohawk College and Seneca College. It aims to test whether case manager-mediated access to a combination of academic support, career clarification, mentoring and financial incentives increases the likelihood that students deemed at risk of dropping out of college will persist and successfully complete their studies.

The primary research questions are:

- Do case manager-mediated support services increase the probability of completing a college program?
- Do financial incentives in combination with case manager-mediated support services increase the probability of completing a college program?

This report presents the short-term results of the *FFS* project. It summarizes the impact to date in terms of participation in related activities, academic performance and retention in college programs after approximately one year.

There are two key innovative features of *FFS*. The first is the use of post-admissions language proficiency testing and a survey to identify at-risk students and then, based on their responses, encouraging them to access existing support services. The second is a one-on-one case management approach to advising identified at-risk students and supporting them during a two-year period. This involves encouragement, acknowledgment of students’ needs and challenges and redirection to appropriate college services.

The evaluation method used for *FFS* is that of a social experiment based on the random assignment of participants into program and control groups. Randomized experiments are recognized as the most effective tool for determining causal relationships between success strategies and outcomes. Randomization theoretically ensures that there are no systematic differences between the program and control groups before the intervention starts; as a result, any observed differences between the groups can be attributed to the intervention itself.

Readers wishing more information about the *FFS* project and how it was implemented should refer to the early implementation report.¹

¹ R.A. Malatest & Associates Ltd. (2009). *Foundations for Success: Early Implementation Report*. Montreal: Canada Millennium Scholarship Foundation.

The Policy Context

While enrolment is increasing at many post-secondary institutions, this fact masks a common problem: the high proportion of students who drop out of their program of study. Research has addressed the many reasons why students drop out of college, but few initiatives have identified these students before they leave and implemented intervention strategies to assist them.

According to Colleges Ontario, approximately 35 percent of students in the province's colleges do not graduate from their program of study.² There are both financial and human costs for students, taxpayers and institutions associated with this attrition. For institutions, these include lost tuition and fees; for individuals, there is a potential loss of employment prospects and earning potential.

Description of Program Groups

Eligible students who consented to participate in *FFS* and who met all of the project criteria were randomly assigned to one of the following three groups:

- **Services Group:** These students were assigned a case manager and directed to complete 12 hours of approved activities related to their individual at-risk factors. If students completed 12 hours of activities over two consecutive semesters, the college provided them with a certificate of achievement.
- **Services Plus Group:** As in the Services Group, these students were assigned a case manager and expected to complete 12 hours of activities related to their individual at-risk factors. In addition, if students completed the 12 hours of activities, obtained a 2.0 GPA and were eligible to continue in a full-time program, they received an *FFS* fellowship worth \$750 at the start of the following semester.
- **Control Group:** Students could access regular services available on campus but were not assigned a case manager or eligible for an *FFS* fellowship.



² Based on Colleges Ontario data (see [http://www.collegesontario.org/client/collegesontario/colleges_ontario_lp4w_lnd_webstation.nsf/resources/2007KPI/\\$file/2007_KPI_ENGLISH.pdf](http://www.collegesontario.org/client/collegesontario/colleges_ontario_lp4w_lnd_webstation.nsf/resources/2007KPI/$file/2007_KPI_ENGLISH.pdf)).

Description of Support Services and Interventions

The types of activities completed by students in *FFS* depended on their risk profile, as determined during the recruitment phase by their completion of an Accuplacer® assessment and a FastTrack™³ survey.

Students with post-admission language assessment results below the college's expected level of English proficiency were placed in a developmental English/communications course. Case managers encouraged such students in the Services and Services Plus Groups to undertake one-on-one language peer tutoring and related academic support. Specifically, they were asked to complete a minimum of four hours of English/communications tutoring in Semester 1 and to continue until they successfully completed the developmental courses.

Answers given on the FastTrack™ survey indicated whether students self-identified as someone who would benefit from a mentor (e.g., if they were unable to integrate into the college community). If this was the case, students were assigned a mentor and expected to meet with him or her for at least one hour during Semester 1.

Four questions from FastTrack™ were used to determine whether students were uncertain about their careers. If their score on these four questions was within a specified range, they were directed to participate in career clarification activities over two semesters, including: two career workshops; an interest inventory; a personality test; and a follow-up meeting with a career counsellor.

The major components of the project are summarized in the table below.

Major Components of *FFS*

Component	Objective	Participation Requirement: Semester 1	Participation Requirement: Semester 2
Case Management	To enhance student interaction with campus personnel and connect students to various on-campus services and extracurricular activities.	2 hours	2 hours
Tutoring	To enhance students' academic competence in areas such as reading and writing.	4 hours	4 hours*
Career Clarification Workshops	To help students think about their professional futures and begin to develop career plans.	7 hours	4 hours
Mentoring	To establish peer relations and help with the transition into college.	1 hour	N/A
Student Engagement Activities	To engage students in the college community.	Consultation with case manager	Consultation with case manager

* If students successfully completed a developmental English/communications course, they were not required to continue to participate in language tutoring.

3 FastTrack™ is a student tracking data system. It is comprised of two surveys: the Partners in Education Inventory (PEI) and the Student Experience Survey (SEI).

Data Sources

This analysis looks at students in Cohort 1 (randomized in summer and fall 2007) and Cohort 2 (randomized in winter 2008). Cohort 1 students in the two program groups were expected to receive services over two academic years (2007-08 and 2008-09).

The primary impacts of interest are assessed in this report using interim administrative data provided by Mohawk College, Confederation College and Seneca College in November 2008. Some data from the Partners in Education Inventory (PEI) section of the FastTrack™ survey are also used here, including demographic information collected at the time of student enrolment, such as first language, income, gender and parental education. Data from the Year 1 student survey completed with Cohort 1 between April and July 2008 are also analyzed.

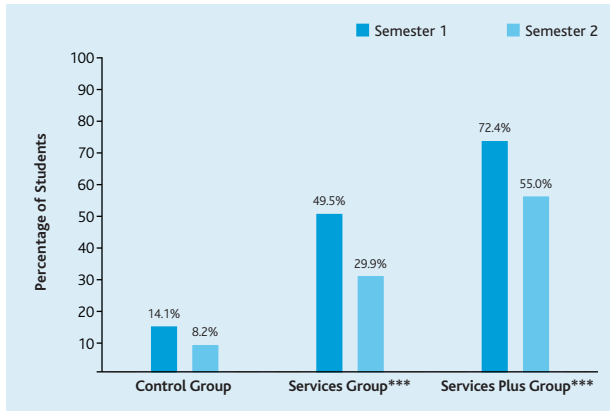
Short-Term Impacts of Foundations for Success

PARTICIPATION IN FOUNDATIONS FOR SUCCESS

Services and Services Plus students were significantly more likely to undertake tutoring, mentoring and other *FFS*-related activities than were their counterparts in the Control Group, as shown in Figure 1. Participation levels for Services Plus students were also significantly higher than those of the Services students. This suggests that, overall, the availability of the *FFS* fellowship was effective in generating a higher level of participation in activities designed to help students complete their college program.



Figure 1: Participation in FFS-Related Activities by Semester



Source: 2008 college administrative data
n = 2,008

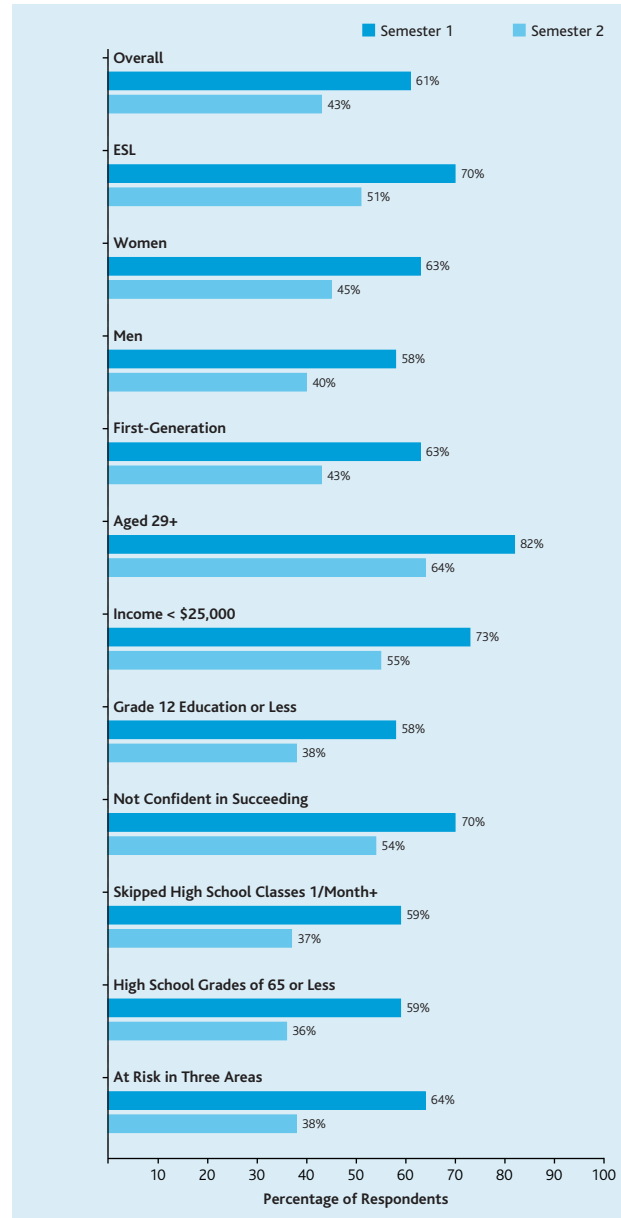
Statistically significant levels are indicated as:
* = 10 percent; ** = 5 percent; *** = 1 percent. Comparisons are made between the Services and Control Group and the Services Plus and Services Group.

With respect to language tutoring, only 6.0 percent of Services Group students deemed to require language tutoring met the participation threshold of four hours in Semester 1, compared to 28.4 percent of Services Plus students. Similarly, 47.6 percent of Services Plus students deemed to need mentoring met the participation threshold in Semester 1, compared to 24.4 percent of Services students. Finally, 39.1 percent of Services Plus students deemed to need career counselling met the participation threshold in Semester 1, compared to 12.5 percent of Services students. Participation levels in Semester 2 showed a similar pattern to those in Semester 1, with at-risk students in the Services Plus Group being more likely to meet participation thresholds for language tutoring (18.6 percent) and career counselling (18.5 percent) than were those in the Services Group (3.8 and 3.1 percent, respectively).

PARTICIPATION IN FOUNDATIONS FOR SUCCESS BY SUBGROUP

Participation levels were higher than average for students whose first language was not English, women, first-generation students, students aged 29 or older, low-income students, students who were not confident in succeeding in college and students deemed to be highly at risk not to complete college.

Figure 2: Participation in FFS-Related Activities by Semester by Subgroup



Source: 2008 college administrative data and PEI data
n = 1,309

Student Engagement and Academic Performance

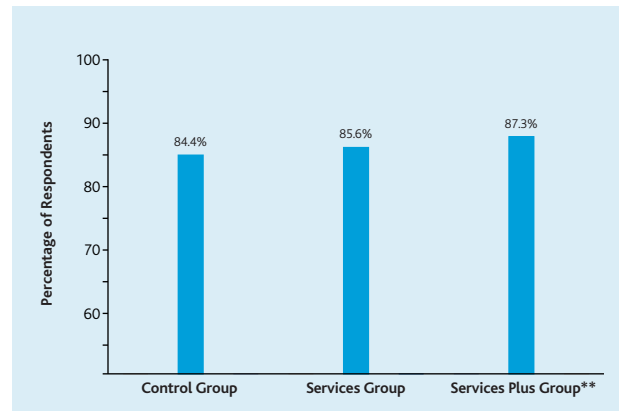
Tinto's Theory of Student Departure⁴ and Bean's Student Attrition Model,⁵ among others,⁶ hypothesize that student engagement and academic performance influence a student's decision to leave or stay in school. Student engagement-focused retention programs such as *FFS* are based on the assumption that students engaging in case management would be empowered to participate in all kinds of college and program activities, including academic activities. These academic-focused activities would improve competencies in areas such as reading, writing and mathematics. Retention is at the heart of *FFS*: the more engaged students are, the more competent they are, the better their performance and the greater the likelihood of their staying in school.⁷ Analyzing differences in academic performance between the Control, Services and Services Plus Groups therefore should provide key information in terms of predicting students' ultimate retention and graduation rates.

The results of the evaluation to date strongly support the idea that *FFS* is strengthening students' academic ability to succeed in college. The following sections document the academic improvement in the *FFS* program groups.

ENGLISH/COMMUNICATIONS COURSES

Students in the Services Plus Group were significantly more likely to pass a required developmental English/communications course (87.3 percent) than were Control Group students (84.4 percent). This impact is also consistent with the earlier finding that Services Plus students were significantly more likely to participate in language tutoring activities, even compared to the Services Group. The rate at which Services Group students passed English/communications courses, however, was not significantly higher than the rate for the Control Group.

Figure 3: Students Passing English/Communications Courses in at Least One Semester



Source: 2008 college administrative data

n = 1,203 (students enrolled in English/communications classes)

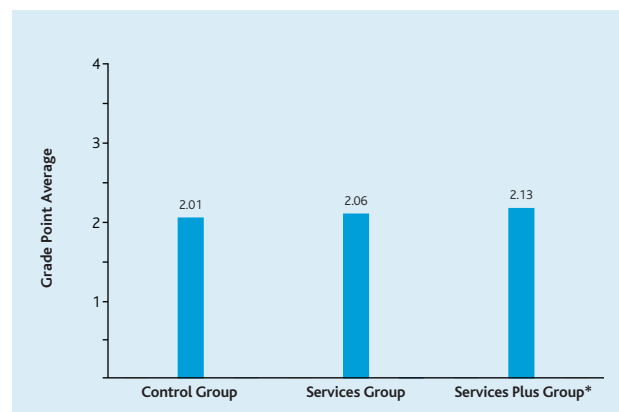
Statistically significant levels are indicated as:

* = 10 percent; ** = 5 percent; *** = 1 percent. Comparisons are made between the Services and Control Group and the Services Plus and Control Group.

GRADE POINT AVERAGE IN SEMESTER 1

The Semester 1 grade point average (GPA) in the Services Plus Group (2.13) was significantly higher than the Semester 1 GPA of Control Group students (2.01). In particular, Services Plus students whose reported family income was less than \$25,000 and female students had significantly higher GPAs than did similar students in the Control Group. Also, students whose first language was not English had a significantly higher Semester 1 GPA than did similar students in the Control Group.

Figure 4: Grade Point Average in Semester 1



Source: 2008 college administrative data

n = 2,008 (missing GPAs were inputted using a regression model)

Statistically significant levels are indicated as:

* = 10 percent; ** = 5 percent; *** = 1 percent. Comparisons are made between the Services and Control Group and the Services Plus and Control Group.

4 Tinto, V. (1975). "Dropout from Higher Education: A Theoretical Synthesis of Recent Research." *Review of Educational Research* 45 (1): 89-125.

5 Bean, J.P. (1980). "Dropouts and Turnover: The Synthesis and Test of a Causal Model of Student Attrition." *Research in Higher Education* 12 (2): 155-187.

6 Cabrera, A.F., Castaneda, M.B., Amaury, N., & Hengstler, D. (1992). "The Convergence between Two Theories of College Persistence." *The Journal of Higher Education* 63 (2): 143-164.

7 Adelman, C. (1999). *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*. Washington, DC: U.S. Department of Education.

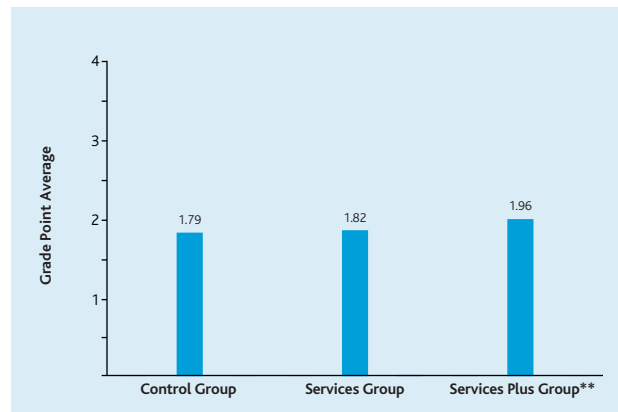


GRADE POINT AVERAGE IN SEMESTER 2

The average GPA in Semester 2 for the Services Plus Group (1.96) was significantly higher than that for the Control Group (1.79). As a result, it appears that at least in Semester 2, the *FFS* project was effective in improving students' academic performance. If academic performance is related to retention, then it should be expected that students in the Services Plus Group will eventually have a higher level of retention than those in the Control Group.

Among the various Services Plus subgroups, academic performance was significantly better than the average for women, low-income students, students who were not confident in succeeding in college and students with high school grades of 65 or less.

Figure 5: Grade Point Average in Semester 2



Source: 2008 college administrative data

n = 2,008; (missing GPAs were inputted using a regression model)

Statistically significant levels are indicated as:

* = 10 percent; ** = 5 percent; *** = 1 percent. Comparisons are made between the Services and Control Group and the Services Plus and Control Group.

MANDATORY WITHDRAWAL

Mandatory withdrawal, here defined as withdrawal from a program at the college's request due to academic reasons, can also be considered an academic-related outcome. Students in the Services and Services Plus Groups had significantly lower rates of mandatory withdrawal (8.3 and 6.3 percent, respectively) in comparison to the Control Group (11.1 percent). Of particular interest is the fact that students whose first language is not English, low-income students, female students, first-generation students and students at risk in multiple areas (language skills, career clarity and need for mentoring) were the subgroups most likely to benefit from *FFS* interventions. It is also notable that 23.1 percent of Control Group students who reported high school grades of 65 or less at baseline had withdrawn at the request of the college by fall 2008, compared to approximately 12 percent of similar students among the Services and Services Plus Groups.

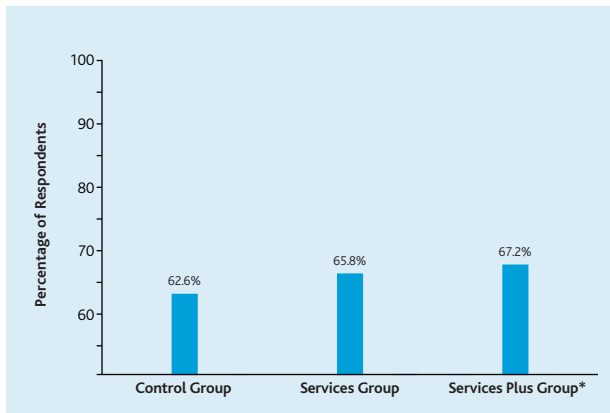
Retention in College

The analysis in this report is based on fall 2008 data. As a result, the discussion of retention in this section is based on Cohort 1 data that document retention one year after studies began. As of fall 2008, the data for Cohort 2 showed retention in college for one semester only and therefore are not considered here.

It should be noted that the Cohort 1 data as of fall 2008 represent a snapshot of retention at a specific point in time. Analysis of student retention indicated that there was some movement away from and back to colleges over time. For example, some students who were not enrolled in the summer semester in 2008 were enrolled again in fall 2008. As a result, it is possible that some students not enrolled in fall 2008 may return to college later on in 2009. These results should thus be interpreted with caution.

Cohort 1 students in the Services Plus Group were significantly more likely to be still enrolled in college as of fall 2008 in comparison to the Control Group: 67.2 percent of the former were still in college versus 62.6 percent of the latter.

Figure 6: Retention as of Fall 2008 (Cohort 1 Only)



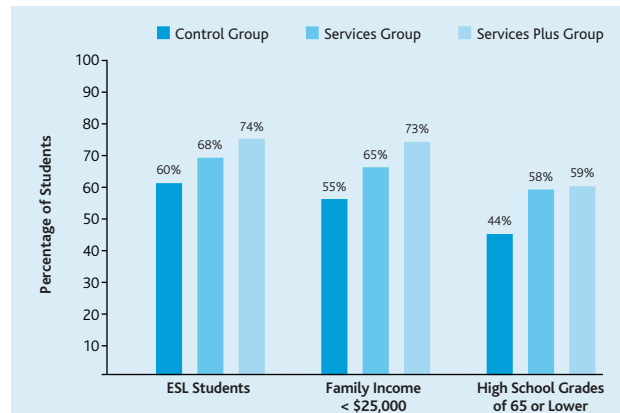
Source: 2008 college administrative data
n = 1,711

Statistically significant levels are indicated as:
* = 10 percent; ** = 5 percent; *** = 1 percent. Comparisons are made between the Services and Control Group and the Services Plus and Control Group.

The impacts of the interventions were more pronounced among various high-risk groups, including:

- **Students reporting a family income of less than \$25,000:** Both the Services and Services Plus Groups showed a significantly higher retention rate compared to the Control Group (73 percent retention rate in the Services Plus Group and 65 percent in the Services Group versus 55 percent in the Control Group).
- **Students reporting high school grades of 65 or less:** Both the Services and Services Plus Groups had a significantly higher retention rate compared to the Control Group (59 percent retention rate in the Services Plus Group and 58 percent in the Services Group versus 44 percent in the Control Group).
- **English as a second language (ESL) students:** The Services Plus Group retention rate was higher than that of the Control Group (74 percent versus 60 percent). The comparison was not statistically significant, however.

Figure 7: Retention as of Fall 2008 by Subgroup (Cohort 1 Only)



Source: 2008 college administrative data
n = 1,711 (Cohort 1 only)

Student Confidence

It was initially hypothesized that the *FFS* project would improve students' self-confidence, particularly first-generation students for whom the transition to college is not a normal or expected rite of passage. Moreover, the mentoring component of the project was expected to result in positive interactions outside of the classroom, thereby influencing students' development and confidence. However, analysis of students' confidence (based on whether or not they would continue with their studies in the following semester) revealed no differences between the Control Group and the two program groups, either overall or for specific at-risk subgroups such as first-generation students.

Employment

It was hypothesized that students in the Services Plus Group would face fewer financial challenges and have to work less than students in the Services and Control Groups due to receiving the *FFS* fellowship. However, there were no differences between the Services Plus Group and the other two groups in terms of the reported number of hours worked.



Impacts by Subgroup

A number of particular subgroups benefited from the *FFS* project. Most notably, statistically significant outcomes were found for the groups below.

LOW-INCOME STUDENTS

A 2005 report found that young people from lower-income families have less access to post-secondary education and that their access decreases as tuition costs increase.⁸ Over 70 percent of low-income Services Plus students (i.e., those with family incomes of less than \$25,000) were still in college as of fall 2008, compared to 55.4 percent of similar students in the Control Group. The impact of Services Plus interventions was most pronounced among low-income students, suggesting that they may be among the most responsive to financial incentives coupled with student support. Low-income Services Plus students benefited academically as well, with a Semester 1 GPA that was 19 percentage points higher than that of the Control Group and a Semester 2 GPA that was 24 percentage points higher.

HIGH SCHOOL PERFORMANCE

High school grades are a strong indicator of whether a student will complete post-secondary education. For example, the *Class of 2003* report noted that respondents with reported grades of 80 percent or higher were unlikely to report academic difficulties in gaining access to a post-secondary program. More telling is the percentage of respondents with lower grades who reported having difficulties meeting entrance or program requirements. Almost one-half of respondents with reported grades of less than 60 percent and 27 percent of respondents with grades in the “C” range (i.e., 60 to 69 percent) reported academic difficulties in gaining entry to or continuing PSE.⁹ Other reports look at the link to persistence rates by high school grade. For example, using the *Youth in Transition Survey*, Bushnik, Barr-Telford and Bussière confirmed that experience and performance in high school strongly influence whether students will drop out of a post-secondary program.¹⁰

The data to date indicate that the *FFS* project has been somewhat successful in counteracting the challenges faced by this group. Specifically, 58.7 percent of Services Plus students with high school grades of 65 or less remained in college as of fall 2008, compared to 44.2 percent of similar Control Group students. Services Plus students with lower high school grades also appeared to benefit academically from the program; these students achieved a Semester 2 GPA of 1.66 versus 1.33 for similar students in the Control Group, a statistically significant difference of 25 percent.



LANGUAGE CHALLENGES

Research shows that between 30 and 40 percent of all entering first-year students are unprepared for college-level reading and writing, and approximately 44 percent of all college students who complete a two-year degree enrol in at least one developmental course in math, writing or reading. Butlin found that high school graduates who failed English/French literature had lower odds of participating in post-secondary education.¹¹ In this report, students who were at risk specifically due to a lack of language proficiency (in particular, students whose first language was not English) are considered separately from those who were at risk for not completing college.

In *FFS*, those students whose first language was not English and who were assessed as at risk due to a need for language tutoring were most likely to benefit from language tutoring support. Almost 90 percent of ESL students in the Services Plus Group passed an English/communications class, compared to 80.2 percent of similar students in the Control Group. ESL students in the Services Plus Group were more likely to remain in college as of fall 2008 (73.5 percent) than were those in the Control Group (59.6 percent), a 23 percent improvement. Importantly, ESL students in the Services Plus Group had far lower mandatory withdrawal rates (6.8 percent) than did those in the Control Group (16.2 percent), again suggesting that the higher retention rate in this group is linked to improved academic performance.

8 De Broucker, P. (2005). "Getting There and Staying There: Low-Income Students and Post-Secondary Education." *Canadian Policy Research Networks*. Ottawa: Human Resources and Skills Development Canada and Alberta Human Resources and Employment.

9 R.A. Malatest and Associates (2007). *Class of 2003: High School Follow-up Survey*. Montreal: Canada Millennium Scholarship Foundation.

10 Bushnik, T., et al. (2004). *In and Out of High School: First Results from the Second Cycle of the Youth in Transition Survey, 2002*. Education, Skills and Learning Research Paper No. 014, Catalogue no. 81-595. Ottawa: Statistics Canada.

11 Butlin, G. (1999). "Determinates of Post-Secondary Participation." *Education Quarterly Review* 5 (3).

Conclusions

It is still too early to conclude that the *FFS* project has improved retention at Confederation College, Mohawk College and Seneca College, but the results so far are encouraging. Students in the Services Plus Group were significantly more likely to remain enrolled in college as of fall 2008. Specifically, 67.2 percent of Services Plus students were still enrolled at that time, compared to 62.6 percent of the Control Group.

The findings from this study suggest that participation matters. The data show that participation patterns are strongly related to *FFS* impacts. Moreover, the fellowship offered to the Services Plus Group increased participation in the activities designed to help students succeed in college: 72 percent of Services Plus students participated in *FFS* activities in Semester 1, compared to 49.5 percent of Services Plus Group students (55 versus 29.9 percent in Semester 2). As a result, it seems that the fellowship has been successful in inducing students to be more involved in tutoring, mentoring and other student support services.

Overall, the Services Plus Group showed the following key impacts:

- **Better academic performance:** The GPA for Services Plus students was significantly higher in Semesters 1 and 2 than it was for those in the Control Group. The improvement in Semester 1 GPA due to Services Plus interventions was smaller (six percent difference between Services Plus and Control Group) than the improvement in Semester 2 (nearly 10 percent), suggesting a stronger benefit over time for Services Plus students.
- **Higher retention in college:** Among Services Plus students, 67.2 percent were still enrolled in college as of fall 2008, compared to 62.6 percent of the Control Group. Adjusting for the students who did not participate in any *FFS* activities, the effect of the Services Plus intervention is a 6.4 percentage point increase in retention one year into college.

The challenge for future semesters will be to increase participation in *FFS*-related activities. The fellowship appeared to increase uptake of activities for the Services Plus Group. However, even without the fellowship, the Services Group may in future show similar impacts if case managers are more successful at encouraging students to undertake critical activities such as tutoring, mentoring and career clarification.

About the Final Research Report

During the course of the project, R.A. Malatest & Associates Ltd. provides the Foundation with regular progress evaluations. These updates take the form of both written and verbal reports summarizing the activities completed to date and any issues that may arise.

In addition to this short-term impacts report, R.A. Malatest & Associates Ltd. will produce a final research report. Due in early 2010, it will summarize the intermediate and final impacts of *FFS* as of fall 2009 and incorporate interim findings from a third cohort of students recruited in fall 2008. Project participation data, administrative data, student surveys and other data obtained during the course of the project will be linked in order to evaluate impacts. The focus will be on answering the research questions presented in this report, including the effectiveness and efficiency of case manager-facilitated access to services in terms of improving the persistence rates of students deemed at risk of not completing their program of study. The final report will also provide a cost-benefit analysis of *FFS*.

