Project Number: 2015-02

Northern College
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NORTHERN COLLEGE
MEASURING THE COST OF CREDIT TRANSFER AT SMALL COLLEGES

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NORTHERN COLLEGE IN PARTNERSHIP WITH ONCAT

MARCH 2016

Acknowledgements

Northern College extends our sincerest thanks to ONCAT for financial support for this study. We would also like to acknowledge our partner institutions who so graciously gave of their time and knowledge to help us compile this information:

Cambrian College

Canadore College

Collège Boréal

Confederation College

Georgian College

Lambton College

Sault College

Measuring the Cost of Credit Transfer

EXECUTIVE SUMMARY:

Unique challenges faced by small colleges in implementing credit transfer processes, are the few, if any resources dedicated to credit transfer tasks. Providing credit transfer requires an investment of time and human resources for each receiving institution. Costing models for this process need to be identified within the context of small colleges. As this was an acknowledged need, the following eight colleges agreed to participate in this study: Cambrian, Canadore, Collège Boréal, Confederation, Georgian, Lambton, Northern, and Sault College.

The process of credit transfer has been well described by Camman, Hamade, and Zhou (2015) as the manner in which recognition is given for prior formal learning at an institution. The manner refers to process(es) and involves time spent on a) what a student provides as an educational record, b) the application of that record to what the institution offers, and c) compared with what the student wants to achieve. At a minimum, there are three steps to this process (Junor & Usher, 2008). The time taken for each step, or the volume of activity within each step is not clear within the literature. What is clear, is that there is a 'mapping' that happens as part of the process (Camman, Stephane, & Zhou, 2014).

As with any research endeavor, the research questions guide the process and determine methodology. The research questions for this project were:

- What is the cost (both direct and indirect) of the student transfer process for small colleges?
- What are the results for learners who engage in this process?
- What is the formula to determine return on investment specific to the transfer process in a small college?

These research questions are most readily answered through the methodology described.

The rationale for the project rested with the concept of small colleges managing multiple activities with limited resources. The definition of small colleges in the context of this study was drawn from the provincial standards of less than 5000 Full Time equivalent funded enrollment students, less than 450 full time faculty and less than $90 million in annual budget. The determination of small was also based upon overall budgets of the colleges involved. One institution within the study did not fit the small college definition, however, as a mid-sized institution the opportunity to have additional colleges involved was valuable to the study. Each college was aware of the participating colleges and there was full commitment to the recognition of their status as small, or in one case mid-sized, colleges.

What became clear in the qualitative data was two distinct structures within the colleges studied. One structure was 'forming' credit transfer as a distinct part of the college's business administration. The other structure identified was termed 'established', as business practices were solidified around credit transfer. On the basis of this study alone, it was not possible to tell what the tipping point was between 'forming' and 'established', but the tipping point appeared to be tied to volume of requests and culture of the institution. Comparisons of the categories flowed from this initial structural finding of forming and established structure (see Table 1).

Table 1 Activity by structure

Activity	Forming	Established	Comments
Type of activity	Disbursed	Centralized	About ½ of the colleges in the study were established
Categories of people involved	4-6	3-6	Categories included faculty, registrar clerk deans, coordinators, first year experience advisors
Process steps	3-4	3-4	In the 'established' model the steps were 'shorter'
Time	Varies	Predictable	10+ days at the most in the 'established' model. Not predicted in the 'forming' model
Level of authority	Administrative	Clerical	Category of personnel doing the bulk of the work at a lower level in 'established'
Student access	Website/manual processes	Website	How did students find out about this process
Increase in requests	Yes	Yes	Requests are increasing for everyone
Enrollment impact	Not clear	Stabilizing	This may offset attrition but not clear
Institutional priority	High	High	Clearly understood as a government priority
Perception	Getting easier	Easy now	Established protocols 'simplify' this in the 'established' structure

Challenges	Gathering the data	Transfer of data	There are still challenges, but the types differ

When the registrars were asked what the biggest challenge for them was in the credit transfer process, the responses were l similar in that it takes "time to do this", and to have the "right people" involved with each individual request. When asked the same question with an institutional focus on the challenges, the responses were on the need for resources and efficient processes. Table 2 provides comparative detail on registrars' responses sorted by working structure.

Table 2 Registrars activity by structure

Activity	Forming	Established	Change affecting revenue
FTE 5 year average	Declining	Declining	Declining tuition revenue from FTE
Enrollment growth	Declining	Declining	Declining tuition revenue from FTE
Track TC requests	Not all tracked	Well defined tracking	Potential to track costs
Number of TC requests	Increasing	Increasing	Potential to impact tuition revenue
Process requests	Time to process requests	Time to process requests	Cost impacts of human resource time
Challenges	Coordinating all the activities and human resources	Confidentiality, consistency	More sophisticated needs as the evolution occurs

A picture of aggregate enrollment is important to focus the discussion of student mobility around costs and return on investment. A comparison of credit transfer students to aggregate averages per institution follows in Table 3.

Table 3 Student mobility and full time equivalents (FTE) for small colleges in this study

Category	Students
Full time equivalent 5 year average by college (demonstrating institutional size)	2428
Full time equivalent this year (demonstrating institutional size)	2553
Credit transfer by individual students* total transfers of all colleges in the study	843
Credits transferred by course	3910

*This number is minimal, as not all institutions counted or reported the individual students.

The revenue for an individual college, from credit transfer appears to be 1% of the aggregate 5 year average, increasing to 1.9% of the current year revenue average. This represents a growing percentage that is fluid in the system. Unfortunately, this revenue is not specifically tracked within the colleges, as noted by the finance offices who responded to the survey. An aggregate comparison of tuition source revenue and credit transfer value is provided in Table 4.

Table 4 Tuition source revenue and credit transfer value

Sources of revenue (small colleges)	Average revenue
Tuition revenue average for five years	$11,338,867
Tuition past year	$9,996,883
Credit transfer aggregate value	$1,173,000
Credit transfer average value per college	$186,166
Estimated actual revenue from transfer	Not tracked

Time on task estimates were based upon information gathered through the key informant interviews. The estimated time on task for each individual handling a portion of a credit transfer request was 15 to 20 minutes, or one-quarter to one third of an hour. As hourly wages could be determined from CAAT classification tables, costs for time on task could be estimated. In lieu of specific data about seniority, the middle of each range for each classification was used to estimate time on task from the lowest level of authority (LLA), to the highest level of authority (HLA). The resulting range of $73,000 to more than half a million indicates how vulnerable this process is to cost variations. Table 5 summarizes direct costs based on the level of authority and estimated time on task.

Table 5 Range of human resource and time costs

Processing	Costs
Per 15 minutes at lowest level of authority (LLA)	$6.25
Per 15 minutes at highest level of authority (HLA)	$16.50
Three people at lowest level of authority (3L) (minimal time)	$18.75
Three people at highest level of authority (3H) (minimal time)	$49.50
Ten people at lowest level of authority (10L) (minimal time)	$62.25
Ten people at highest level of authority (10H) (minimal time)	$160.50
3910 at LLA minimal time 3L	$73, 312.50
3910 at HLA minimal time 3H	$157,905.00
3910 at LLA minimal time 10L	$198,577.50
3910 at HLA minimal time 10H	$511,990.00

Credit transfer appears to be a *contact sport*. Regardless of automated systems available, at some point a direct contact is required between the transferring student and the receiving institution to determine what the student wants to take and how they will get credit for it.

For planning purposes, colleges must look more closely at the credit transfer process and impact these process may have on a) overall enrollment and b) costs. These issues need to be included in enrollment estimates, strategic enrollment management strategies, and costing formulas.

Credit transfer to support student mobility is alive and well in these colleges. It is a high priority and colleges are making the investments to assure it happens. However, there appears to be a lack of understanding as to what these investments mean in terms of costs or solid estimates on return on investment.

The sustainability of credit transfer ties directly to the question of return on investment, which in turn is linked to the costs incurred in giving credit transfer value. The issue of sustainability is an institutional and system wide question to be asked. Small institutions in particular are more vulnerable, as they deal with smaller budgets and fewer students, yet required to maintain prescribed standards of student service. With external support currently provided, the impact on college finances has yet to be truly felt.

Students are benefiting from this process as seen by the thousands of credit transfers issued in this past academic year alone, in the small and mid-sized college included in this study (See Table 3). The number of students reported is minimal given this was not tracked but at 843 it represents almost 20% of the average full time equivalent reported by the Registrars. Based upon the trend identified by registrars, this number will increase and continue to make up a respectable percentage of the student body, thus making the benefits increasingly visible over time.

While not all colleges in this study had an 'established' structure, it is still recognized that student mobility is a high priority given the emphasis placed on it by the provincial government. The interest in and attention to this group of students is demonstrated at every level of this study. Going back to these same colleges in the next two years, would probably demonstrate 'established' structures.

There are costs to credit transfer that could only be estimated in this study. Another estimate is the potential return on investment. However, the return on investment is not gleaned immediately and is not currently tracked by the college's financial departments.

Similar to wealth accumulation, diverse investments reap the best long-term rewards and that is the essence of student mobility. Diversifying their education over time and geography is the new normal for a student learning trajectory. As with any other wealth accumulation, the costs incurred are borne somewhere; how they are borne and the impact they have are the challenges that post-secondary education institutions have to face.

Recommendations from this study are intended for both college and system application, as applicable:

Recommendation One:
The tipping point of 'forming' to 'established' be further explored to better understand and support how colleges can achieve cost effective transfer processes

Recommendation Two:
The tracking of costs, direct and where possible indirect, be established as a pilot project to better define how costs impact budgets

Recommendation Three:
The potential revenue gained by the receiving institution be monitored to determine viability and return on investment

Recommendation Four:
The role student transfer plays in strategic enrollment management be examined in depth for all institutions, not just small colleges

Recommendation Five:

A student outcome measurement project be established to define the cumulative benefits to students in the system.

CONTENTS

MEASURING THE COST OF CREDIT TRANSFER

1 INTRODUCTION

The intent of this project was to determine the cost of and potentially a costing formula for credit transfer for institutional planning and sustainability purposes of credit transfer at small colleges. This project examined the identified direct and suggested indirect costs of credit transfer at colleges that participated in this study. The investment and return on investment in the credit transfer process is explored and presented. In all, eight colleges were part of this study, seven were defined as small colleges while one was mid-sized.

Credit transfer is a clear priority for the provincial government. The concepts of credit transfer and block transfer are moving quickly to become a routine part of business within the Ontario College system. Increasing access for learners is important to all colleges however, within small colleges, understanding cost implications is necessary to manage resource when new initiatives grow. There are two aspects of student mobility in the credit transfer process, one is institutions that are sending the student and the other is the institution who is receiving the student. This study focused upon institutions receiving students and the costs incurred in completing that process.

Unique challenges faced by small colleges in implementing credit transfer processes, are few, if any resources dedicated to credit transfer tasks. Providing credit transfer requires an investment of time and human resources for each receiving institution. Costing models for this process need to be identified within the context of small colleges. As this was an acknowledged need, the following eight colleges agreed to participate in this study: Cambrian, Canadore, Collège Boréal, Confederation, Georgian, Lambton, Northern, and Sault College.

2 LITERATURE REVIEW

2.1 CREDIT TRANSFER AS AN ENTITY

Student mobility has become an increasing pattern in higher education since 2000 (OECD, 2013). This process is part of growth and sustainability for Canadian post-secondary institutions with emphasis on international students. This student movement places the onus on institutions to facilitate mobility processes (Codina, Nicolas, Lopez, & Hermain, 2013). International mobility may be at the front of this trend, but mobility between institutions in Canada has grown in importance, as well (Junor & Usher, 2008). The student of today, does not stay in one country, one province, one city or even one institution for their entire educational career. Rather they move between countries, provinces, cities, and institutions, as their educational pathways lead them where they want/need to go (Arnold & Woodhead, 2015).

As a global reality, an institution no longer 'owns' its learners, rather that institution is part of a learning journey whereby knowledge is acquired and developed (Arnold & Woodhead, 2015; Cowin, 2013). In this case, the student is diversifying their learning over geography, while accumulating knowledge wealth simultaneously. As institutions become senders or receivers in this transfer process, how to manage student mobility as part of educational business in a seamless way, is the focus of much discussion (Smith & Bruyere, February 28, 2013).

The mobile student factors into recruitment and retention strategies, something which institutions need to recognize in their overall enrollment planning (Arnold & Woodhead, 2015). Strategic Enrollment Management plans, common in post-secondary institutions, focus largely upon recruitment of new learners, and not necessarily credit transfer learners (Ontario Council on Articulation and Transfer, 2015). These two categories of students are different which implies a need for more planning on multiple institutional fronts for this mobile student category (Junor & Usher, 2008). As the growth in this area increases, understanding the costing formulas and return on investment is important for all colleges, for small colleges however, it takes on even greater significance (HIcks, Weingarten, Jonker, & Shuping, 2013).

2.2 ONTARIO'S COMMITMENT TO STUDENT MOBILITY

The Ontario Ministry of Training, Colleges and Universities mandated student mobility as a core priority for post-secondary education in 2011 (Craney, September, 2013). The development of credit transfer policies and procedures emerged as a significant priority for post-secondary institutions in the province. However, while a clear priority for government, the issue is not all post-secondary institutions are created equally (HIcks, Weingarten, Jonker, & Shuping, 2013). The strategic direction of student mobility has grown with the establishment of the Ontario Council on Articulation and Transfer (ONCAT), MOUs with other provincial jurisdictions and the integration of electronic information tools for students that are linked to the Ontario's post-secondary application systems. These activities have supported, enhanced and expanded credit transfer across the province. In ONCAT's 2015 Annual Report, three-quarters of a year represented the average time saved with $84 million in tuition savings per student. This is a large business factor in a large system with one-third of its colleges classified as 'small'.

2.3 CREDIT TRANSFER AS A PROCESS

The process of credit transfer has been well described by Camman, Hamade, and Zhou (2015) as the manner in which recognition is given for prior formal learning at an institution. The manner refers to process(es) and involves time spent on a) what a student provides as an educational record, b) the application of that record to what the institution offers, and c) compared with what the student wants to achieve. At a minimum, there are three steps to this process (Junor & Usher, 2008). The time taken for each step, or the volume of activity within each step is not clear within the literature. What is clear, is that there is a 'mapping' that happens as part of the process (Camman, Stephane, & Zhou, 2014).

The mapping process is what separates credit transfer from a first time application, in terms of complexity and design. A first time application to a program is required to meet admission criteria, which are finite and definitive. This criteria applies to all applications with a few minor exceptions. However, credit transfer has neither finite nor definitive criteria attached to each and every request. Mapping processes are critical steps and constitute a need for direct contact in credit transfer. Within each institution, processes have evolved to suit institutional needs based on the volume and type of requests for credit transfer that the institution has historically dealt with. These vary from institution to institution.

Therefore, there is no standard formula that can be used universally to assure the receiving institution can give accurate credit transfer to an incoming student (Codina, Nicolas, Lopez, & Hermain, 2013).

In some cases, such as the ONCAT database, credit transfer equivalencies are stipulated across the partnering institutions. This works well for those students who can find the exact course they want credit for, and match this to courses that are considered equivalent. To have a complete inventory of all courses and equivalencies is challenging, as curriculum is a dynamic entity, and keeping the information current will be a continuous effort.

2.4 Cost of Credit Transfer and Student mobility

Two branches of post-secondary education in Ontario predominate the system, universities and public colleges. The College system that this study focused upon, has a different funding formula than universities, hence the need to separate an analysis of measuring costs.

Less prominent in the literature is the question, "What are the costs to the institution receiving students who have travelled a varied and diverse pathway to become their student?" (Snowden & Brady, 2014). No process or services comes without cost, and with declining enrollment domestically, the ability to attract new students through credit transfer is an opportunity to fill seats (Snowden & Brady, 2014; Cowin, 2013). Unlike a straight forward application to programs, the processes involved in assuring credit transfer is given correctly, and in a timely way, have to be developed and involve more than one department and individual. Institutionally, development translates into direct and indirect costs incurred for the processes and outcomes. As learning trajectories move from a linear path to a purposeful, winding pathway, the frequency of credit transfer requests grows (Camman, Stephane, & Zhou, 2014; Usher & Jarvey, 2012). Assessing the costs of credit transfer requests is important for institutional planning and viability.

As little has been previously written on the costs of this process, basic accounting principles were reviewed to determine costs that would most likely be incurred (Irfanullah, 2013). Examination of direct costs were aligned with general accounting principles and managerial accounting practices. Direct costs are generally defined as those that are easily observable, while indirect costs are those costs which are more difficult to track, less observable and as such more hidden.

As already stated, the need for a student to work directly with a receiving institution constitutes the preliminary direct costs in terms of human resource time. Snowden & Brady have explored the university-college credit transfer pathway and presented cost efficacies of that process. With an emphasis on university and baccalaureate outcomes, this study helps define costs within a university system, but does not address costing models as viewed through a small college lens. Snowden and Brady go on to clarify how important this process is to both the future of the student and the institution.

It is clearly not cost-effective for the student to have to re-learn throughout their learning career. Snowden and Brady discuss the complexities of the system issues in relation to the credit transfer question. Measuring the cost of credit transfer in small colleges takes a more targeted approach to the costs incurred by receiving institutions, and is not intended as a system study. However, Snowden and Brady clarify and support a lack of information on this activity exists within the system.

To further understand this concept of institutional inequality, the size of an institution dictates its tuition revenue. Smaller colleges quite simply do not have as many students, faculty, staff, or resources, and as such a reverse financial barrier may exist. A definition of small colleges was used for this study and is outlined in the Methodology section of this report. In Junor and Usher's 2008 examination of barriers to student mobility, financial barriers are highlighted, yet ironically, the financial barrier may not rest solely with the student.

> *"Credit transfer is not the only barrier that governments and other funders can play [a] role in helping students to overcome. As noted above, financial barriers to mobility are also substantial, but private foundations, post-secondary institutions and governments all provide varying levels of support to encourage or enhance post-secondary student mobility throughout home countries and around the globe*." Junor and Usher, 2008, pg. 6

ONCAT has supported the credit transfer process as student mobility gains traction in Ontario (Craney, September, 2013). Project funding has been made readily available, along with opportunities for institutions to research root challenges and concerns. This funding has been well used and value added for the development process of credit transfer activity. However, without understanding exact costs, the appreciation of this value added funding could be lost.

3 METHODOLOGY

3.1 RESEARCH QUESTIONS

As with any research endeavor, the research questions guide the process and determine methodology. The research questions for this project were:

- What is the cost (both direct and indirect) of the student transfer process for small colleges?
- What are the results for learners who engage in this process?
- What is the formula to determine return on investment specific to the transfer process in a small college?

These research questions are most readily answered through the methodology described.

3.2 DESIGN AND RATIONALE

The rationale for the project rested with the concept of small colleges managing multiple activities with limited resources. The definition of small colleges in the context of this study was drawn from the provincial standards of less than 5000 Full Time equivalent funded enrollment students, less than 450 full time faculty and less than $90 million in annual budget. One institution within the study did not fit the small college definition, however, as a mid-sized institution the opportunity to have additional colleges involved was valuable to the study. Each college was aware of the participating colleges and there was full commitment to the recognition of their status as small, or in one case mid-sized, colleges.

This research project was divided into three phases outlined here.

3.2.1 Phase One: Literature review, interview design, preliminary data gathering

The literature review focused upon credit transfer practices across Canada, with a more in depth focus on Ontario Colleges. Current best practices in credit transfer were reviewed. The size effect on colleges to provide services and maintain access was part of this review, however, little information was available on this particular topic. Existing costing formulas for credit transfer were sought and reviewed to determine applicability to a small college.

Key informant interviews were held with each participant college with the person(s) responsible for credit transfer. The researchers identified four areas of ONCAT influence and these were:

(1) Course specific precedents
(2) Market
(3) Growth
(4) Value of credit transfer.

Two questions were designed within each area. The key informant interview questions were validated amongst a test group of ten at Northern College. It was hoped areas of definition arising from the interviews would be: length of time, number of steps, departments involved, revenue fees, ease of transfer, costs, etc.

The interview was conducted by one research team member who as faculty had in depth experience in credit transfer. The data from the interview provided the scope of resources dedicated to credit transfer and efficient internal mechanisms create fluid transfer processes.

A broader survey followed the key informant interviews and was completed via a cross section of departments at each institution: finance, admissions and/or, registrar. A secondary data source was websites and policy documents from each institution related to student admission and transfer policies. This secondary data supported the overall analysis. Costing models/centers were provided by finance departments at each institution for assessment of indirect costs.

3.2.2 Phase Two: Quantitative Surveys and Analysis

As a mixed methods design, qualitative feedback as well as descriptive quantitative data was provided. The qualitative interview feedback fed the quantitative design to a certain degree. Two quantitative surveys were designed, one for the registrars and one for finance. The surveys used quantitative measures related to input, process, output and outcomes of the transfer process. The surveys included time estimates on processes, and job classification of college employees in the process, to help determine overall efficacy and costs. The intent was to keep the quantitative surveys as concise as possible to ensure prompt responses. Both were under 20 questions.

Validation of the data occurred through triangulation of qualitative to quantitative to secondary data. The global data set remains with Northern College, however should any one institution wish to receive their own data, it is available to them.

3.2.3 Phase Three: Extrapolation and report writing

The extrapolation of findings to relevance for small colleges occurred in the final phase. This took place from mid-November through to February, and overlapped with the quantitative survey distribution. The qualitative data and the registrarial quantitative data were available first, and review and analysis of these

two groupings of data was completed early in January. There were no challenges with data complexity, however, what was discovered was data on direct costs appeared to challenging to identify, and no institutions were overtly tracking this aspect.

3.3 COLLEGE PROFILES

Eight colleges participated in this study. The determination of small was based upon the provincial definition of small colleges, coupled with overall budgets of the colleges involved. Georgian, while not technically a small college by the study definition, participated and was an outlier comparator, for purposes of the study. In examining the data, responses from a mid-sized college were not that different than from the identified small colleges.

The college profiles were developed in conjunction with the Vice Presidents Academic of each college and focused on size, mission and location.

3.3.1 Cambrian Profile

Cambrian College is situated in Sudbury, Northern Ontario. Its vision is to be Northern Ontario's preeminent college and a key regional economic driver. Their graduates are proud of their education and aspire to be the best for themselves and their communities, and to make a difference in the world. Cambrian provides world-class applied learning, labour force development, and research through flexible, responsive, and caring student success practices; by striving for excellence in instruction, engaging students using hands-on, life-changing learning; and by remaining accountability in all that they do.
With 3 campuses, a budget of $ 101,545,892, there are 4100 Full Time Equivalent students served across 80 post-secondary programs. Their mission statement "In all that we do and all that we offer, you will find that: We lead with our commitment to diverse learners; We teach and learn through quality education that responds to the needs of the community; We balance hands-on experience with the knowledge and skills essential for personal and professional success." reflects student centered values.
Cambrian houses some unique activities such as Cambrian Innovates (applied research) all-season greenhouse, and varsity sports (soccer).

3.3.2 Canadore Profile

Canadore College is located in North Bay, Ontario. Its vision is to be the college of choice for connecting people, education, and employment through leadership and innovation.
With 3 campuses and a budget of $78,035,228, Canadore delivers 80 post-secondary programs to 2300 Full Time Equivalent Students. Canadore's mission is to provide outstanding applied education and training for an ever-changing world.
Canadore hosts an Interactive health fair, has the Northern Ontario Crown Ward Education Championship Team, and is known for its Aviation Technology Campus.

3.3.3 Collège Boréal Profile

Collège Boréal is located in Sudbury, Ontario and is a Francophone college that has sites across the province. Its vision is to foster knowledge and stimulate culture.

With 7 campuses and a budget of $ 125,202,906, Collège Boréal delivers 60 post-secondary programs to 1500 Full Time Equivalent students. Its mission is to provide a high-caliber personalized education to a diverse clientele and it practices community leadership to foster the sustainable development of the Francophone community of Ontario.

Collège Boréal has 35 access centres, distributes over $800,000 in scholarships, and has won International marketing awards.

3.3.4 Confederation College Profile

Confederation College is located in Thunder Bay, Ontario. Confederation's vision will enrich lives through learning

With 9 campuses, a budget of $ 70,636,483, Confederation delivers 60 post-secondary programs to 4000 Full Time Equivalent students. Confederation's mission "inspires learners to succeed in their lives and careers in northwestern Ontario and beyond."

Confederation College's many regional campuses cover 550,000 $km^{2.}$. The College has a Student Mental Health and Well-being Strategy and is known for its Bound Early Acceptance Program.

3.3.5 Georgian College Profile

Georgian College is located in Barrie, Ontario. Georgian's mission is be the most personally connected learning organization in Canada – a catalyst for individual, organizational and community transformation.

With 7 campuses and a budget of $ 180,000,000, Georgian delivers 125 programs to 11,000 Full Time Equivalent students. Its mission is to inspire innovation, transform lives and connect communities through the power of education.

Named one of Canada's Top 100 employers seven times. Georgian offers more than $1 in scholarships, is entrepreneurship focused, has won awards for its support of Syrian refugees. It is home to the one-of-a-kind University Partnership Centre and one of Canada's Greenest Employers five years in a row.

3.3.6 Lambton College Profile

Lambton College is located in Sarnia, Ontario. Lambton's vision is to be a higher education institution recognized locally, nationally and globally for excellence in education, applied research, technological innovation and sustainability leadership.

With 1 main campus and a budget of $ 69,071,287, Lambton delivers 120 post-secondary programs to 2600 Full Time Equivalent students. Lambton's mission is to promote student and community success. We achieve our mission through quality teaching and an innovative learning environment that: Provides relevant, accessible, value added programs and services that engage and develop the whole student; Proactively addresses the needs of a constantly changing labour market; Supports community & economic development through innovative partnerships and applied research initiatives.

Lambton is known for its Power and bio-engineering and mobile learning focus, as well as its research in water treatment.

3.3.7 Northern College Profile

Northern College is located in Timmins, Northeastern Ontario. The vision of Northern College is success for all through learning and partnerships.

With 4 campuses and a budget of $ 39,097,959, Northern delivers 75 post-secondary programs to 2200 Full Time Equivalent students. Northern College's mission is to ensure quality, accessible education through innovative programs, services and partnerships for the benefit of our northern communities.

Known for its mining expertise, Northern supports a catchment area the size of France, and has an Indigenous focus in support of the Indigenous populations in the region.

3.3.8 Sault College Profile

Sault College is located in Sault Ste. Marie, Ontario. Sault's vision is to make our society a better place by providing a transformative life experience through empowering those who study with us to think and learn in progressive, innovative ways, including those we have not yet imagined.

With 1 main campus and a budget of $ 57,926,000, Sault College delivers 70 post-secondary programs to 3800 students, including part time learners. Sault's mission is to be recognized as the pre-eminent student-centered post-secondary institution in the province with an unyielding dedication to giving students the tools to reach their goals, and in doing so, be a cornerstone of the communities we serve.

Sault College is known for its Willow's teaching restaurant, varsity golf and provides year round day care for staff, faculty and students.

4 FINDINGS

Overall response rates were good for this study. Although in each segment one response was missing, (key informant interviews, registrars and finance survey), it was never the same institution missing data. Therefore, seven responses out of eight were available for review in responding to each research question.

Based upon the qualitative data, several categories emerged from the information collected. These categories evolved directly via the four ONCAT areas the key informant interviews were evolved from; Course specific precedents, market, growth, and value of credit transfer. The categories were: types of activity, categories of people involved in the activity, process steps, time, level of authority, student access, and increase in requests, impact on enrollment, institutional priority, perceptions and challenges.

What became clear in the qualitative data was two distinct structures within the colleges studied. One structure was 'forming' credit transfer as a distinct part of the college's business administration. The other structure identified was termed 'established', as business practices were solidified around credit transfer. On the basis of this study alone, it was not possible to tell what the tipping point was between 'forming' and 'established', but the tipping point appeared to be tied to volume of requests and culture of the institution. Comparisons of the categories flowed from this initial structural finding of forming and established structure (see Table 1).

4.1 STRUCTURE

The 'types of activity' was a category focused upon *what happened* in the credit transfer process. The activity could have been a file review, meeting, report, etc. Type of activity was presented by the various institutions as either centralized or disbursed, with disbursed linked to the forming structure. The breakdown of forming and established was approximately 50%.

The 'categories of people involved in the activity' was reviewed with each key informant. While there were various classifications involved such as first year experience officers, registration clerks, deans or marketing, there were several categories of people involved, regardless of the structure. In some cases, more than six people actually had hands on, or input into the file, but often the various people involved had the same work classification (as defined by Colleges of Applied Arts and Technology).

The 'process steps' were documented as three to four in the process as drawn from the key informant interview process. It appeared the number of steps was similar regardless of forming or established structure. These steps were clear within each individual institution, but individual steps had greater complexity in the forming structures. The steps included such things as receives request, helps student gather information, takes application, assigns content expert, reviews decisions, etc. Various steps involved varying levels of authority (people). In the forming structure, the activity was more detailed and involved more decisions, while in the established structure the steps were streamlined with one decision point at each step.

'Time' was the amount of time the process took within each institution to arrive at a decision on the transfer credit. This was harder to determine in a forming structure. Both structures reported increased requests and validated credit transfer was a high priority within the institution. The perception in 'forming' structures was the credit transfer process was challenging, while 'established' structures found it easier. Both types of structures continue to have challenges, and there were mixed views on the enrollment impact.

The 'level of authority' category refers to the classification of the person involved. The Colleges Applied Arts and Technology (CAAT) classification system was used to determine salary ranges by classification for the purposes of this study. Levels of authority are defined by classification steps, for example a Dean may be at Step 14, while an Admissions officer may be at Step 8. The level of authority represented was higher in a 'forming' structure, then in 'established' structures.

'Student Access' as a category refers to the ability of students to find credit transfer information, how they can retrieve it, and how the credit transfer information is managed within an institution. Notably, websites are the primary source of information, but within 'forming' institutions, word of mouth still was believed to generate a lot of student awareness. This is an anecdotal observation but it was repeated in all 'forming' institutions interviews. The impact on enrollment varies and is perceived differently in 'forming' and 'established' institutions, as was the perception of the processes and challenges currently incurred (See Table 1).

Table 1 Activity by structure

Activity	Forming	Established	Comments
Type of activity	Disbursed	Centralized	About ½ of the colleges in the study were established
Categories of people involved	4-6	3-6	Categories included faculty, registrar clerk deans, coordinators, first year experience advisors
Process steps	3-4	3-4	In the 'established' model the steps were 'shorter'
Time	Varies	Predictable	10+ days at the most in the 'established' model. Not predicted in the 'forming' model
Level of authority	Administrative	Clerical	Category of personnel doing the bulk of the work at a lower level in 'established'
Student access	Website/manual processes	Website	How did students find out about this process
Increase in requests	Yes	Yes	Requests are increasing for everyone
Enrollment impact	Not clear	Stabilizing	This may offset attrition but not clear
Institutional priority	High	High	Clearly understood as a government priority
Perception	Getting easier	Easy now	Established protocols 'simplify' this in the 'established' structure
Challenges	Gathering the data	Transfer of data	There are still challenges

The registrars report on activity provided a wealth of information. There was unanimous agreement that enrollment was down over the past five years. The full time equivalent enrollment (FTE) for the past academic year was averaged for the smaller colleges. The result was 2400 FTE. The five year average full time equivalent amongst these same small colleges was reported at 2500, a loss of 100 students over the past five years compared with this academic year.

When the registrars were asked what the biggest challenge for them was in credit transfer process, the responses were all similar in that it takes "time to do this", and to have the "right people" involved with each individual request. When asked the same question with an institutional focus on the challenges, the responses were on the need for resources and efficient processes. Table 2 provides comparative detail on registrars' responses sorted by working structure.

Table 2 Registrars activity by structure

Activity	Forming	Established	Change affecting revenue
FTE 5 year average	Declining	Declining	Declining tuition revenue from FTE
Enrollment growth	Declining	Declining	Declining tuition revenue from FTE
Track TC requests	Not all tracked	Well defined tracking	Potential to track costs
Number of TC requests	Increasing	Increasing	Potential to impact tuition revenue
Process requests	Time to process requests	Time to process requests	Cost impacts of human resource time
Challenges	Coordinating all the activities and human resources	Confidentiality, consistency	More sophisticated needs as the evolution occurs

4.2 STUDENT MOBILITY

One of the research questions focused upon what is happening for students. The overall student mobility in the eight colleges studied was captured. The question focused upon credit transfers into the institution, these transfers could come from anywhere, with no distinction between colleges within this study. More than 3910 credit transfers were issued by these institutions in the past academic year. These credit transfers represented 843 individual students. A picture of aggregate enrollment is important to focus the discussion of student mobility around costs and return on investment. A comparison of credit transfer students to aggregate averages follows in Table 3.

Table 3 Student mobility and full time equivalents (FTE) for small colleges in this study

Category	Students
Full time equivalent 5 year average by college (demonstrating institutional size)	2428
Full time equivalent this year (demonstrating institutional size)	2553
Credit transfer by individual students* total transfers of all colleges in the study	843
Credits transferred by course	3910

*This number is minimal, as not all institutions counted or reported the individual students.

Tuition revenues were examined in these institutions, and while they vary, the average tuition revenue per course was estimated at $300. Therefore, the credit transfer value of a course is $300. This value was used consistently in revenue comparisons. The credit transfer value of these transactions was $1,173,000 over the seven small colleges reporting in this study. Only the small colleges were included, in defining aggregate data in Table 3.

Credit transfer value represents 10% of the five year tuition average and nearly 12% of the past year's total tuition revenue. Tuition revenue is moving in the system when factoring credit transfer. The revenue for an individual college, from credit transfer appears to be 1% of the aggregate 5 year average, increasing to 1.9% of the current year revenue average. This represents a growing percentage that is fluid in the system. Unfortunately, this revenue is not specifically tracked within the colleges, as noted by the finance offices who responded to the survey. A comparison of tuition source revenue and credit transfer value is provided in Table 4.

Table 4 Tuition source revenue and credit transfer value

Sources of revenue (small colleges)	Average revenue
Tuition revenue average for five years	$11,338,867
Tuition past year	$9,996,883
Credit transfer aggregate value	$1,173,,000
Credit transfer average value per college	$186,166
Estimated actual revenue from transfer	Not tracked

4.3 Direct and Indirect Costs

Direct and indirect costs were defined for the purpose of this study. Direct costs were itemized as human resources, time, task activity such as data entry, and tuition value lost when a student receives credit from

a receiving institution. Indirect costs were itemized as processes, data maintenance, supervision and interactive tasks such as communication between people and/or departments. The key informant interview determined some areas of indirect support (costs), challenges and successes of the process. None of the colleges in the survey tracked direct or indirect costs specifically for credit transfer.

People associated with these processes, function at various levels of authority within the institution such as: deans, faculty, coordinators, registrars, admissions clerks, first year experience advisors, etc. The number of categories of people involved, and the need to check, recheck and verify information in the process was identified as a labor intensive exercise. Thus, this was deemed a 'contact sport' activity.

As the level of authority rises, so does the salary, and thus the cost associated with the process. The Colleges Applied Arts and Technology (CAAT) classification system was used as a guide to estimate salary ranges for categories of people involved. Classifications are clearly delineated in the system. As exact salary ranges were not known for each category, middle ranges were selected and applied consistently in the cost accounting.

Time on task estimates were based upon information gathered through the key informant interviews. The estimated time on task for each individual handling a portion of a credit transfer request was 15 to 20 minutes, or one-quarter to one-third of an hour. As hourly wages could be determined from CAAT classification tables, costs for time on task could be estimated. In lieu of specific data about seniority, the middle of each range for each classification was used to estimate time on task from the lowest level of authority (LLA), to the highest level of authority (HLA). The resulting range of $73,000 to more than half a million indicates how vulnerable this process is to cost variations. Table 5 summarizes direct costs based on the level of authority and estimated time on task.

Table 5 Range of human resource and time costs

Processing	Costs
Per 15 minutes at lowest level of authority (LLA)	$6.25
Per 15 minutes at highest level of authority (HLA)	$16.50
Three people at lowest level of authority (3L) (minimal time)	$18.75
Three people at highest level of authority (3H) (minimal time)	$49.50
Ten people at lowest level of authority (10L) (minimal time)	$62.25
Ten people at highest level of authority (10H) (minimal time)	$160.50
3910 at LLA minimal time 3L	$73, 312.50
3910 at HLA minimal time 3H	$157,905.00
3910 at LLA minimal time 10L	$198,577.50
3910 at HLA minimal time 10H	$511,990.00

Indirect costs were not tracked by the institutions. When asked specifically about indirect costs, it appeared the indirect costs had not been considered at all. Comparing the categories of activity by direct and indirect costs, in consideration of the structure, forming or established, is helpful to see where costs are/could be incurred. It is also possible to identify potential for net gain or reduction in cost (see Table 6).

Table 6 Direct and Indirect activity costs

Activity	Direct	Indirect	Net
Type of involvement	More centralized, reduce process time	Disbursed increases process time	Centralized may reduce costs
People involved	Cost of employee's time	Cost of processes, data management, communications	Fewer people may reduce costs
Process Steps	Each step has a value	Each step has a value	Cost estimate of each step needs to be determined, increased steps increase costs
Time	Human resources/processes	Human resources/processes	More time, more costs
Level of authority	Increased time	Increased processes	Higher level of authority means higher costs
Student access	Website maintenance	Communication flow to assure accuracy	Net cost incurred to maintain access
Increase in requests	Human resources and processes	Data management	Increase in costs
Enrollment impact	Stabilize/destabilize enrollment	Factor in retention	Potential to increase revenue
Institutional priority	Time and human resources	Time and human resources	Potential to increase costs
Perception	No associated costs	No associated costs	No net activity
Challenges	Track	Identify	Unidentified challenges could pose cost risk

What is not being captured at the institutional level is the overall 'Office of credit transfer' nature of this activity and exact quantity of people associated, plus exact time invested. Data management including input and export were identified as time consuming and challenging to either develop or monitor, but no estimates on costs had been tracked. Supervision of the entire process is another indirect cost.

Communication related to the process has to be considered as an indirect cost, the transmitting of information between the varieties of people involved along with the various departments is another aspect of consideration for the labor intensive nature of this activity.

5 DISCUSSION

Having presented the overall findings of the key informant interviews and two surveys, it is important to go back to the original research questions to discuss findings within the context of what the study was seeking to determine. The three questions are presented here.

5.1 WHAT IS THE COST (BOTH DIRECT AND INDIRECT) OF THE STUDENT TRANSFER PROCESS FOR SMALL COLLEGES?

For the most part, costs incurred for credit transfer resources and processes have not been tracked by the institutions in this study. There was a clear acknowledgement of cost, but no seeming ability to capture this, despite the acknowledgement of cost across all institutions in the study. Therefore to get an exact value was not possible. However, within the data provided there was a variety of costs that could be tabulated for everything from human resources to data management. These costs can be estimated given the nature of the Ontario public college system. Utilizing the information supplied on the processes and levels of authority of people in place, estimates were made on the basis of standardized pay scales throughout the province, as provided through CAAT. Estimates of time were developed based upon the information given from the various institutions of how long their processes took. Tools and resources were costed, utilizing current value estimates from web searches. All colleges identified resources and time as 'labor intensive' in the starting phases of establishing credit transfer. A range of direct costs has been identified based upon the information given and that range is from $18.75-$160.00 per transfer. This leads to an aggregate variance of approximately $73,000 to over $500,000.

An additional cost to the College is a loss of tuition revenue incurred for the transfer credit value given. In a review of tuition across the institutions showed a variation in what was charged. However, a consistent average is applied when giving credit. This average is approximately $300 per credit, and represents the credited tuition revenue. This can be weighed against potential tuition revenue from the incoming student. This potential revenue is dependent upon how long the student will stay at the receiving institution. Therefore, potential tuition revenue increases the earlier a student transfers in, while lost tuition revenue is minimized.

Indirect costs are not considered by the finance departments in relation to this activity.

5.2 What are the results for learners who engage in this process?

The results from the study indicated 3910 recorded course credit transfers occurred across these seven institutions, over the past academic year. This represented a minimum of 843 individual students who received credit transfer, but this is a minimal estimate, as not all institutions recorded or reported the exact number. With the introduction of the single identifier as a student number the ability to track student mobility inter and intra institutionally will become easier and garner far more information than is currently available. Given the definition of small colleges is fewer than 4000 FTE, this number represents as much as 20% of the FTEs in the small colleges studied.

Increased demand for transfer activity is occurring at all institutions, as was unanimously reported. This means student mobility has impetus to grow. The results for learners in this process is an enhanced ability to receive credit transfer value for learning regardless of where they choose to go for their learning. Thus the results are meeting the provincial priorities. This diversification of learning across institutions should result in greater knowledge wealth for the student, like a diversified portfolio as an investment strategy.

It should be noted that block transfers were not included in the numbers provided either for individual registrations or for individual students. Block transfers are program specific and result in year to year, program to program exchanges. Including them may have skewed the results of this study, and either diminished or overly inflated costs. Overall, block transfers, while complex to design, appear to be simpler to implement at the institutional level.

5.3 What is the formula to determine return on investment specific to the transfer process in a small college?

The formula to determine cost to the institution is actually quite simple and is *Projected/anticipated tuition revenue – (Direct costs + Indirect costs of credit transfer + credit transfer value given) = Return on Investment.* However, without tracking the direct and providing mechanisms to estimate the indirect costs, this formula cannot be implemented at the institutional level. Operating grants for the institutions were not factored in, rather tuition as a source of revenue was the baseline comparator.

Other factors influence this formula, for example the number of transfers one individual makes would create the following considerations for the formula: *Increased Transfers for one individual = Reduced Potential Revenue*. However, when factored along with attrition, the return on investment again changes as the following factor needs to be included *Increased total number of student transfers = Increased net enrollment.*

6 CONCLUSIONS AND RECOMMENDATIONS

Credit transfer appears to be a *contact sport*. Regardless of automated systems available, at some point a direct contact is required between the transferring student and the receiving institution to determine what the student wants to take and how they will get credit for it.

For planning purposes, colleges must look more closely at the credit transfer process and impact these process may have on a) overall enrollment, and b) costs. These issues need to be included in enrollment estimates, strategic enrollment management strategies, and costing formulas.

There appears to be a tipping point from 'forming' to 'established' structures in terms of credit transfer activity. This tipping point appears to be tied to volume of requests and the culture of the institution. Determining the structure was not the purpose of this exercise, so the right questions to ask to define the tipping point were not included in this study. Further assessment of creating that culture of mobility needs to happen.

Credit transfer to support student mobility is alive and well in these colleges. It is a high priority and colleges are making the investments to assure it happens. However, there appears to be a lack of understanding as to what these investments mean in terms of costs or solid estimates on return on investment.

The sustainability of credit transfer ties directly to the question of return on investment, which in turn is linked to the costs incurred in giving credit transfer value. The issue of sustainability is an institutional and system wide question to be asked. Small institutions in particular are more vulnerable, as they deal with smaller budgets, fewer students, and yet are required to maintain prescribed standards of student service. With external support currently provided, the impact on college finances has yet to be truly felt.

Students are benefiting from this process as seen by the thousands of credit transfers issued in this past academic year alone, in the small and mid-sized college included in this study. The number of students reported is minimal given this was not tracked but at 843 it represents almost 20% of the average full time equivalent reported by the Registrars. This number will increase and continue to make up a respectable percentage of the student body, thus making the benefits increasingly visible over time.

While not all colleges in this study had an 'established' structure, it is still recognized that student mobility is a high priority given the emphasis placed on it by the provincial government. The interest in and attention to this group of students is demonstrated at every level of this study. Going back to these same colleges in the next two years, would probably demonstrate 'established' structures.

There are costs to credit transfer that could only be estimated in this study. Another estimate is the potential return on investment. However, the return on investment is not gleaned immediately and is not currently tracked by the college's financial departments.

Similar to wealth accumulation, diverse investments reap the best long term rewards and that is the essence of student mobility. Diversifying their education over time and geography is the new normal for a student learning trajectory. As with any other wealth accumulation, the costs incurred are borne somewhere; how they are borne and the impact they have are the challenges of post-secondary education to face.

6.1 RECOMMENDATIONS:

Recommendations from this study are intended for both college and system application, as applicable:

6.1.1 Recommendation One:

The tipping point of 'forming' to 'established' be further explored to better understand and support how colleges can achieve cost effective transfer processes

6.1.2 Recommendation Two:

The tracking of costs, direct and where possible indirect, be established as a pilot project to better define how costs impact budgets

6.1.3 Recommendation Three:

The potential revenue gained by the receiving institution be monitored to determine viability and return on investment

6.1.4 Recommendation Four:

The role student transfer plays in strategic enrollment management be examined in depth for all institutions, not just small colleges

6.1.5 Recommendation Five:

A student outcome measurement project be established to define the cumulative benefits to students in the system.

The success of credit transfer in these small colleges is phenomenal given a short time frame and limited resources. The high priority and interest level bodes well for continuing growth of student mobility in small colleges, regardless of the challenges faced.

7 REFERENCES

Arnold, C., & Woodhead, S. (2015). *Transferabiolity: Expectations and realities.* Toronto, Canada: ONCAT.

Camman, R., Stephane, H., & Zhou, A. (2014). *Student mobility and Credit Transfer Pathways.* Toronto, Canada: Ontario Undergarduate Student Union.

Codina, B., Nicolas, J., Lopez, L., & Hermain, R. (2013). *The Importance of Student Mobility, Academic Exchange and Internationalization of Higher Education for College Students in a Globalized World: The Mexican and Latin American Case.* Retrieved from International Journal of Good Conscience: http://www.spentamexico.org/v8-n2/A3.8(2)48-63.pdf

Cowin, R. (2013). *Student Transfer, Success and Mobility in B.C. Post-secondary Institutions.* Victoria, Canada: BCCAT.

Craney, G. (September, 2013). *Forging new pathways to improve student mobility.* Toronto, Canada: ONCAT.

HIcks, M., Weingarten, H., Jonker, L., & Shuping, L. (2013). *The Diversity of Ontario's Colleges: A data set to inform the differentialtion discussion.* Toronto, Canada: HEQCO.

Irfanullah, J. (2013). *Managerial Accounting*. Retrieved from Accounting Explained: http://accountingexplained.com/managerial/introduction/

Junor, S., & Usher, A. (2008). *Student mobility and credit transfer:, A national and global survey.* Toronto, Canada: Educational Policy Institute.

OECD. (2013, July). *How is international student mobility shaping up?* Retrieved from Education Indicators in Focus; OECD: http://www.oecd.org/education/skills-beyond-school/EDIF%202013--N%C2%B013%20(eng)--FINAL.pdf

Ontario Council on Articulation and Transfer. (2015). *Annual Report.* Toronto, Canada : ONCAT.

Smith, G., & Bruyere, M. (February 28, 2013). Credit Transfer Institutional Grants (CTIG). *Ministry of Training, Colleges and Universities at the 2nd Annual Student Pathways in Higher Education Conference* (p. 18). Toronto, Canada: Ministry of Training,Colleges and Universities.

Snowden, K., & Brady, J. (2014, October 31st). *Towards a better understanding of credit transfer costs and benefits.* Retrieved from ONCAT: http://www.oncat.ca/index_en.php?page=research

Usher, A., & Jarvey, P. (2012). *Student Experiences in Credit Transfer in Ontario Colleges.* Toronto, Canada: Higher Education Associates.

8 APPENDIX A: KEY INFORMANT INTERVIEW QUESTIONS:

1. **Course specific precedents**

   a. **In addition to you, who is involved either directly or indirectly with your credit transfer process?** *Need exact title and role*
   (If needed use prompts):
   - *Program coordinators*
   - *Support staff – from what department/position and job title*
   - *Advisors*
   - *Professors/counsellors*
   - *Registrar*
   - *Management*

   To the best of your knowledge, what are their duties and the time (hours per *week/semester/year)* they spend on these tasks? *Use a table to tabulate information*

   b. Please tell me how your college communicates with ONCAT? And, how do you provide data to ONtransfer.ca (manually through OCEMC, or are you synchronized?)

2. **Market**

   a. Do you have any particular academic departments at your college that have been really successful with credit transfer? *How has this come about? (examples, please)*

   b. Do you have any academic departments that have experienced particular difficulty with credit transfers? What would have caused these difficulties?

3. **Growth**

   a. How do students find out about credit transfer at your college other than through ONCAT?
   b. How has credit transfer affected your enrollment?
   Are the requests increasing? If so, by how much?
   Have you been accepting more students since Credit Transfer has become more of a priority?

4. **Value**

   a. Where does seamless and flexible credit transfer fit in your institution's priorities? And, how does your college financially address the priority level of credit transfer
   b. Overall, what has gone well for your college since the ONCAT process started, and, what has been difficult?