Educational Session

2828 - Gaining Access to and Collecting Post-Secondary Transfer Data When It Is Not Publicly Available
Leadership and Strategic Planning, Partnerships and Collaboration

In this session, we describe our efforts, over the past 3 years, to develop comprehensive baseline data on transfer in a jurisdiction with strict data protection policies (Ontario, Canada). The presentation will focus on the strategies we employed to develop ‘data workarounds’ and the challenges we faced. While the aforementioned policies are particular to our jurisdiction, we expect that the challenges will be relatable and the solutions (workarounds) customizable to many attendees' local contexts.

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Gaining Access to and Collecting Postsecondary Transfer Data When It Is Not Publicly Available

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While we are joining you from Portland today, we acknowledge that we routinely work on land within the traditional territory of many Indigenous nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples. We would also like to acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit. This land is now home to many diverse First Nations, Inuit and Métis Peoples, and we recognize the enduring presence and resilience of Indigenous Peoples who continue to mobilize, live on and care for these lands and its inhabitants.
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<th>The Ontario Postsecondary System</th>
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<tr>
<td>1</td>
<td>Coordinate multiple data sources (e.g., through data extraction and translation)</td>
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<td>2</td>
<td>Engage subject matter experts in a sustainable manner</td>
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<td>3</td>
<td>Investigate transfer students' decision making and experience</td>
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ONCAT and the Ontario Postsecondary System
Our organization, ONCAT, was established in 2011 by Ontario's Ministry of Colleges and Universities (MCU) with the mandate of describing and proposing improvements to the province's postsecondary transfer system.

Since then, our data analytics and research teams have therefore been responsible for providing the MCU and the public with up-to-date information on transfer in Ontario (e.g., time to completion, credit loss).
What Issues Do We Face?

In Ontario, every student is issued a unique identifier—their Ontario Education Number (OEN). This number allows for the tracking of a student's education across time and institutions.

However, the MCU is the only one with access to OEN-linked data and they restrict this access due to privacy concerns.

Lastly, the province also has several definitions of transfer student.
Why Are We Here?

We (and others) have therefore needed to find innovative ways to answer important questions about transfer. This has included:

• Proposing a universal definition of "transfer student"
• Connecting program information and pathway information (program-based and course-based)
• Collecting student-level, longitudinal, cross-institutional data

In this presentation, we describe three projects with these goals.
The DataPilot
What is the DataPilot?

- **Ground-up strategy** to address data gaps and lack of access to student level data
- More encompassing definition of transfer than existing data sources
- **Funding accountability** and evidence-based planning
- 14 participating institutions to date, and growing
- There are gaps in what we know about students...
  - Information exists, but is **not readily available or utilized**
What Data is Reported?

- 5 - 10+ years of student records
- Anonymized, at the student level
- One record per reporting year
- Broader inclusion of 'transfer students'
- Linkage to pathways
### Data Structure

<table>
<thead>
<tr>
<th>Student Demographics</th>
<th>Educational Journey</th>
<th>Performance</th>
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<tbody>
<tr>
<td>✓ Age</td>
<td>✓ Sending school</td>
<td>✓ GPA</td>
</tr>
<tr>
<td>✓ Gender</td>
<td>✓ Sending program/credential</td>
<td>✓ Graduation date</td>
</tr>
<tr>
<td>✓ Mother tongue</td>
<td>✓ Receiving school</td>
<td>✓ Cumulative GPA</td>
</tr>
<tr>
<td>✓ Birth year</td>
<td>✓ Receiving program/credential</td>
<td>✓ Admitted GPA (prior to transfer)</td>
</tr>
<tr>
<td>✓ Immigration status</td>
<td>✓ Type of transfer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Agreement and transfer policy data</td>
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Data Uses - Basic Analyses

- Identified top sending schools, and historical trends
- Identified top sending and receiving programs
- Demographics of student population by transfer source:
  - E.g., gender, age, graduation rate, enrollment status, immigration status, credential type, first year GPA
Deeper Analysis

Performed regression analyses on the student data to draw out greater nuance

To tease out more specifically the factors that impact transfer student success

Using graduation rates, and first year GPA as predictors of student success

Controlled results using students’ demographics

E.g., gender, immigration status, credential, age, enrollment status, transfer credits awarded, etc.

Transfer students are different from direct-entry students demographically, so if we control for these aspects, we can learn more about what specifically influences student success
Challenges

Finding the data
  More specifically, finding who has the data
The data can be messy
  Needs significant cleaning
Definitions
  E.g., cumulative GPA: What counts?
<table>
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<tr>
<th>Institutional Benefits</th>
<th>System Benefits</th>
</tr>
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<tbody>
<tr>
<td>Strengthen reporting capacity &amp; make data accessible</td>
<td>Better data for system level analysis</td>
</tr>
<tr>
<td>Present an accurate picture of Transfer Students</td>
<td>Better view of Institution's capacity in transfer system reporting</td>
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<tr>
<td>Support future data reporting needs</td>
<td>Data informed funding planning</td>
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Pathway Evaluation
## Problems

| EXPANDING TRANSFERABILITY OF 101 CORE COURSES (Transfer within like programs in same sector) | o How do we measure transferability? At the discipline/program level, and course level?  
o How do we go about determining the core courses?  
o Are there enough 'paved' pathways (course-to-course or program pathways) to reach the 100% transferability for accounting, marketing and social work/services? |
| SCALING-UP IN-DEMAND STUDENT PATHWAYS | o How do we measure in-demand? What are some of the top transfer student mobility patterns?  
o Can we compare the transfer student movement with available 'paved' pathways (course-based and program-based pathways)?  
o How many students transferred within the Accounting, Marketing and Social Work/Services disciplines? |
Data Collection

1. Go to College/University website
2. Go to "Program List"
3. Find all accounting programs
4. Search for "Accounting"
5. Find all accounting program pages
6. Acquire data to create curriculum list
## Datasets

<table>
<thead>
<tr>
<th>Program Curriculums</th>
<th>ONCAT Maintained Databases</th>
<th>MCU Student Mobility Data</th>
</tr>
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<tbody>
<tr>
<td>✓ A prescribed list of courses to ensure students achieve depth and breadth requirements towards a specific academic program.</td>
<td>✓ The course-to-course database contains transfer rules at the course level (course equivalencies).</td>
<td>✓ Aggregated OEN linked student mobility data, suppressed for small cell count of less than 10.</td>
</tr>
<tr>
<td>✓ The Pathway database contains information about transferring from a program at one institution to another program at a different institution.</td>
<td>✓ Current analysis is based on the data from 2016/2017-2020/2021.</td>
<td></td>
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</tbody>
</table>
## Core Course Nomenclature

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Major Core</th>
<th>Program Core</th>
<th>Non-Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>Introduction to Marketing</td>
<td>Introductory to Accounting Business Writing Business Math Business Computer Application</td>
<td>Advertising, Management, Calculus, Advanced Marketing</td>
</tr>
</tbody>
</table>
Making Data Useable

- Data transformation/cleaning

Diagram:
- Creating Lookup Keys
- Look up “Institution ID”
- Apply “Discipline”
- Link with Equivalencies
- Determine Course Level
- Determine Core Courses
- Lookup Course Title
Through comparison of three different data sources, we can draw implications from the discrepancies for institution planning and pathway development.

Find out to what extent Accounting/ Marketing/ Social Work have established pathways and/or equivalencies so that they can be fully transferred towards credentials (in the same discipline) at receiving institutions (within the sector).
Challenges

Data nuances
- Nomenclature
- The current enrolment data is highly suppressed and limiting
- Data gaps

Transferability issues
- Differentiation of courses/ programs
- Accreditation

Intensive Manual Work
- Curriculum
- Derived fields
Significance

- MCU database: student behavior
- C2C database: student demand
- Transfer pathway: institution planning

OR
Comparison among 3 datasets
Surveys and Interviews
Problem

• Lack of longitudinal data on transfer student decision making and experience.

• Therefore, since 2015 (with a break during the pandemic), ONCAT has been conducting surveys and interviews to these phenomena.

  • Between 2015 and 2018, we hired research firms to design and conduct the data collections, as well as to analyze the data, given that we did not have internal capacity to do so.

  • In September 2021, we launched our own longitudinal mixed-methods study.
Data Collection: Stage 1

The first stage of the study consists of a survey and follow-up interview about (prospective) transfer students' intentions—the Transfer Intent Survey (TIS) and Transfer Intent Interview (TII).

- The TIS questionnaire includes questions about...
  - where participants intend(ed) to transfer from and to
  - the factors that influence those decisions
  - the sources of information that they consult(ed)

- The TII protocol includes questions about
  - how participants weigh the factors that draw them to, and away from, each of the programs and schools that they intend(ed) to transfer to
  - what try to learn from each of the sources of information that they consult and how they interact with those sources
Data Collection: Stage 1

- Participants are invited to participate in the TIS when they visit ONTransfer.ca—a website that we developed with inform on transfer in Ontario.

- We will continue to administer the TIS until Summer 2023 and have thus far received nearly 2500 responses. During Winter and Spring 2022, we conducted 53 TIIIs.
The second stage of the study consists of an interview about transfer students' experience applying for credits to be transferred to their new programs—hereafter, the Transfer Application Interview (TAI).

More specifically, the questions are about the sequence of events, the materials required, fees paid, and both what they found easy and challenging about the process.

If time allows, we also ask them whether their reasons for choosing their new program changed since the TII or whether they consulted any other sources of information and why.

We conduct these interviews with TII participants once they have enrolled in their receiving programs and received their final transfer credit assessment.
Data Collection: Stage 3

• The first stage of the study consists of a second survey and third interview—hereafter, the Transfer Experience Survey (TES) and Transfer Experience Interview (TEI)
  • The TES questionnaire will include questions about...
    • participants' experience applying for credits to be transferred to their new programs, as well as their reasons for choosing their new program and sources of information consulted to see if those changed
    • their experience during their first year in their receiving programs (i.e., transfer shock)
  • The TEI protocol will focus on the latter (since we would have asked about the former in the TAI)
  • Participants are invited to participate in the TES and TEI one year after enrolling in their receiving program
Data Collection

Surveys:
• Our internal research team designed the TIS and are designing the TES with York University's Institute of Social Research (ISR)
• York’s ISR administers both for us

Interviews:
• Our internal research team designed the interview protocol and is conducting the interviews.

Analysis:
• To date, we have been the only ones analyzing the survey and interview data, as well as writing reports and giving presentations on the data.
## Making the Data Useable

<table>
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<th>TIS</th>
<th>TII</th>
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<tbody>
<tr>
<td>York's ISR cleans data for us (e.g., removes invalid responses, recode open-responses that fit one of the closed-response options)</td>
<td>We use a service to transcribe the audio recordings of the interviews</td>
</tr>
</tbody>
</table>
Data Uses

• Stage 1 data is being used to gain important insights on where students transfer and why

• Stage 2 data is being used to identify issues with certain transfer credit application and assessment processes

• Stage 3 will be used to understand elements of transfer students' experiences that are often studied outside Ontario (e.g., transfer shock) and students' reflections on their transfer journeys
Challenges

- Significant demands on time and expertise required to design the survey and interview questionnaires, collect and analyze data.

- Identifying transfer students: While our current sense is that the sample is representative of the students that visit Ontransfer.ca, the proportion of students that intent each type of transfer (C-U, U-U, U-C, and C-C) differ from those reported in studies with likely more representative samples (e.g., Davies, 2022).
Significance

• There is very little publicly-available data on prospective transfer students' intentions and experiences applying for transfer credit in Ontario.

• While there is more publicly-available data on transfer students' experiences at their receiving institutions, most of it is cross-sectional.

• Therefore, from this study, we stand to gain unique insights on the transfer process from the students' perspective.

• This will be useful in informing both informing transfer policy and practice (e.g., of transfer advisors), as well as applied transfer research.
Summary and Conclusion
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<th>DataPilot</th>
<th>Pathway Evaluation</th>
<th>Surveys and Interviews</th>
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<tr>
<td><strong>Problem</strong></td>
<td>Data exists, but no access</td>
<td>Gaps</td>
<td>Lack of longitudinal data on transfer student DM &amp; experience</td>
</tr>
<tr>
<td><strong>Data collection</strong></td>
<td>Easier (for us), Harder (for institutions)</td>
<td>Harder</td>
<td>Harder</td>
</tr>
<tr>
<td><strong>Making data usable</strong></td>
<td>Harder</td>
<td>Easier</td>
<td>Easier for us, harder ISR</td>
</tr>
<tr>
<td><strong>Data uses</strong></td>
<td>Identifying factors that determine transfer student success</td>
<td>Comparative analysis, identify transferability gaps, provide recommendation for institutions</td>
<td>Understanding transfer students' decision making and experience</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td>Combining and cleaning data</td>
<td>Data nuances, need to explore additional data sources</td>
<td>Human resource and cost</td>
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<tr>
<td><strong>Significance</strong></td>
<td>Strengthening system and institutional reporting capacity</td>
<td>Promote data sharing from ministry &amp; institutions; facilitate pathway development</td>
<td>Data on transfer students' decision making and experiences can be used to determine how we can best support them</td>
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Conclusion

• As evidenced, we've been able to collect and make use of various types of transfer data, despite the challenges of our context.

• This data is essential to our organization's goals of both describing and proposing improvements to transfer among Ontario's colleges and universities.
Conclusion

• We have learned a lot through this process, including:
  
  • the importance of consulting multiple subject-matter experts (e.g., IT, registrars office, faculty, academic departments, research ethics boards)
  
  • the amount and types of efforts needed from institutions to collect and curate consistent transfer data, in particular by smaller and less well-resourced institutions
  
  • the complexity of developing data from disparate sources
  
  • the investment required to help institutions learn about the various ways they can collect and harmonize student-level data
Conclusion

• While we imagine these data workaround might be useful to members of the audience encountering similar data issues, we see it as equally important to learn how the issues could be avoided.

• In particular, we argue that these could largely be avoided by providing researchers access to student-level, longitudinal, cross-institutional data.

• That said, we recognize that there is always a tension between the data needs of researchers and privacy concerns.

What are your thoughts on how to resolve this tension?
Questions?