

Precebendo, Enfrentando, e Resolvendo: The Mathematics Education of Luso-Canadian Students in Toronto

Christina Brinco & Amanda Santos

About the Authors

Christina's parents and siblings were born in S. Miguel, Azores. Amanda's father was born in Porto de Mos, Portugal. Christina & Amanda currently reside in Little Portugal, Toronto, and are the first in their families to graduate with a Masters degree.



Luso-Canadians are people of full or partial Portuguese heritage, residing in Canada.

"There is a very great need to really assert our presence; or, in other words, to say 'we are living, we are here, there is much which has to be done'"
– Participant, in Nunes, 1998

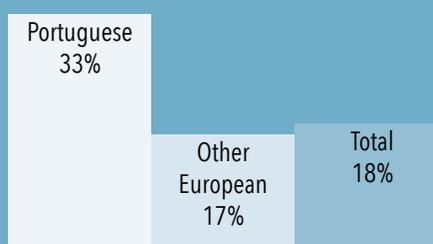
Luso-Canadian students are currently and historically underserved in Canadian education systems.

Over last forty years, Portuguese students have demonstrated disproportionately:

- ↓ lower levels of academic achievement,
- ↓ lower number of graduates from post-secondary,
- ↑ higher representation in Special Education programs,
- ↑ and higher drop-out rates, at younger ages,

(Nunes, 1998; Santos, 2006; Sardinha, 2011; Presley & Brown, 2011; Nunes, 2012).

Proportion of Toronto Adults Ages 25 to 34 Who Are Not High-school Graduates (Ornstein, 2006):



Motivation for Our Research

The catalyzing force for this project arose out of reflecting on the words of Ubaratain D'Ambrosio, who shared that the **"denial and exclusion of the cultures of the periphery, so common in the colonial process, still prevails in modern society"** (D'Ambrosio, 2012, p. 210). These words deeply resonated with us as Luso-Canadians, who identify as being part of the "periphery" in Canadian education systems. Though we have been able to succeed academically, there has always been a tension, constantly trying to prove ourselves worthy of occupying space in both our home cultures and within the dominant culture.



Standing on the shoulders of our ancestors, we saw this project as an opportunity to investigate and understand this problem from within the education system focusing on maths education and experience.

Using the lens of culturally relevant pedagogy, we aimed to amplify the need to view the experiences of Luso-Canadian students as separate and distinct, and for a focused approach in addressing Luso-Canadian underachievement.

We also sought to empower educators to be action researchers within their own contexts, providing them with a model of how they can begin to deeply know and understand the communities they serve.

We are sensitive to our position in society and recognize our own privilege in relation to those who are visible minorities. We also acknowledge Portugal's historical position as a colonial power and our relationship to Turtle Island. Though our focus was on the experiences of Luso-Canadians, **we believe our work is beneficial to all underserved students that comprise the "periphery"**.

Twenty-Five Voices

To capture a snapshot of the attitudes, perceptions, and experiences of maths and maths education of a portion of the Luso-Canadian community in Toronto, we asked a series of questions to twenty-five different individuals through an online survey and guided interviews.

Our participants were:

- All current or former students of the Toronto District School Board (TDSB) or Toronto Catholic District School Board (TCDSB)
- Aged 11 to 64
- 30% Men, 70% Women
- Majority Canadian-born (90%) with one or more parents born in Portugal

Findings

Support with Mathematics

Approximately half of all participants indicated that they had some degree of support with their mathematics, however, it may have been only available for a limited time:

"My dad was able to help me with elementary level mathematics due to his 4th grade education, however going forward [past grade 4] I did not [have help]"

– Former TDSB Student

The Ministry of Education document, *Achieving Excellence: A Renewed Vision for Education in Ontario*, expresses the need for parents to partner with schools; "Good schools become great schools when parents are engaged in their child's learning" (2014a, p. 18). This resource makes assumptions that students have parents and that those parents are able to support their children with their homework.

The Ontario Ministry of Education's guide created to support parents with their child's math homework, *Doing Mathematics With Your Child, Kindergarten to Grade 6: A Parent Guide* (2014b) is translated into 13 different languages, however, Portuguese is not one of them.

Discrepancy Between School Maths & Life Maths

Apart from measurement and operations, participants identified limited overlap in the math they were taught in school compared to the math they use in their lives.

"The hardest part of math is trying to figure out what the question is asking you to do when there isn't [an] application to life"

– Current TCDSB Student

Valuation of Community Expertise

Tensions undoubtedly arise when assigned tasks and school pressure impose a greater value on skills that are not representative of parental and community expertise.

Participant responses reflect the complex duality of retaining one's cultural identity in the pursuit of academic success within Canadian academic structures.

This incongruence places an increased burden on parents and students, as parents feel at a loss and students feel overly stressed leading to enduring negative perceptions of mathematics for families.

Algebra as the Gatekeeper

"Even the greatest of students I know still don't use algebra at all"
– Former TDSB Student

In households where the parents might not have been taught the significance of algebra as a foundation for mathematical thinking, students may struggle the most. It is possible that this lack of understanding permeates household attitudes and perceptions which in turn impact student decisions on future directions and the attainment of higher education.

Recommendations

1. **Assess the degree to which your mathematics program is culturally relevant** using tools such as the Cultural Relevant Cognitively Demanding Task Rubric (Matthews, Jones, & Parker, 2013).
2. **Get to know your students, their families, and the communities they belong to** using tools such as online surveys, written questionnaires, telephone and in-person informal conversations.
3. **Make space for different ways of knowing in your classroom** by creating opportunities for children to understand, think, and apply their skills in a variety of ways.
4. **Invite student family and community professionals into the classroom as a resource** to diversify models and examples of success. This allows children to themselves represented when there is otherwise a lack of representation.
5. **Visit community spaces** such as churches, bakeries, butchers, restaurants, sports clubs, and cultural centres, to gain a deeper perspective of community lived experience.
6. **Become aware of community-specific social services**, for example:
On Your Mark is an organization that provides one-to-one and small group tutoring for Grade 1 - 12 students of Portuguese and Spanish-speaking heritage.
The Abrigo Centre is a community mental health centre which offers services and programs catered to the Portuguese community in Toronto. www.abrigo.ca
Alliance of Portuguese Clubs & Associations of Ontario aggregates information about a variety of Portuguese cultural clubs and associations across the province. acapo.ca