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A snapshot of financial concepts in Canadian curricula: The case of simple and compound interest

Um panorama de conceitos financeiros nos currículos canadenses: o caso de juros simples e compostos

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Abstract

In this paper, I explored the ways simple and compound interest (SCI) is incorporated into secondary mathematics across all Canada. Comparative document analysis of all ten Canadian provincial curricula revealed a myriad of approaches that propose SCI to be taught from grades 5 to 12 to different profiles of students (academic, non-academic) under multiple mathematics domains: arithmetic (number), algebra (discrete and exponential functions), data and probability, financial literacy, financial mathematics, and finance-specific domains (banking, interest & credit, managing money, etc.). Overall, this inconsistency in integrating SCI in Canada is likely the result of a lack of consensus in mathematics education research regarding financial education and its place in mathematics.

Keywords: Financial mathematics; simple interest; compound interest; international curriculum; financial numeracy; financial literacy; Financial Education

Resumo

Neste artigo, exploramos as maneiras pelas quais juros simples e compostos (referidos no artigo pelo acrônimo inglês SCI) são incorporados à matemática do ensino médio nos programas curriculares das províncias do Canadá. A análise comparativa de documentos de todos os dez currículos provinciais revelou uma miríade de abordagens que propõem que o SCI seja ensinado da 5ª à 12ª série para diferentes perfis de alunos (acadêmicos, não acadêmicos) em múltiplas vertentes matemáticas: aritmética (número), álgebra (discreto e funções exponenciais), dados e probabilidade, educação financeira, matemática financeira e vertentes específicas de finanças (banco, juros e crédito, gestão de dinheiro, etc.). No geral, essa inconsistência na integração do JSC no Canadá é provavelmente o resultado da falta de consenso na pesquisa em educação matemática em relação à alfabetização financeira e seu papel na disciplina de matemática.

Palavras-chave: Matemática financeira; juros simples; juros compostos; currículo internacional; numeracia financeira; alfabetização financeira; Educação Financeira.

INTRODUTION

For over a decade now, a growing consensus among scholars and practitioners argue that financial concepts have a place in school curricula (Atkinson & Messy, 2012; Lusardi, 2012; Suiter & Meszaros, 2005). This consensus, however, stems from the ever-growing burden on individuals to be responsible for their own personal finances through neoliberal policies, particularly after the global financial crisis (Arthur, 2012; Atkinson et al., 2007). Consequently, throughout the 2010s, many institutions began tracking and assessing understanding of financial concepts among individuals and consumers. International assessments such as the Programme for International Student Assessment (PISA) is one of such initiatives. Hence, Canada's participation in PISA provides some insights into the country's educational outcomes in mathematics and financial literacy, informing policy decisions and curricular reforms.

According to the PISA 2022 results, Canadian students continued to perform above the OECD average in mathematics, with 78% attaining at least Level 2 proficiency, compared to the OECD average of 69% (OECD, 2023a). This indicates a strong foundational understanding of mathematical concepts among Canadian youth. In the domain of financial literacy, which encompasses money and transactions, planning and managing finances, risk and reward, and the financial landscape (OECD, 2023b), approximately 86% of students reported that they could independently decide what to spend their money on, reflecting a degree of financial autonomy. Nonetheless, only 25% of Canadian students indicated that they had learned about compound interest in school and still remembered what it meant, suggesting gaps in the depth of financial education (OECD, 2023c).

In Canadian provinces, financial concepts are integrated into the mathematics curriculum through a plethora of terms (Savard, Cavalcante, Javaherpour & Turineck, 2020). Among the concepts explored in mathematics, simple and compound interest (SCI) figures as one of the most ubiquitous. Such a presence stems from the realization that many financial products and services consumed in everyday life have an underlying component of interest (either as a debt or an investment). Making sure individuals have a proper understanding of this concept is paramount to making sound financial decisions on a personal level, and developing a critical stance toward financial products, the financial system, and financial policies on a societal level.

Financial interest refers to the payment from a borrower to a lender of an amount above repayment of the principal sum, at a particular rate over a period of time. SCI is determined based on how the rate is calculated over time: a rate that is always calculated on the principal sum is defined as simple interest; a rate calculated on the sum accumulated in the previous time period is defined as compound interest (also called interest over interest).

An analysis of SCI curriculum should not be taken for granted, yet only few studies have explored the specifics of SCI teaching in secondary mathematics settings. Most research on financial numeracy has lacked a clear focus on specific concepts. Some authors have investigated the impact of financial contexts to students' mathematical understanding and engagement (Graham, 2014; Koh & Low, 2010; Althauser & Harter, 2016; Bansilal, Mkhwanazi & Mahlabela, 2012). Others have framed mathematics as a means to increase financial capability levels and understanding of financial matters such as interest, inflation, and the value of money (Sole, 2014; Bansilal, 2016; Manuel & Morony, 2011). Still others have framed financial numeracy through a critical lens, proposing that financial numeracy should incorporate issues related to inequality, with the goal of promoting social justice (Baron, 2015; Campos, 2012; Cunha & Laudares, 2017).

Few studies have been published with a specific focus on SCI in the context of middle and high school mathematics. Three of them involved conceptual analyses of SCI along with proposals for secondary school teaching through graphical representations in algebra (Gortcheva, 2015), spreadsheet modelling (Parramore, 2011), or connections to other economic phenomena (Ovaska & Sumell, 2017). The other two studies investigated SCI as it related to mathematics teachers, both focused on teacher knowledge of SCI-related issues (Cavalcante, Savard & Polotskaia, 2024). Pournara (2013) focused on pre-service teachers' understanding of compounding and its effects on their understanding of SCI and concluded that pre-service teachers over-generalized linear thinking in their practices, suggesting that their understanding of compound interest should be developed in connection to other foundational mathematical concepts such as growth (linear and exponential) and progressions (arithmetic and geometric). The second study, conducted by Makonye (2017), also focused on pre-service mathematics teachers, specifically their understanding of nominal and effective interest rates, which are generally used by banking systems. They require an understanding of both simple and compound interest, and Makonye concluded that teachers find it difficult to move beyond procedural aspects of SCI. He also argued that teachers needed to have a structural understanding of nominal and effective rates to be able to teach students without introducing formulas too soon. Overall, the five studies focusing on SCI suggested that teaching SCI is more effective when students explore the concept through multiple representations and in connection to other concepts. In short, the literature proposes that the teaching of SCI should go beyond memorization of standard formulas.

Despite their acknowledgement of the importance of teaching SCI to middle and high school students, the authors of these studies did not seem to consider how the curricula described and situated SCI within mathematics. An analysis of the ways SCI is integrated is important because the epistemologies of teachers are informed, among others, by the curriculum they teach (Depaepe, Corte & Verschaffel, 2016). Hence, the goal of this paper is to contribute to literature on the teaching of SCI in middle and high school mathematics by analysing how Canadian provinces portray and situate the concept within the subject. The research question it seeks to answer is: *In what ways is simple and compound interest integrated in mathematics curricula of Canadian provinces?*

The context of financial education in Canada

In Canada, education is administered at the provincial and territorial level, which has led to the development of ten distinct curricula, each with its own structure, priorities, and timelines for reform. Despite this diversity, most Canadian provinces follow a similar school structure: elementary education generally spans Kindergarten to Grade 6 or 8, while secondary education typically begins in Grade 7 or 9 and continues through Grade 12. A key characteristic of secondary education across Canada is the practice of streaming, where students are grouped into academic/general versus applied/vocational pathways beginning in Grade 10. Academic streams often serve as preparation for university and focus on abstract mathematical reasoning, while applied or vocational streams tend to emphasize real-world applications and prepare students for college, apprenticeships, or direct entry into the workforce.

While financial education has gained traction as a global policy concern only in the last decade, financial concepts have been part of Canadian secondary school mathematics for much longer, especially in non-academic or applied streams. In fact, much of the mathematics taught in vocational pathways has historically drawn from real-life situations, with personal finance – including budgeting, interest, and banking – serving as a key context for instruction. These contextualized approaches provide students with tools for navigating financial systems, and they prioritize understanding over abstraction. By contrast, academic pathways tend to introduce financial concepts through algebraic structures, discrete functions and modeling, embedding financial concepts within broader mathematical frameworks. As a result, although both streams address financial content, the pedagogical intentions and mathematical representations differ significantly across pathways.

At the federal level, the Financial Consumer Agency of Canada (FCAC) has played a central role in promoting financial literacy. Its *National Strategy for Financial Literacy: Count Me In, Canada* (FCAC, 2015) and its subsequent update, *National Financial Literacy Strategy 2021–2026: Make Change that Counts* (FCAC, 2021), articulate a broad goal of enhancing financial well-being for Canadians. The strategy encourages initiatives across sectors to improve financial outcomes for vulnerable populations and strengthen financial decision-making. However, the strategy does not address K–12 education directly, nor does it influence curriculum reform. Instead, it is primarily concerned with consumer education, adult personal finance, and oversight of financial institutions. As such, the strategy's role in shaping provincial curricula has been minimal or indirect at best.

Provinces that have recently revised their curricula to include more explicit financial content, such as Ontario and British Columbia, have done so not as a direct response to federal strategy, but rather due to political pressure on two key fronts. First, in the wake of the 2008/2009 global financial crisis, there was a surge in public discourse around the need for financial education as a protective measure for consumers, which extended to calls for its inclusion in K–12 schooling. Second, a parallel pressure came from educators, researchers, and civil society organizations advocating for mathematics education that is more authentic, relevant, and connected to everyday life. These actors have pushed for the integration of meaningful contexts (including financial contexts) in mathematics classrooms as a way to increase student engagement and critical thinking. This dual pressure has shaped how financial concepts, including simple and compound interest, are increasingly treated as essential content in secondary education.

Theoretical framework – Financial numeracy education

When considering the intersections between mathematics education and financial education, I argue that SCI is taught within the broader context of financial numeracy, i.e., the ways in which mathematical concepts and processes are produced, mobilized, and perceived by different social groups in everyday financial activities (Cavalcante, 2020). This definition is informed by contemporary understandings of numeracy as a practice shared by members of a social group (Yasukawa, Jackson, Kane & Coben, 2018). Numeracy can involve formal mathematics (typically learned in school) or informal practices. It includes activities such as quantifying, comparing, measuring, and predicting. However, the few studies that mobilized the concept of financial numeracy framed numeracy as basic arithmetic applied in the context of finance (Lusardi, 2012; Joo & Chatterjee, 2012). In contrast, Camiot and Jeannotte proposed a broader understanding of financial numeracy, noting that "financial decisions demand other types of competencies related to being and doing in the realm of numeracy" (2016, p. 59).

I identify three dimensions within the field of financial numeracy education can: contextual, conceptual, and systemic. The *contextual dimension* refers to the study of mathematics in financial contexts. Learning about financial concepts is not necessarily part of the goals of this dimension. Because of that, financial contexts (such as purchasing prices) are only explored as a pretext to learn mathematical concepts (such as decimal numbers or percentages). The context itself does not play a major role in justifying solutions of the task.

In the case of simple and compound interest, the contextual dimension emerges in mathematics classrooms and curriculum that promotes the learning of percentages (in earlier grades) as well as exponential functions (in later grades). SCI provide great examples of exponential growth in ways that are motivating and enticing to students. Yet, there is evidence of the limitations of portraying SCI as a mere case of exponential growth due to the hybrid nature of financial products in North America and their relationship with nominal and effective rates (Cavalcante, Savard & Polotskaia, 2024).

The *conceptual dimension* refers to the teaching and learning of financial concepts which requires multiple mathematical processes such as: modelling, representing, estimating, measuring, comparing, counting, predicting, rounding, etc. These processes are part of our everyday practices of financial numeracy; hence they reflect the role of mathematics in its development. Many ideas, such as profit, debt and investments, gain deeper layers of complexity once we incorporate the conceptual dimension. Hence, those mathematical processes are necessary to understand financial concepts.

In the case of simple and compound interest, the conceptual dimension is enacted when teachers and materials promote a deeper understanding of how financial products actually work and how interest is charged in different ways (periods, rules, rates, etc.). In such a case, the breadth of mathematical concepts that can (and must) be used to make sense of SCI is much larger than in the contextual dimension. As I noted elsewhere (Cavalcante, Savard & Polotskaia, 2024), financial numeracy education encompasses the whole range of mathematical repertoire available to students in secondary school, hence an understanding of SCI must cross over more than just percentages and exponential functions to include data, statistics, (non)proportionality, relationships, etc.

Finally, the *systemic dimension* refers to the justification, or unpacking, of financial practices and concepts in relation to other epistemologies. The systemic dimension entails investigating certain financial measures and how they are calculated, defined, modelled, and portrayed in society. For that reason, it is situated in pragmatic measurement. While money is used in daily life as a unit to measure goods and services, questioning these measures and unpacking what is behind their establishment is not as common in mathematics curricula. The reasoning behind these measures reveals social, cultural, and political actors that use mathematics to convey values.

In the case of simple and compound interest, the systemic dimension makes itself present in conversations that explore the fundamentally unequal charging of interest across different financial products and social groups. While the calculations surrounding interest based on given parameters often hide the actors behind those decisions, a systemic approach to financial numeracy education can help students understand why certain groups get disadvantaged in accessing types of loans (e.g., mortgages and lines of credit) and exploited when resorting to predatory, last-option products (e.g., payday loans). Furthermore, a systemic approach can also support the de-centering of the individual in financial education by focusing on public institutions and how SCI operate in the reality of city budgets, government bonds, and public debt.

Similarly to simple and compound interest, the concept of inflation is a good example: it is common knowledge that inflation is the general increase of prices that happen over time in capitalist economies. However, the calculation of this index is a social and economic convention that requires selecting the basket of goods and services to represent the average increase. How the final index rate will be used by different institutions, companies and individuals depends on the understanding of this measure as well as the values possessed by each actor. Mathematics plays an important role in empowering individuals to engage in critical debates about how financial concepts are mobilized and measured in daily financial practices, and such a role is recognized within the systemic dimension of financial numeracy education.

METHODS

This paper is part of a study whose goal was to clarify how differences in curricula affect the teaching of simple and compound interest. In this article, I focused on curricular differences and how SCI are portrayed in secondary mathematics in Canada. To tackle this goal, I collected mathematics curriculum documents from grades 7–12 (middle and secondary schools) in each of the 10 Canadian provinces. These documents set out the vision for education as well as specific expectations regarding concepts to be taught in each grade and mathematical domain.

The goal was analyze each province’s approach to the teaching of simple and compound interest. The analysis centred around the structure of the curriculum (when SCI is taught, in which mathematics course, to which profile of students) and the financial contexts associated with SCI (if the curriculum proposes specific contexts such as debt, investment, retirement, inflation, etc.). I used a qualitative data analysis software (MaxQDA) to organize the documents and generate a code book. The codes were generated based on constant comparison (Saldaña, 2015) and emerging patterns in the data. This process was particularly important in the coding of the mathematics streams (or tracks) in which SCI is included and the concepts/contexts associated with SCI in the curriculum.

Findings and Discussion

The results (summarized in table 1) show that simple and compound interest are included in every Canadian mathematics curriculum in at least one secondary course. This incorporation, however, varies drastically in breadth and depth depending on the province, grade, curriculum domain and stream. While Quebec, for example, only incorporates SCI in grade 11, Ontario incorporates the concept in every school year from grade 5 to 12 (albeit in different depths). All other provinces, however, introduce SCI between grades 9 and 11 and teach it for at least two grades, typically at the end of secondary school.

As mentioned before, in Canada every province has some form of streaming in their mathematics courses starting from grade 10. Streaming refers to the separation of students in mathematics classes based on their achievement or professional aspirations. Although multiple courses and streaming approaches exist, we can generally separate courses into academic or non-academic mathematics, with the former culminating in the study of calculus (a pathway to STEM university degrees). Non-academic streams usually connect mathematics with everyday life and provide opportunities for the application of concepts that can support students in further studies of in the workplace.

Table 1: Summary of how simple and compound interest are integrated into Canadian mathematics curricula

Province & Year (most recent)	**Grade & Stream**	**Domain** (Terminology)	**SCI concepts and/or contexts**
Alberta (2008)	11 – 12 Non-academic	Number	Compound interest
British Columbia (2020)	9 Unified	Data & Probability (Financial Literacy)	Banking, simple interest, savings, planned purchases
	10 – 12 Academic & Non-academic	Data & Probability (Financial Literacy)	Personal investments, loans, credit cards, mortgages; graphical representations of financial growth, investments/ loans with regular payments; changing interest rates and/or payments; purchase, own, or lease and to operate and maintain a vehicle
Manitoba (2014)	11 – 12 Non-academic	Interest & Credit Managing Money	Compound interest; Credit options; Formulas of simple interest; Financial institution services; cost and benefit of renting, buying, and leasing. investment portfolio based on interest rate; rate of return and total return; purchase and maintenance of a house
New Brunswick (2012)	10 – 11 Academic Non-academic	Number (Financial Mathematics)	Simple and compound interest; credit options; financial institution services; costs and benefits of renting; leasing; and buying; investment portfolio in terms of interest rate; rate of return; total return
Newfoundland and Labrador (2012)	11 – 12 Academic Non-academic	Banking and Budgeting (Financial Mathematics)	Simple interest; compound interest; credit options; costs of renting, leasing, and buying

Nova Scotia (2015)	10 – 12 Academic Non-academic	 Financial Mathematics Earning and Purchasing Banking Number	 Simple and compound interest calculation; cost of a loan; credit options; amortization tables; cost of borrowing money; savings options; costs and benefits of renting, leasing, and buying; investment portfolio in terms of interest rate, rate of return, total return
Ontario (2020)	5 – 9 Unified	 Financial Literacy	 Credit; growth of simple and compound interest; interest rates and other charges; borrowing time; payments
(2007)	11 – 12 Academic Non-academic	 Exponential Functions Discrete Functions Personal Finance Earning & Purchasing Saving, Investing & Borrowing Transportation & Travel	 Compound interest; ordinary annuities Interest rates ratios, proportions; compound interest, sequences, and series; compound interest and exponential growth; investment alternatives; credit options, borrowing costs; financial institution services; buy, rent and lease
Prince Edward Island (2012)	10 – 12 Academic Non-Academic	 Personal Finance Number (Financial Mathematics)	 Compound interest; decision-making with compound interest; acquisition of a vehicle: leasing, buying, leasing to buy
Quebec (2016)	11 Non-academic	 Arithmetic and Algebra (Financial Mathematics)	 Interest rate; interest period; discounting (present value); compounding (future value)
Saskatchewan (2012)	11 – 12 Academic Non-academic	 Number Sense Logical Thinking Mathematics as a Human Endeavour	 Formulas of simple interest; rates in commerce; financial decision making; renting, leasing, buying; compound interest; investment portfolios; credit options; financial industrial services; acquisition of a vehicle: purchasing without credit, purchasing with credit, leasing, leasing to purchase

Source: Prepared by the author

In what grades is SCI taught?

Only three provinces (British Columbia, New Brunswick, and Ontario) teach SCI before streaming students into different mathematics courses. They do so at the beginning of secondary school, between grades 9 and 10. That ensures that every student will have learned SCI for at least one year before going into specialized mathematics courses. At the end of secondary school, in grades 11 and 12, students pursuing academic streams explore SCI in seven provinces, in courses such as “Foundations of Mathematics”, “Academic Mathematics”, and even “Pre-Calculus”. Since these courses are typically organized according to university mathematics, most provinces dedicate limited space to explorations of compound interest and financial situations associated with it (such as acquisition of a vehicle). Finally, non-academic streams in every province tackle SCI more deeply than academic streams. They do so by extending the range of explorations instead of introducing more concepts (e.g. presenting more financial situations or financial products). In Nova Scotia, for example, academic streams have 4 content expectations associated with SCI, whereas non-academic streams have 13 (across different courses). In both cases, however, students are expected to “demonstrate an understanding of compound interest in financial decision making”. Non-academic courses include “Cultural, Social and Technical Mathematics”, “Financial and Workplace Mathematics”, “Workplace and Apprenticeship Mathematics”, “Knowledge and Employability Mathematics”, and “Applied Mathematics”.

Overall, our findings suggest that Canadian provinces envision SCI (and financial numeracy more broadly) as a topic mostly necessary for students with lower mathematical content knowledge. That is reflected in a higher emphasis of SCI in the lower grades (early secondary) and non-academic streams (later in grades 11 and 12).

Such an approach, surprisingly consistent across all provinces, seems to imply a vision that a) students in academic streams do not require as much scaffolding in financial numeracy as their non-academic peers and b) formal mathematics takes priority compared to numeracy. Such a problematic approach implies that students in academic streams – typically at ease with mathematics – would have no problem applying their mathematical knowledge to financial situations. Unfortunately, that is not the case; numeracy is not merely an application of disciplinary mathematics (Clements et al, 2012).

A notable pattern emerges when examining when SCI is introduced across provinces: British Columbia and Ontario are the only two provinces to include SCI (and financial numeracy more broadly) explicitly in the earlier grades, particularly within unified and/or elementary programs. Not coincidentally, these are also the provinces with the most recent curriculum revisions. This suggests that other provinces may follow suit as they undertake their own updates. Collectively, these trends indicate a national movement toward aligning curricula with international calls for earlier and more explicit financial education.

In which domain is SCI included?

In all provinces, the mathematics curriculum is organized according to domains which generally reflect areas of organization of mathematical concepts. They include Number (or Arithmetic), Algebra, Geometry, Measurement, and Data (or Statistics and Probability). Some provinces also include non-traditional domains to reflect connections between the subject and other parts of our lives, including Mathematics as a Human Endeavour (Saskatchewan), Social Emotional Learning (Ontario), and various financial practices such as Banking and Budgeting (Newfoundland and Labrador).

The findings identified vastly different approaches to positioning SCI within these domains of mathematics. In four provinces (Alberta, Prince Edward Island, New Brunswick and Saskatchewan), SCI is integrated into the number domain. Connecting SCI to what is fundamentally arithmetic promotes a numerical (rather than analytic) understanding of situations related to interest. Students can have access to explorations that investigate proportionality and estimations in concrete examples.

In two provinces, Ontario and Quebec, SCI teaching is situated within algebra. The potentiality of algebra resides in the abstraction of the variables associated with interest in everyday life. Students can learn about growth through functions as well as explore the patterns that exist in SCI situations and other factors (such as equity and justice). In doing so, they would have access to the structures underlying the very situations they encounter and will encounter in life.

British Columbia is the only province to incorporate SCI into the data and probability domain, which allows students to understand these concepts through notions of variability, risk and uncertainty.

Finally, in five provinces, SCI is located within a unique domain dedicated to financial concepts. These domains are not named consistently around the country, however. Examples of finance-related domains include financial literacy (Ontario grade 9), banking and budgeting (Newfoundland and Labrador), personal finance (Prince Edward Island), and saving, investing, and borrowing (Ontario grades 11 and 12).

It is important to notice, however, that this analysis has not shown significant differences in terms of the content implemented within these different domains of mathematics. Regardless of the domain in which SCI appears to be located, most provinces include a fairly similar set of concepts in their learning expectations. Such a set includes the definitions of simple interest and compound interest, some parameters (e.g., interest rates, period, amounts) and their effects on each other, some reference to decision-making, and inconsistent lists of financial products that are deemed relevant to students (e.g., purchasing cars, making budgets, or housing).

The lack of consistency across Canadian provinces in the incorporation of SCI shows little regard for the values and epistemologies portrayed by the curriculum with regards to financial numeracy in mathematics. The most pressing aspect is the dichotomy of mathematical concepts that involve certainty and uncertainty. If SCI is integrated in Algebra and Arithmetic domains, students learn about this concept from a deterministic angle: interest is always determined by variables which are typically provided in problems. On the other hand, if SCI is integrated in data domains, students have more opportunities to understand the inherent variability associated with interest rates within and across financial products. In fact, they can go as far as identifying which financial situations involve SCI or not. For example, from our experience as teachers and teacher educators, many teachers tend to use stocks or inflation as situations to apply compounding formula, hence mistakenly associating such situations with compound interest.

What SCI-related concepts and contexts are included?

The SCI content covered in the Canadian curricula can be separated in two blocks: <u>formulas</u> associated with SCI, and <u>contexts</u> where SCI appears. Quebec is the province with the biggest focus on concepts and formulas. Curriculum expectations in this province refer to simple and compound interest, interest period, interest rates, future value, and present value as different learning expectations. Other provinces also mention simple interest and compound interest in different grades, but propose a focus on the financial contexts associated with such concepts: credit cards, loans, lease, investments, mortgages, purchase options, etc. Interestingly, traditional formulas (such as the compounding formula) appear mostly in resource suggestions for teachers, not as a learning expectation. The assumption here seems to be that developing an understanding of SCI can be done through formulas or other means (such as simulations with technology).

In all provinces, however, there seems to be a heavier focus on personal finance compared to attention to systemic issues. Among the provinces that incorporate explicit contexts for the investigation of SCI, such an incorporation is done solely through the lens of personal choice of a consumer. In doing so, I argue that Canadian curricula portray SCI through an implicit lens of middle-class lifestyle.

The most emblematic example of that is the context of transportation, present in most provinces and intensified in Ontario. The province has a whole unit (or domain) dedicated to transportation and travel for students not pursuing academic pathways (in a course titled *Mathematics for Work and Everyday Life*). In such a domain, they learn to "interpret information about owning and operating a vehicle and solve problems involving the associated costs" (Ontario Ministry of Education, 2007, p. 83).

The concern with owning a personal vehicle is a legitimate one given the North American context of urban sprawl, suburban homes and lack of public transit infrastructure. However, it would be equally desirable for students to learn how SCI is relevant in the context of public government's investments in public transit, such as the Ontario line currently in construction in Toronto (capital of Ontario). The heavy focus on a middle-class gadget (a teenager-operated personal vehicle) reflects some orientations of the Canadian curricula and its consequent lack of criticality in regard to contexts in which SCI emerges.

In other words, the curriculum attempts to portray financial numeracy as a neutral topic that requires mathematical knowledge for rational decision making. It hides, therefore, any and all systemic connections to these very concepts. Systemic connections could come in the form of a) analyzing how public institutions make use of financial instruments, b) how different levels of government affect and are affected by financial practices, or c) how various social groups experience forms of oppression through financial instruments, consequently impacting individuals' financial well-being. By omitting these possible connections, the Canadian curricula may be imposing an obstacle for teachers to develop the systemic dimension of financial numeracy in their classes and for students to become well-rounded, financially literature and numerate citizens.

CONCLUSION

This paper examined how the concept of simple and compound interest is integrated into secondary mathematics curricula across Canadian provinces. The analysis revealed significant variability in when, where, and how SCI is taught, with most provinces limiting deeper engagement with SCI to non-academic streams or later grades. These curricular choices reflect an underlying assumption that financial numeracy is primarily relevant for students not pursuing advanced mathematics, an assumption that runs counter to research on the importance of financial knowledge for all learners, regardless of academic stream.

The findings show that SCI is most often presented through a contextual or conceptual lens, with little attention paid to systemic dimensions of financial numeracy such as inequality, institutional actors, or sociopolitical implications of financial practices. This limits students' ability to critically understand how interest operates not just in personal decisions, but in public finance and economic policy.

While previous studies have focused on teaching strategies or teacher knowledge related to SCI, this study offers a unique contribution by analyzing the curriculum itself as a shaping force in students' financial understanding. As curricula continue to evolve, especially in light of growing international and national pressures to enhance financial education, we recommend greater alignment between curriculum design and contemporary frameworks of financial numeracy that include systemic and critical perspectives. Future research should examine how teachers interpret and implement these curricula in practice and how students develop their understanding of SCI across different instructional contexts.

Differences in grade-level, mathematics domain, and content associated with SCI have important implications for how students in Canada are learning about financial interest, and how teachers understand and teach the concept. Teaching SCI in different grades implies using different frameworks of previous knowledge held by students (percentages, functions, data visualization). Similarly, teaching SCI in different mathematics domains implies making distinct connections between SCI and other content (either disciplinary or associated with everyday life and workplace). Consequently, there is a risk that teachers might be portraying different understandings of SCI in response to how their curriculum presents it, which in turn might impact students' future and their ability to make sound financial decisions.

This study has shed light on issues associated with consistency (terminology, target audience, concepts and contexts implemented) in Canadian secondary mathematics curricula. I argued that such a lack of consistency has important implications for what mathematical connections can be made through SCI and what values are being portrayed. Most importantly, I have not found significant differences in terms of the content expectations associated with SCI across different grades, streams, and domains. Consequently, it begs the question as to why these curricula position SCI so differently. Although further research needs to be conducted to investigate the sources used by curriculum developers in each province, the lack of consensus (and research) in the literature might be a possible explanation for vastly different approaches to SCI in Canada, along with potential socio-cultural, economic, and political characteristics of each province.

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