Journal of Research in Science, Mathematics and Technology Education

https://jrsmte.com/

Evaluating the Influence of Teaching Approaches on the Mathematical Achievement of Immigrant Students

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Abstract: This study explores the challenges faced by Iranian new immigrant high school students in learning mathematics after relocating to Vancouver, BC, despite their strong mathematical background. It focuses on the differences between Iranian and Canadian teaching methods. Through qualitative analysis of two series of interviews with seven Iranian immigrant students, this study investigates how this shift in educational approaches affects their learning experiences. The findings reveal that students struggle to adapt to the Canadian system, which emphasizes autonomy and self-directed learning—a stark contrast to the structured approach in Iran. This unfamiliarity with self-directed learning and lack of planning skills hinders their academic progress. The study underscores the need for targeted support to help these students develop decision-making and autonomous learning skills to improve their educational outcomes in the Canadian context. These findings highlight the necessity for educators to understand and accommodate the educational backgrounds of immigrant students to facilitate their successful integration into the new educational system

Keywords: Mathematics Education; Immigrant Students; Pedagogical Approaches; Iranian Students
DOI: https://doi.org/10.31756/jrsmte.319SI

Introduction

As a mathematics tutor, I have observed that my Iranian students, who have immigrated to Vancouver, BC, face difficulties in grasping mathematical concepts. Initially, many of these students demonstrated proficiency in mathematics. However, over time, they began experiencing setbacks, resulting in a decline in their academic performance. This unexpected change has left both parents and students puzzled. Despite finding mathematics topics initially familiar and easy to solve, they have gradually encountered difficulties in understanding and solving new problems. This observation aligns with Al-Haddia and King (2020) and Antony-Newman's (2019) studies, which highlight the critical role of academic experiences in the educational success of immigrant students. While a strong mathematical background in Iran, evidenced by high academic performance and a solid understanding of mathematical concepts, initially seemed sufficient, these students still faced difficulties in Vancouver.

Research suggests that young immigrants experience more challenges in adapting to new educational systems than adults (Bodovski et al., 2020). Some of these difficulties may stem from their socioeconomic or ethno-cultural characteristics, as well as the influence of teachers' cultural and ethnic backgrounds on their teaching methods (Atef, 2021). For instance, Takahashi and Yoshida (2004) stated that Asian educational approaches often prioritize discipline and academic excellence. Japanese teachers might employ a method known as "lesson study," where educators collaboratively plan, observe, and analyze learning activities to improve instruction (Takahashi & Yoshida, 2004). In contrast, African American teachers may integrate culturally responsive pedagogy, which incorporates students' cultural references in all aspects of learning to make education more relevant and effective (Gay, 2002). Similarly, Latino educators might emphasize communal learning and the importance of family, often

using cooperative learning strategies that reflect the collectivist nature of many Latin American cultures (Nieto & Bode, 2017). These varied teaching approaches can impact student learning processes. For examples, those immigrant students accustomed to high discipline and academic excellence, relocating to a country with a less authoritative educational culture often presents significant adjustment challenges, as they expect to receive instruction for each step of their study.

Research by Al-Haddia and King (2020) indicates that immigrant students encounter distinctive obstacles in their academic pursuits, challenges that diverge from those experienced by local students. However, many of these issues go unreported due to a lack of resources for studying such issues, including the diverse cultures and languages of immigrant populations (Casper et al., 2022). Additionally, social research often involves smaller immigrant populations, resulting in statistically insignificant datasets. Different ethnic groups face distinct challenges, and understanding the specific issues of each group is vital for fostering integration and building a successful society. Existing literature on the mathematics learning of immigrant students primarily focuses on elementary school students (Levels & Dronkers, 2008; Riordain & O'Donoghue, 2009; Takeuchi, 2018; Vilenius-Tuohimaa et al., 2008). Limited research on high school immigrant students' math learning (Bengtsson, 2012; de Araujo et al., 2018; Marks, 2005; Martin et al., 2012; Yaro, 2021) mainly addresses general or language-related challenges in solving math word problems. Notably, none of these studies focus on the mathematics learning experiences of Iranian immigrant students in Vancouver, BC.

There is a notable gap in the literature concerning the mathematical learning experiences of Iranian new immigrant high school students in Vancouver, BC. Despite their small population, the challenges faced by Iranian students can affect their peers, causing distractions and a lack of focus in math classes. Addressing these issues may also reveal similar problems in other subjects. Furthermore, difficulties in understanding mathematics can lead to decreased school attendance and a loss of interest in education among these students.

In this article, I first review the related literature regarding the influence of teaching approaches on the mathematical achievement of immigrant students. Then, I describe my plan and process of designing and conducting my study to present the results of the study on the influence of teaching approaches on the mathematical experiences of Iranian students. After that, I report the results of my study along with a comparative discussion with previous similar studies. Finally, I conclude my paper with some implications of the study and recommendations for future research.

Literature Review

Students often encounter difficulties in recalling facts and comprehending mathematics concepts (Lock & Lee, 2001). A significant contributing factor to this challenge lies within the educational systems and the teaching approaches employed (Akhter et al., 2015). Research findings have unveiled a nuanced landscape of teaching practices and beliefs among educators from various nations, revealing both shared elements and disparities (Leung, 2021; Tweed & Lehman, 2002). These attitudes and convictions held by teachers play a pivotal role in shaping

students' learning experiences and outcomes in mathematics (Celedón-Pattichis et al., 2022; Copeland Solas & Kamalodeen, 2022, 2022).

Effective teaching practices are crucial for facilitating the adaptation of immigrant students to the classroom environment (Celedón-Pattichis et al., 2022). However, instructing culturally diverse students presents educators with unique challenges (Fritzlan, 2021). Language barriers and varying expectations often lead to misunderstandings between teachers and immigrant students, impacting their learning (Binhas & Yaknich, 2019; Celedón-Pattichis et al., 2022). For example, immigrant students may struggle to grasp word problem vocabulary, impeding their problem-solving abilities (Ahmadi et al., 2020).

Teaching approaches that integrate real-world questions and contexts can enhance students' engagement and understanding (Riordain & O'Donoghue, 2009). However, these approaches must be carefully tailored to avoid cultural biases that may alienate immigrant students. For instance, from my personal experience as a teachers, using sports or cultural events unfamiliar to newcomer students can pose additional challenges to understand the question. It is essential for educators to be mindful of such cultural nuances to avoid diverting students from the core mathematical concepts (Creighton, 2018). The integration of digital resources in teaching can also play a significant role in enhancing students' exploration and interaction with mathematical concepts, potentially helping overcome language barriers and enhancing comprehension. However, the unfamiliarity with these resources and their functionalities can introduce additional challenges and anxiety for immigrant students (Creighton, 2018).

Teachers wield considerable influence in structuring, regulating, and evaluating mathematics homework and assignments (Sayers et al., 2022). While some educators assign homework to reinforce classroom learning and promote discipline (Deysolong, 2023), others refrain due to concerns about its potential to induce stress (Xu et al., 2016). This spectrum of beliefs and practices among teachers directly shapes students' experiences and attitudes toward homework, impacting their overall engagement and success in mathematics (Svensson et al., 2014). Moreover, teachers play a substantial role in engaging with students' parents, needing to understand their expectations and guide them through the local educational system (Antony-Newman, 2019). Effective communication and collaboration between teachers and parents are crucial for supporting immigrant students' mathematics learning. However, teachers often encounter hurdles such as language barriers and cultural misunderstandings when working with immigrant parents (Takeuchi, 2018).

Understanding the diverse backgrounds and prior learning experiences of immigrant students is essential for developing effective teaching approaches in mathematics education. Civil (2012) highlights the assumption often made by educators and schools that mathematics is universally culture-neutral, potentially overlooking the varying levels of prior mathematical knowledge possessed by immigrant children. To more effectively gauge the previous math knowledge of immigrant students, there is a need to transition from traditional assessment methods to more meaningful and diverse approaches for evaluating mathematical understanding (Ellis & Berry III, 2005).

Research Method

In contrast to Iran, where there is a national curriculum that standardizes education across the country, Canada does not have a national curriculum. Instead, each province and territory is responsible for developing and implementing its own curriculum, leading to variations in educational content and teaching methods across different regions (Cheney, 2005). This study focused on mathematics learning of Iranian immigrant students in Vancouver, BC.
In contrast to Canada, where high school students have a variety of options to select their courses, Iranian elementary and high school students do not have elective courses. The curriculum is standardized, and all students follow the same set of courses without the flexibility to choose subjects based on their interests or career aspirations. Additionally, in Iran, homework is an essential part of education. Teachers place a strong emphasis on the completion of homework assignments, and incomplete assignments are not tolerated. This strict approach to homework is intended to reinforce learning and ensure that students are consistently engaged with the material outside of school hours (Keshvari et al., 2022) . In Iran, the math curriculum differs from that of Canada. Iranian students are exposed to advanced concepts such as limits and quadratics at an earlier stage in their education (Kiamanesh, 2004). Furthermore, the final assessment of students' performance is predominantly based on their test results, and there is a stringent expectation that all textbooks must be covered within the academic year (Arani, 2015).

The goal of most high school students in Iran is to pass the Konkoor (university entrance exam). All questions on the Konkoor are multiple-choice and require quick responses due to time constraints (Farrokhi-Khajeh-Pasha et al., 2012). Success on this exam hinges on the ability to efficiently solve questions within a limited timeframe (Arab et al., 2019). Lately, teachers have been emphasizing the mastery of problem-solving techniques akin to those found on the Konkoor (Farrokhi-Khajeh-Pasha et al., 2012). Acquiring these methods involves memorizing numerous formulas that have no utility outside of this specific exam context (Borji & Sánchez, 2019). In contrast, in a Canadian classroom, students are not required to memorize formulas, and teachers often provide them with a formula sheet during tests.

The population of this study consisted of Iranian immigrant high school students, aged 14 to 18 years (Grade 8 to 12), who immigrated to Vancouver, BC, Canada, one to five years prior to the study. The selected time interval was chosen because students who immigrated more than five years ago were usually still in elementary school in Iran and might not have the requisite knowledge to answer the interview questions adequately. In Iran, high school begins at Grade 7, so participants needed to be at least in Grade 8 to ensure they had experienced both Iranian and Canadian high school education.

Patton (1990) notes that there is no specific rule for determining the sample size in a qualitative study. Seidman (2015) argues that a researcher cannot predict the sample size before starting the study but can assume the sample is sufficient once the same information starts to be repeated. Conversely, Morse (2000) recommends having at least six participants, a sentiment echoed by Cypress (2018), who suggests at least five participants in qualitative research. Based on these guidelines, seven Iranian immigrant high school students were initially selected for this study. An

eighth participant was added to ensure all significant themes were captured. During the eighth interview, as per Seidman's (2015) description, no new information emerged, so this interview was excluded from the analysis.
I designed a flyer with brief information about the study to recruit participants. I approached Iranian immigrant families at community and social gatherings, targeting those who had moved to Vancouver one to five years ago and had teenagers aged 14-18 enrolled in schools in Greater Vancouver. Interested families were given consent forms and one week to decide on participation. After this period, I contacted the families who agreed to participate and scheduled the first interview.

To describe the learning experiences of Iranian immigrant high school students in Iran and Canada, I employed a qualitative research method to capture the characteristics of this phenomenon. Observation and interview are common data collection methods in qualitative research designs like phenomenology, ethnography, or grounded theory (van Manen, 2017). Given that part of the students' experiences occurred in Iran and the study's aim was to understand their experiences from their perspective, interviews were chosen over observation.
This exploratory study used semi-structured interviews, allowing for follow-up questions to clarify ambiguities. In-person interviews captured both verbal and non-verbal cues. Open-ended questions enabled participants to freely express their thoughts and feelings. In-person interviews also allowed for the exploration of unanticipated topics that arose during the conversation.

Seidman (2015) suggests a three-interview series for in-depth phenomenological interviews, allowing participants to reflect on their experiences between sessions. However, considering the adolescent participants' potential reluctance for prolonged conversations, the study employed two 30-minute interviews spaced several days apart. The interviews were conducted in a relaxed atmosphere at a convenient location for participants, ensuring they felt comfortable expressing their views.

Interview questions were based on the study's objectives, research questions, and literature review. They were divided into two sections for the two interviews. At the beginning of the first meeting, participants completed a demographic and socioeconomic questionnaire to gather relevant background information in a respectful manner. The first interview covered participants' backgrounds, immigration stories, challenges in settling in Canada, and experiences in Iranian and Canadian schools. The second interview focused on their mathematics learning experiences in both countries, comparing these experiences and discussing coping strategies and support systems. Questions were initially designed based on Bishop's (1994) and Reyes and Stanic's (1988) views on influential factors in learning mathematics. Bishop highlights factors like language, geometrical concepts, calculation procedures, and cognitive preferences, while Reyes and Stanic emphasize societal influences, school curricula, teacher and student attitudes, and classroom processes. These perspectives shaped the interview questions, which were divided into two sections. The first section contained general questions such as their grade, date of arrival in Canada, the start of their Canadian schooling, their parents' educational background, and the number of their siblings. The second section included questions related to their mathematics learning experiences in Iran and

Canada. For example, one question asked, "Can you describe one of your mathematics classes in Iran? Illustrate everything that might happen from the moment your teacher started until the bell rang. After formulating the questions, I consulted two UBC PhD students with similar research backgrounds for feedback, leading to valuable improvements such as simplifying complex questions and incorporating introductory questions to ease participants into the interview. Further refinement was done with input from my supervisor, who suggested reducing the number of questions to allow more open conversation. After integrating all suggestions, I finalized the questions.
To address ambiguities and enhance reliability, a pilot interview with another Iranian immigrant student was conducted, resulting in rephrased and reordered questions. This pilot study also indicated a need to translate interview questions into Farsi to ensure participants' full understanding. A professional translator verified the translation to maintain the original intent.

Interviews were designed to keep participants focused on the research goals, with follow-up questions used to gather more detailed information when necessary. Interviews were audio-recorded and transcribed by a native Farsi transcriber. To familiarize myself with the data, I reviewed the transcripts multiple times. Direct quotes from participants were translated into English and verified by a professional translator to ensure accuracy.
Thematic Analysis (TA) was used to analyze qualitative data. Initial familiarization with the data was followed by generating codes for important features. Common codes were grouped into themes, which were reviewed and refined to ensure they accurately represented the research questions. Final themes were named and described, and connections were drawn between themes and existing literature.

Credibility of the data was ensured through methods such as member checking, where participants reviewed and confirmed the accuracy of their interview data. Detailed descriptions of participants and contexts further supported the study's credibility. Comparing comments from different participants helped validate the data, and following established interview protocols ensured the reliability of the findings.

Results and Discussion

Three boys and four girls, aged 13 to 16 years old, agreed to participate. Their names have been changed to ensure anonymity. All participants live in their family home with their parents and siblings. Their parents have a minimum education level of a bachelor's degree (Table 1).

Thematic analysis showed that different teaching methods in Canada and Iran was a common theme. Teacher's approaches in checking homework, conducting tests, and doing projects were different in Canada than in Iran. However, teachers' methods in teaching a new topic in Canada and Iran are similar. They usually start by talking about previous topics that would be related to the new lessons then solve a couple of problems. They ask students to follow their lead and solve some questions with them. If no student seems to have a problem with a new lesson, they

ask their class to solve problems on their own. Most of the time, Canadian teachers allow students to do homework in class, but Iranian teachers do not.

Table 1

Participants' information

Selected Name	Age	Grade	Date of arrival in Canada	Parent education background and occupation	Sibling
Liam	16	11	2016	Mother: Masters, Laser treatment specialist Father: PhD., Ph.D. Student	no
Ali	16	11	2014	Mother: Bachelor's Degree, Financial advisor Father: Bachelor's Degree, not clear	two Sisters
Sam	15	10	2013	Mother: Bachelor's Degree, Nurse Father: PhD., University Professor	One Sister
Angela	13	8	2013	Mother: Bachelor's Degree, Nurse Father: PhD., University Professor	One Brother
Mary	15	10	2017	Mother: Masters, master's Student Father: Masters, not clear	One Sister
Sara	13	8	2018	Mother: Bachelor's Degree, housekeeper Father: Bachelor's Degree, not clear	One Brother
Jazi	16	11	2017	Mother: Bachelor's Degree, housekeeper Father: Bachelor's Degree, not clear	no

Mathematics Homework

Students emphasized that doing homework was important in Iran. At the beginning of each class, teachers (in Iran) would check the homework, and if it was unfinished, they would be punished.

Liam said,

> Teachers made a big deal if we did not finish our homework (they sent us to the office to talk to vice-principal, called our parents, assigned more homework); therefore, I preferred to do my homework to avoid the headache.

Sam said, "In Iran, teachers checked our homework in front of all students. If we have not finished it, my teacher blamed us in front of all our classmates and embarrassed us."

Mary explained, in every class, the first thing was for the teacher to check homework to make sure students did their work. Then she called students one by one to solve homework on the board. If a student wrote the correct answer but could not explain, then the teacher would conclude that this student cheated. This too would lead to punishment.

As an Iranian I know that Iranian parents highly value their children's education. For many of these parents, mathematics is one of the most important topics at school. Many parents send their children to private schools because students' learning progress is controlled and supervised in these schools. Most of my participants told me that when a student fails to complete their homework, teachers, especially math teachers, tend to blame the student in front of their classmates, assign additional homework as punishment, report them to the principal, and contact parents to ensure completion of assignments. This approach may not align with contemporary Canadian educational practices. Nevertheless, all participants indicated that this strict enforcement was a motivating factor for them to consistently complete their assignments.

My participants stated that students did their homework in Iran, often without thinking about the benefit or value of it. They just finished it on time to avoid upsetting their teachers and parents. Xu and Sayers have found the similar pattern that sometimes students pretended to like doing homework to make their parents happy (Sayers et al., 2022; Xu et al., 2016). Meeting parental expectations was a main reason that most of my participants (as they metioned) finished their homework in Iran. They would have been punished (e.g., losing weekly allowance, tablet, or cellphone) if they did not study hard or did not get a good mark.

All students (MP) expressed that in contrast to Iran, in Canada, doing homework is not a priority for teachers. Most of the teachers collect the homework for a chapter all at once on exam day. Then when students are writing their exams, teachers check the homework. Angela said, if for any reason a student has not finished her/his homework, the teacher gives her/him more time to finish it. Then, if a student does not complete her/his homework, they would only lose homework marks, with no other punishment. Liam said that a teacher might send an email to the parents of a student who did not do very well at exams and who had not finished homework for a long time.
These students (MP) did not put much effort into doing their homework in Canada. Three (Liam, Sam, and Ali) out of seven students did not do homework, and the rest did not finish it on time or finish it partially. When I asked about their reasons for not doing their homework, most of them did not have a specific reason. Only Liam and Sam said that homework usually is repetitious, and they do not like that. Liam and Sam might be right, as Cunha et al. (2015) stated, homework's design impacts students' engagement in doing it. In fact, the type of questions and tasks must be matched with students' learning needs (Kotsopoulos et al., 2011). However, if redundancy of questions was the reason, then these students (Liam and Sam) should have addressed at least those questions that were not repetitive. Instead, they usually did not do it at all. Why then, did they take time and finish their homework in Iran it was also repetitious there?

The participating students (MP) expressed that in contrast to Iran, their teachers in Canada are more straightforward. At the beginning of the academic year, teachers set a series of rules and give students a plan for that year. Every student must follow the rules to get a good grade. These rules indicate that the final mark is calculated based on students' work, which includes homework, attendance, participating in class discussion, projects, tests, and exams. Each part has a specific percentage in the final grade. For example, homework is often worth 10% of the final grade. In this regard, Mary said, "My teacher does not get mad at me if I have not done my homework; he reduces the

homework mark. But in Iran, my teacher did not decrease my final mark, but she got mad and blamed me in front of all the students". Angela expressed that "Here in Canada if I have not finished my homework, my teacher gives me more time to finish it. We usually have a couple of chances to finish our homework before losing marks".
As I understand from participants, in Canada, the only consequence of not doing homework is the loss of marks. Consequently, students do not feel obligated to complete their assignments. While the deduction of homework marks does impact students' final grades (as MP mentioned), they are aware that their parents may not be informed of the reason for the lower grade. As a teacher, I firmly believe that mastering mathematics requires consistent practice. Many students can successfully solve problems immediately after learning a new concept, especially with guidance from their teacher or peers. However, merely completing assignments in the classroom does not guarantee a deep understanding of the material. From my experience as a math tutor, students may encounter challenges when attempting similar problems independently at home. I advocate for a more comprehensive approach to learning mathematics. This entails solving a variety of problems over time, revisiting previous topics regularly, and tackling assignments independently to ensure a thorough understanding. Therefore, I disagree with the prevalent Canadian method of completing all homework during class time, as MP mentioned. Students need the opportunity to work on some assignments at home to reinforce their learning and develop problem-solving skills autonomously.

Based on MP, teachers' methods in announcing the grades is another difference between Iranian and Canadian schools. Students (MP) stated that in Iran, the teachers announced individual students' grades by name in front of the whole class. Students are fully aware of each other's grades. Then the teacher shames students who have a low mark in front of their peers. This usually embarrasses these students. Most students (MP) referred to this as a difficult moment. Although it made some of them concerned, angry, or nervous, their reaction to this problem varied. Some, like Liam, studied hard to get a good mark. Other students like Ali and Angela found they could not concentrate on their studies in the classroom or exams. From my point of view, Iranian teachers use embarrassment as a tool to push students and force them to study harder. Although this strategy might work in some cases like Liam, fear and anxiety produced can place a great deal of pressure on an individual.

MP stated that in Iran, in most schools doing homework, participating in classroom discussions, and attendance does not impact a students' final mark; it only affects the teachers' opinion of the student. If a student always finishes their homework on time, participates in class discussion, and solves classwork but makes a small mistake in the exam, the teacher often ignores this mistake and gives her/him full marks. In Canada, the sum of all students' work establishes the final mark, while in Iran, students are marked based on their teachers' perspective of them.

Sara and Jazi were happy with Canadian teachers' rules that usually give students another chance to rewrite an exam if they did not do it well or could not write it on the exam day. Jazi believed that this second chance is beneficial for raising students' marks if that is what they want. Yet some students might use it to put off preparing for an exam. Liam, Ali, and Sam said, for example, they would have time to redo their tests, so they do not push themselves hard. Based on what I understand from MP having extra time to do projects and homework has the same influence on these students (MP). Procrastination or laziness can be promoted as they know they do not need to finish their work

by the original due date. They knew there would be another chance to write it so sometimes they did not study for a test or skipped an exam because they were lazy. Misusing an opportunity may become a habit and changing a habit is not easy. Misuse of good rules at school might lead to the thought that they can misuse rules in society as well. Based on the "law of effect" (Gallistel, 2005) repeatedly misusing laws might shape a habit in the future leading to abuse of social laws. Although this possibility is low and there are many parameters such as environment and education that influence shaping these habits, it is wise to consider this potential impact.

Based on my conversation with MP, it became evident that Iranian immigrant high school students are accustomed to a set of rules vastly different from those in Canadian schools. After years of following a different educational system, they now encounter unfamiliar regulations, such as the option to retake tests or select elective courses, which they may struggle to comprehend or adhere to. For instance, when presented with multiple opportunities to complete homework, they tend to procrastinate. In Iran, they were accustomed to a more rigid structure, with little autonomy to make decisions; instead, they were consistently pushed and compelled to study and complete assignments. The newfound freedom to choose whether or not to work, or to select courses, poses a challenge for them. They require guidance and support to understand how to navigate and utilize this newfound freedom effectively. It appears that while these students have been provided with tools to enhance their education, they have not been adequately instructed on how to utilize them. While Canadian-born students may inherently understand how to make use of these resources, the same cannot be assumed for Iranian immigrant students who are unfamiliar with such educational freedoms.

Teacher Supports

My participants reported that Canadian teachers have different reactions to the issues of newcomer students. Out of seven participants, six of them stated that their math teachers usually did not care about their problems as a new immigrant. For example, Mary kept telling me that her math teacher (in Canada) told her that Mary's difficulties in the second language (English) was not his problem and Mary must deal with it by herself. Jazi was the only student whose teacher helped her to understand the new topics and let her use a translator during exams. Mary said, "When I told my teacher that I am a new immigrant and my mother language is not English so that is why I wrote the numbers and signs wrong, my teacher said he did not care, and it was my problem, not his." Teachers' reactions influenced students' feelings regarding their math course. In contrast to Jazi, who likes her math course, Mary had a bad experience with her math teacher. She said her teacher did not care about her issues, and she stopped trying to learn math. Liam, Ali, Sara, Angela, and Sam did not have serious problems with their teachers because they have had a functional English and mathematics background. They had small issues in understanding some words, terms, or sentences, and no one was available to help them either.

As a teacher I believe we (teachers) have important roles in students' adaptation to new environments and situations. MP told me that they were heavily dependent on their teachers from the first day for support and help. These students (MP) are unfamiliar with everything at school, and they need help as they adapt. Jazi and Mary indicated

that students feel more comfortable and welcome when they have their teacher's support. A Mary said her teacher did not care about her language problem and left her alone to deal with the situation. However, Mary (as she said) could not deal with her problems alone, so she put aside mathematics and concentrated on other courses. She said that she was fortunate her past mathematics knowledge supported her, and she could pass the course. However, after one year, she still was not comfortable studying math at school and could not trust her new teacher to help her. She still thought math teachers do not care about newcomer students' issues and would not support them. In contrast to Mary, the caring behaviour of Jazi's math teacher encouraged her to focus on her math.

Canada is moving toward a multicultural country, so in a classroom, there might be several students who are from a different country of origin with a different language (James & Howard, 2021). It can be difficult and challenging for teachers to deal with this variety of students (Fritzlan, 2021). A a teacher, I know, the number of students in a Canadian classroom is not low, so it is hard for the teacher to deal with each student's issue. However, I believe it is possible for teachers to show they care about students and understand their situation. Based on the student's issue, teachers can suggest a variety of solutions. As Mary said, teachers' empathy and caring reactions make students feel safe and loved so they would be encouraged to seek solutions for their problems.

Conclusion and Limitation of the Study

Based on the findings of this study, it is clear that Iranian immigrant students face significant disparities in homework expectations, teacher-student dynamics, and perceptions of authority, particularly in mathematics education. In Iran, the motivation to complete homework often stems from fear of disciplinary action and parental pressure. In contrast, Canadian students, including immigrants, may not prioritize homework due to the absence of such external pressures. Furthermore, adjusting to newfound autonomy and authority within the Canadian school system presents challenges for these students, who may struggle to understand and navigate this aspect of their educational environment effectively. This unfamiliarity with autonomy can create uncertainty about how to use this freedom effectively. Importantly, the study emphasizes the critical role of teacher support and understanding, particularly for immigrant students transitioning to Canadian schools. The diverse attitudes and practices revealed by this study underscore the necessity of recognizing and accommodating the varied educational backgrounds and needs of immigrant students to foster a positive and inclusive learning environment.

Drawing from these insights, it is conceivable that immigrant students from other countries may encounter similar challenges and experiences as they adapt to the Canadian educational system. Therefore, it is essential for educators to be mindful of these potential hurdles and to provide adequate support and resources to facilitate the successful integration of all immigrant students into their new educational environment. Ultimately, by fostering empathy, understanding, and support, educators can greatly enhance the academic and emotional well-being of immigrant students, enriching the educational experience for all involved.

This study exclusively delves into the mathematics learning challenges faced by immigrant students, as perceived through their own opinions and perspectives. The findings underscore the significant influence of both parents and

teachers on students' mathematical learning experiences. Therefore, I contend that it is imperative to incorporate the viewpoints of parents and mathematics educators into the analysis, thereby examining this issue from multiple angles. Additionally, the mathematics education of immigrant students is shaped by various multidimensional factors, including cultural, political, and economic influences. Hence, a comprehensive understanding of these complexities is essential for devising effective strategies to support immigrant students in their mathematical learning journey.

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Please Cite: Manzouri, M. (2024). Evaluating the influence of teaching approaches on the mathematical achievement of immigrant students. *Journal of Research in Science, Mathematics and Technology Education*, *7*(SI), 197-212. DOI: https://doi.org/10.31756/jrsmte.319SI

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Data Availability Statement: The author will make the anonymous raw data supporting the conclusions of this article available upon request, without undue reservation.

Ethics Statement: This study was reviewed and approved by the University of British Columbia's Behavioural Research Ethics Board. Ethical principles were fully observed. In particular, the study participants were informed about their rights and informed about the voluntary nature of participation, rights of withdrawal and principles of transparency.

Author Contributions: NA

Received: September 19, 2023 ▪ Accepted: June 12, 2024