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Latina mothers as rightful learners at home, in schools and in their communities

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Abstract

This study examined how a partnership between elementary teachers and the Latina mothers of their students created a space where the teachers and mothers could learn about each other's mathematical strategies as they related to the mothers' funds of knowledge and the teachers' school based strategies. Using the lens of the Rights of the Learner, we report on how the mothers' experiences of working with the teachers valued the mothers' right to speak, listen, and be heard, the right to do, and represent only what makes sense to them, and the right to feel safe and have their ideas respected. This qualitative study describes the findings of the mothers' reflections across the two-year collaboration. Our work illustrates the importance of creating spaces for parents/caregivers to engage in mathematics collaborations with teachers that are grounded in the Rights of the Learner.

Keywords: Home-school mathematics partnership, Latina mothers, teacher education, qualitative research

Introduction

It is of great importance and value for teachers to recognize and embrace the rich mathematics knowledge that families, especially multilingual families possess (Anhalt & Rodríguez-Pérez, 2013; Civil, 2007; Kitchen, 2005; Stoehr et al., 2022; Turner et al., 2012). This includes building relationships with students' parents to access

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this expert knowledge. As mathematics educators, it is our responsibility to build positive relationships with parents where family backgrounds and experiences are valued as mathematical learning and teaching resources (Colegrove & Krause, 2017; Kena et al., 2015; Stoehr & Civil, 2019). Research reveals that student achievement can increase due to these collaborative relationships around mathematical engagement, particularly in Latinx communities (Aguirre et al. 2013; AMTE, 2017, Colegrove & Krause, 2017).

Relationship building can be challenging, as many parents feel disengaged with and alienated from their children's school and the mathematical teaching and learning therein (Civil & Bernier, 2006; Mistretta, 2013). This can be exacerbated in communities where teachers and families do not share the same cultural and linguistic backgrounds (Fernandes et al., 2017; Foote et al., 2013; Turner et al., 2012). Whose approaches are valued in mathematics can impact parent-teacher collaborations. If not addressed, these differences can result in tensions between home and school, potentially putting children in uncomfortable positions. (Abreu & Cline, 2007; Civil & Planas, 2010; Wadham et al., 2022).

Unfortunately, teachers often view parent involvement as help with tasks that Olivos (2006) describes as "a laundry list of activities that the 'experts' feel good parents 'do' to blindly support the schools' agendas" (p. 13). Instead, what is needed is for schools to listen to minoritized parents and partner with them to share their rich experiences and learning resources. (Delgado Gaitan, 2012; Griswold, 2023; Jiménez-Castellanos et al., 2016; Ramirez, 2002).

For example, Civil and Kahn's (2001) study demonstrates how a school garden collaboration between parents and teachers led to the development of a school curriculum rooted in parents' experiences and knowledge. The findings indicate that such culturally relevant instruction can support children's meaningful and rigorous learning in school mathematics. Díez-Palomar et al. (2011) described how parents made sense of graphs by relating them to their everyday experiences. In another example, parents understood the concept of slope by connecting it to their familiarity with stairs (Díez-Palomar et al., 2011). Similarly, Menéndez and Civil (2009) highlighted how fathers used their knowledge of wrenches to engage in an activity focused on ordering fractions. It is these partnerships between parents and teachers that can lead to improved learning experiences for children, their families, and their communities (Bruria et al., 2007; Nutti et al., 2015).

Latinx students are also greatly influenced by mothers and grandmothers who seek to learn ways to leverage their own experience-based and educational knowledge

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to help their children and others succeed in schools (Elmore, 2022). We assert that learners at *all* levels, have the right to be positioned as having expert family/cultural knowledge and experiences and to be supported in leveraging these as empowered knowers and doers of mathematics. This is particularly important for working class parents from immigrant-origin communities, whose first language differs from English and who might have different education experiences (Larrota & Ture, 2025; Stoehr & Civil, 2019). We argue there is a need for these parents to showcase the mathematics knowledge they possess, that Civil and Andrade (2003) describes as an individual's intellectual resources, to promote equity in mathematics. Ishimaru (2020) asserts that fostering equitable collaborations that disrupt longstanding patterns of exclusion and promote mutual relationships requires valuing both family knowledge and agency alongside teacher expertise and leadership.

Theoretical Framework

In our desire to promote equity for students and parents of diverse backgrounds and mathematical experiences, we turn to the theoretical framework of Torres' Rights of the Learner (Kalinec-Craig, 2017) that claims that all learners possess a set of rights. Rights of the Learner asserts that learners should have 1) the right to be confused; 2) the right to make a mistake; 3) the right to speak, listen and be heard (e.g., engage in conversations, ask questions, share ideas, and listen to the thinking of others); 4) the right to write, do, and represent only what makes sense; and 5) the right to feel safe and have their thinking acknowledged and respected. [2]

Kalinec-Craig (2017) describes Torres' Rights of the Learner framework and connects it to other frameworks that that promote equity in mathematics classrooms by encouraging learners to start with what they already know about the mathematics and to share and express this thinking in diverse ways (Kazemi & Hintz, 2014; Parrish, 2010; Stein et al., 2008); leverage their unique funds of knowledge (González et al., 2001; Moll et al., 1992) they possess from their homes and communities; and explore new ideas (regardless of correctness, accuracy, or clarity) to develop a deeper understanding of mathematics through opportunities to revise and clarify their thinking (Boaler & Dweck, 2016; Jansen et al., 2016). Mathematics educators have since

2 According to Olga Torres (personal communication, 2nd author, November 1, 2024), "the Rights of the Learner emerged during my time teaching my multi-age/multi-lingual class (3rd -5th)1995-1999 and when I returned to teach 5th grade (2003-2006) ... The first time I handed out a copy of the Rights of the Learner was in 2006." (For more on Torres' personal account on the Rights of the Learner see Kalinec-Craig, et al., (2024))

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responded to and bridged the Rights of the Learner work in various ways with their own work for equity and social justice in mathematics education.

For instance, in response to the original Rights of the Learner framework, Kazemi (2018) bridges their work looking at children's mathematical thinking and orchestrating classroom discussions by pointing out how Rights of the Learner "underscore that classrooms should be safe spaces for children to share their confusions, mistakes, ways of communicating their solution strategies in whatever way makes sense to them" (p. 2). Kazemi further examines ways in which these rights put certain demands on teachers and students and considers the added complexity of these interpersonal relations within classrooms rich in diversity. According to Kazemi, these demands include placing social considerations alongside political ones, teachers and students understanding one another and the obligations they have to one another, and bringing a criticalness to the decisions of what mathematics is being studied and why.

Hintz et al. (2018) also responded to the Rights of the Learner in regard to their work in making equitable mathematics discussions possible in the classroom, specifically addressing how actualizing these rights requires teachers and researchers to take a more critical look at certain forms of teacher listening. Their work seeks to "understand what it means to listen complexly and pedagogically, not evaluatively" (p. 5) and distinguishes five types of more productive listening by teachers that are self-reflective, empathic, educative, supportive, and generative listening forms. They argue that to actualize the Rights of the Learner in classrooms, teachers must move away from listening evaluatively (looking for right or wrong answers) to listening that informs their own thinking and instructional decision making to create safe spaces where learners are supported in the co-construction of mathematical understanding.

Teachers have also begun to actualize the Rights of the Learner in their own classrooms to empower their students to take risks with their learning and see themselves as having valuable mathematical ideas. In her capacity as a middle school math teacher, Author 3 has her students build classroom expectations each year around the Rights of the Learner. Additionally, Kalinec-Craig (2020) collaborated with a fifth grade teacher to explore how students used these rights as they worked through specifically designed problem solving tasks analyzing nonlinear data. They concluded that the Rights of the Learner are not a list of pedagogical strategies, but instead a means for teachers committed to making their classrooms more equitable and safe spaces for learners to share their mathematical thinking. They claim that the "Rights of the Learner laid the foundation for building the crucial trust needed to engage students in the complex process of learning mathematics" (p. 472).

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The above work highlights the importance and complexity of integrating and supporting these learner rights in the classroom. Current work has explored the demands and obligations that Rights of the Learner places on teachers and students, the interconnectedness of teacher listening forms to support Rights of the Learner, and how Rights of the Learner can support students struggling with complex mathematical ideas. Currently the Rights of the Learner framework has not been utilized for communicating and working with parents to leverage their mathematical experiences, strengths, and understandings, especially given they are the first teachers of their children. Therefore, the research question that guides our study is as follows:

How can the Rights of the Learner framework that has been applied in research with mathematics teaching and learning make sense of Latina mothers' experiences in collaborative mathematics workshops with teachers?

Methodology

Context

We report on findings from data collected from a two year research project that took place in the Western United States. The goal of this project was to create a partnership between the teachers and the mothers of dual language learners as they worked together on mathematics tasks and engaged in conversations about the teaching and learning of mathematics. This opened up a space where the teachers and mothers could learn about each other's mathematical strategies as they related to the mothers' funds of knowledge and the teachers' school based strategies. The teachers and mothers then worked together to present mathematics workshops to other parents/caregivers from their school community.

The mothers and teachers jointly led each workshop held at the school, which was attended by the mothers' children and where the teachers taught. The workshops were held at the end of the school day and lasted two hours. Light snacks were offered to all attendees. The mathematics content presented at the different workshops included tasks that centered on place value, addition, subtraction, logic, patterns, and geometry.

Additionally, this collaboration included reflective activities where the mothers reported on their own funds of knowledge and their experiences with learning mathematics. This project also offered workshops solely for the mothers where they could engage in mathematics tasks similar to the tasks that their children were learning. These workshops were facilitated by Author 1 and an outside consultant who led

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mathematics workshops throughout the United States. All collaborations took place in Spanish and English.

Participants

There were seven mothers who participated in the project. The mothers were of Mexican descent and were in their thirties and forties. All except for one of the mothers were individuals who lived in the neighboring under-resourced community. The mothers all had some formal education but the majority of them did not have a high school degree and shared they did not feel confident and competent with mathematics. They all had at least one elementary aged child at the school site where the study took place. All the mothers spoke Spanish, which was the dominant language in their homes. One of the mothers spoke Spanish and English fluently.

The approved protocol from the Human Subjects Institutional Review Board at the first author's institution was correctly followed. Participants gave written consent for work they had produced during the two year project. All of the data used in this study was deidentified with each of the mothers given a pseudonym.

Data Collection

Data collected from the project included individual written reflections collected from the mothers after each collaboration with the teachers and data from the workshops for mothers only. Some reflections were open reflections and other reflections were supported with a prompt. Two examples of the prompts included 1) asking the mothers specifically about how the workshops supported their learning of mathematics, if at all and 2) the mothers' experience of working with the teachers. Workshop evaluations were also collected at the end of the sessions. Additionally, the mathematics tasks completed during the workshops were collected. All reflections were transcribed with six of the seven mothers' data translated from Spanish to English. One of the mothers wrote her reflections in English.

Data Analysis

Our analysis began by reading through all the collected data that the mothers shared about their experiences of learning and doing mathematics with the teachers and in the content workshops for parents through the lens of the Rights of the Learner. Individually, we conducted an iterative analysis (Bogdan & Biklen, 2006) by demarcating words and phrases that connected to the five different strands of the Rights of the Learner. We wrote analytic memos (Maxwell, 2013) to summarize seminal ideas

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across the reflections and the mathematics tasks of the seven mothers to explain our individual understandings and views of the data sources. We then reconciled any differences we had in our coding of the Rights of the Learner strands and added or redefined our interpretations until we reached consensus. We separated the mothers' key ideas into the different lens of the Rights of the Learner. We present our findings in the next section.

Findings

The five Rights of the Learner include 1) the right to be confused; 2) the right to make a mistake; 3) the right to speak, listen and be heard; 4) the right to write, do, and represent only what makes sense; and 5) the right to feel safe and have their thinking acknowledged and respected. Our findings include four of the five strands from the Rights of the Learner and are presented by each individual strand. Our findings did not reveal the right to make a mistake strand. We can only hypothesize that perhaps given the way the workshops were set up, the focus on "making mistakes" was not present. As previously stated, the data for six of the mothers was translated from Spanish to English.

Mothers' Rights to be Confused

The mothers shared how the right to be confused facilitated their learning of mathematics. For example, Helena reported how working with teachers helped her share her doubts or her rights to be confused so that she could have a better understanding of mathematics. She reported:

> *I think I have learned that a close interaction with the teachers can be very beneficial to both students and teachers. We get to share students' questions and parents' doubts on a personal level. We feel more encouraged to ask questions and share experiences. This allows the teachers to connect with students in class on different subjects. Specifically in math it has been very beneficial to me in understanding how math is taught and I can transfer that knowledge to my kids and create a better environment during homework time.*

Kalid also found her right to be confused as important to her learning mathematics, particularly because she wanted to be able to help her children with their mathematics homework. She said,

"It [the workshops] has helped me a lot because I can help my children with their homework and especially about the numbers and homework that I sometimes don't understand. I can ask the teachers."

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Lia talked about the confusion she encountered when she compared how she learned mathematics while growing up versus how her child was learning mathematics. The workshops gave her a safe place to confront her confusion. She stated:

> *Personally, it [the workshops] has helped me a lot because we can know a lot about the mathematics they use nowadays because they didn't teach us these ways to use. It was really different even though it was the same solution. In that way, we are on the same page – the teachers, the students, the parents. Also, we can be more excited about mathematics because we know they [the workshops] are fun and we learn at the same time. Now my daughter loves mathematics because she sees that I also have my mathematics class.*

These three mothers' reflections illustrate how embracing their right to be confused helped to ease their confusion so they could engage in positive mathematics experiences. Helena shared that working closely with teachers allowed her to express doubts openly, making it easier to understand mathematics and support her children during homework. Helena used the word *dudas* in Spanish, which in the context of our study could be interpreted as doubts when, for example, not being sure about an answer or how to do something but can also be interpreted as questions as in "*tengo una duda*", could mean "I have a question." Kalid appreciated the workshops because they gave her permission to ask questions when she did not understand her children's mathematics assignments. Lia reflected on the confusion she felt when comparing her own mathematics education with her child's and appreciated that the workshops provided a safe space to confront and work through that confusion.

Mothers' Rights to Speak, Listen and be Heard

The mothers spoke of the importance of being able to speak, listen, and be heard as they worked with each other and with the teachers while engaging in mathematics tasks. We share examples of this tenet of the Rights of the Learner from two of the mothers.

Karlotta talked about how she found her voice to speak openly about her experience during this collaboration. She stated, "I have learned a lot of things that I did not know. Meetings with the teachers lets them know more about our children and learn from them [the teachers]. I might have knowledge but I don't know how to connect it to math." Although Karlotta was unsure of how to connect the knowledge she possessed to support her child's learning of mathematics, she found the time she spent engaging with the teachers around mathematics afforded her the space to voice her thoughts and be heard.

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Lia shared how working with the teachers at her daughter's school afforded her with the opportunity to have more communication with them. This resulted in Lia building a relationship of trust with the teachers, especially her daughter's teacher. This opened up a space for Lia to ask questions about the mathematics she was learning. She said:

> *Personally, I have learned to have more communication with each teacher but above all I have a lot of trust because now when I have some questions about mathematics with trust I can do it. Because when my daughter tells me that her teacher gives her math homework I can help her because I also have the mathematics class.*

These two examples illustrate the importance of creating spaces where they could speak, listen, and be heard, which is an essential tenet of the Rights of the Learner. Karlotta described how the collaboration with the teachers helped her find her voice, allowing her to share her experiences and begin connecting her knowledge to her child's mathematics learning. Lia emphasized that sustained communication with her daughter's teachers led to increased trust, which empowered her to ask questions and actively support her child's mathematics learning. Lia used the Spanish word *confianza*, which we have translated as trust here. The word *confianza* (mutual trust) is a key concept in the original funds of knowledge work in the Mexican origin communities in the Southwest of the USA (Vélez-Ibáñez & Greenberg, 1992) (For a recent overview of the role of *confianza* in home-school mathematical partnerships see Civil et al. (2025). In both cases, offering a space for the mothers to speak, listen, and be heard positively affected not only their learning of mathematics but also worked to support their children's mathematics experiences.

Mothers' Rights to Write, Do, and Represent Only What Makes Sense to Them

The workshops for the mothers offered a space for them to practice and/or learn some of the different mathematics content. In one of the mothers' only workshops, they learned how they could introduce mathematics into a picture book that they might read to their child(ren). After seeing an example of how they might create relevant mathematics tasks from a picture book, the mothers selected a book and designed mathematics tasks they believed might support their child's mathematics learning.

We highlight two examples of the mothers' work on this task. In the first example, we share how Felipa chose a book called La Expedición (The Expedition) and created mathematics tasks that focused on counting objects and people (see Figure 1). These

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tasks made sense to her as she read the book and thought about tasks that could support her young sons' learning of mathematics.

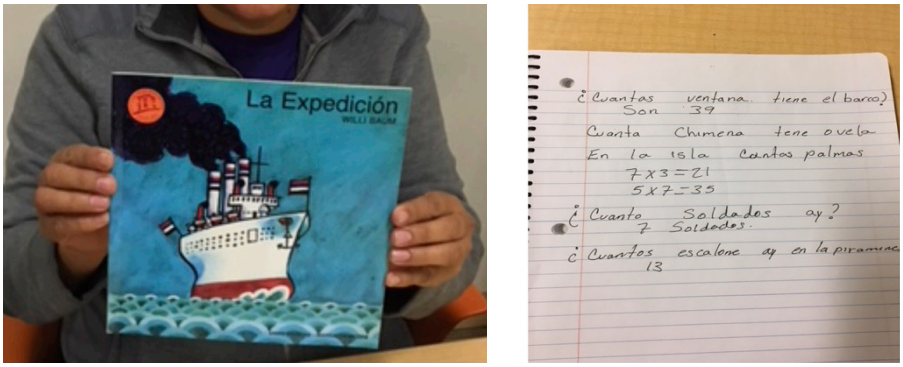

Figure 1 Felipa's book and tasks.

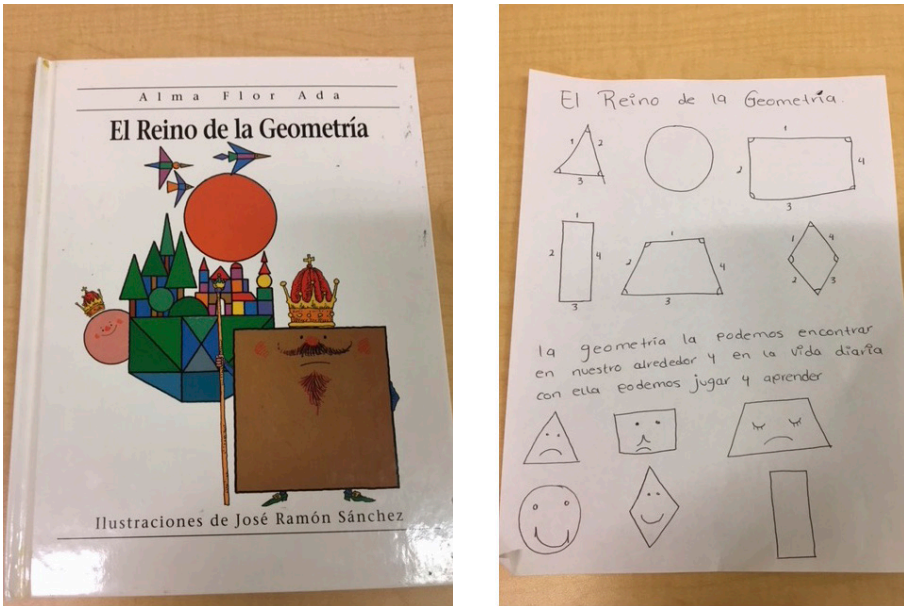

Figure 2 Lia's book and tasks.

In example two, Lia chose to read and create mathematics tasks from a book called El Reino de la Geometría (The Kingdom of Geometry). In Lia's task (see Figure 2), she envisioned sharing with her young daughter the number of sides that different objects have and emphasizing that geometry is everywhere in life. Additionally, she

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believed the tasks she created would be a fun and engaging way for learning to take place. This type of learning made sense to Lia and she hoped would also make sense to her daughter. These two examples showcase how the mothers felt empowered to create mathematics tasks that made sense to them and that they envisioned might make sense to their children.

Mothers' Rights to Feel Safe and Have Their Ideas Respected

All seven of the mothers spoke of the importance of feeling safe and having their ideas respected as they worked together with the teachers. Kalid reported how crucial it was to her that ideas about learning mathematics included not only the teachers' ideas but also the mothers.'

Kalid also shared the following:

> *I have learned new opinions about each person, how we can overcome barriers and push forward academically and how mathematics is important. Each person has a different idea or thinking. It is beautiful to get to know the teachers and have more trust (confianza) to ask them questions about doubts (dudas) we have about the homework and how to help them [the teachers] with our children so we can help our children with the homework.*

Anna said that the experience of this collaboration was one that resulted in her feeling safe in sharing her mathematics understanding. She stated:

> *I have learned a lot of things and a lot more about how everyone wants something better and it's beautiful to know that we all want and are searching for something better for our family... I feel like we are in a family.*

Jacinta added that working with the teachers provided her with the opportunity to get to know them as individuals. She said:

> *It is important to share with the teachers because we can learn about their point of view about mathematics. Also, it is important to talk to the teachers to share about the ways we work with our children at home or with the school. Having the opportunity to work in teams [parents and teachers] makes it easier for our children.*

Lia and Felipa talked about how open communication with the teachers was important to them as mothers to feel safe and respected as they shared their mathematics backgrounds. Lia added that having good communication with the teachers resulted

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in the mothers and teachers "being on the same page," which led to them "feeling better in any conversations" they might have in the future with their child's teacher. After learning more about the teachers and their views on learning mathematics, Helena made the following comment:

> *Talking to the teachers and learning about their experiences increases the connection and desire to ask questions. It makes us feel more comfortable and open to questions and suggestions. It can help the teacher to understand where the student is coming from and help him/her connect more at school.*

Karlotta spoke of how the mathematics collaboration between the mothers and the teachers led her to feeling positive and secure about her own mathematics background as well as the mathematics her child was learning. She said, "It's a really beautiful experience to know about the mathematics and chat or talk with them [the teachers]. My child is going to learn a lot of mathematics with her teacher." Taken together, these reflections from the seven mothers illustrate the critical need for parents to feel safe and respected in their children's school spaces.

Discussion

Previous research has documented the importance of building positive relationships between home and school with parents where family backgrounds and experiences are valued as mathematical learning and teaching resources (Civil & Andrade, 2003; Colegrove & Krause, 2017; Díez-Palomar et al., 2011; González et al., 2001; Ishimaru, 2020; Kena et al., 2015; 2009; Menéndez & Civil, 2009; Stoehr & Civil, 2019). Our work confirms these findings and illustrates the importance of creating spaces for parents/caregivers to engage in mathematics collaborations where parents can learn mathematics alongside their children's teachers as well as creating a space for teachers to learn from their students' parents.

Our study underscores the need to ensure that parents feel safe and respected for the rich mathematics backgrounds they possess, regardless of their formal schooling experiences when collaborating with their children's teacher on mathematics tasks. Our findings indicate that this was of significant importance to all seven mothers. As Kalid expressed, it was essential that ideas about learning mathematics reflect not only the perspectives of the teachers but also those of mothers. Ishimaru (2020) has shared that promoting mutual relationships between parents and teachers require valuing family knowledge. We agree and argue that parents must believe that they have the right to speak, listen, and be heard when working with their children's teachers.

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Our findings demonstrate the rich experiences and learning that can occur between parents and teachers that move beyond having parents help teachers with menial classroom tasks that Olivos (2006) describes as "a laundry list of activities that the 'experts' feel good parents 'do' to blindly support the schools' agendas" (p. 13).This has been a call from the field (Delgado Gaitan, 2012; Jiménez-Castellanos et al., 2016; Olivos, 2006; Ramirez, 2002), which our work responds to. For example, Jacinta spoke of the importance of the mothers and teachers working "in teams" to understand how each of them is supporting children's mathematics understanding. Creating genuine collaborations that listen to minoritized parents and partner with them to share their rich experiences and learning resources is essential (Civil et al., 2025; Delgado Gaitan, 2012; Jiménez-Castellanos et al., 2016; Ramirez, 2002).

A unique contribution is the use of the Rights of the Learner framework to interpret the work of parents (mothers in our case) in mathematics workshops. Using this framework provided researchers with insight into the mothers' perspectives and voices as they engaged in collective exploration of mathematical content with teachers. For example, Karlotta reflected on gaining new mathematical understanding while also drawing upon and applying her existing knowledge. Lia shared that the workshops allowed her to better understand how her child was learning mathematics, which highlighted a contrast with her own past learning experiences. This work offers an important contribution to the field, particularly given that mathematics is often perceived as a difficult and inaccessible subject by many individuals (Hart & Ganley, 2019; Sokolowski & Ansari, 2017).

Previous research has also revealed that there can be a positive impact on student learning when parents engage in mathematics together (Aguirre et al. 2013; AMTE, 2017; Colegrove & Krause, 2017; Wadham et al., 2022). As Lia stated, "I can help her [her daughter] because I also have the mathematics class." Helena reflected that the knowledge she gained from working with both the teachers and the other mothers helped her to support her children's mathematics understanding. Therefore, providing these types of learning spaces for parents to acquire more mathematics knowledge and skills can be beneficial for their children as well.

Conclusion

Our work illustrates the importance of creating spaces for parents/caregivers to engage in mathematics collaborations where parents can feel comfortable and safe to learn more mathematics while also sharing their rich mathematical ideas and strengths with their children's teachers. This is particularly important for parents/caregivers from underserved communities whose experiences and

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knowledge are often not taken into account and valued in schools. By utilizing the lens of the Rights of the Learner, our work with the mothers and teachers in this collaboration provided insight into the mothers' perspectives and voices as they worked together to create mathematics understanding for themselves, to showcase the mathematics they possessed, and to share with their children's teachers the ways in which mathematics takes place in their homes.

We argue that the mathematics collaboration between parents and teachers observed in our study can be successfully replicated in other underserved communities, provided there is a genuine commitment to honoring and highlighting parents' rich mathematical knowledge and learning resources (Delgado Gaitan, 2012; Griswold, 2023; Jiménez-Castellanos et al., 2016; Ramirez, 2002). This is especially critical given the potential for such partnerships to positively influence student learning outcomes (Aguirre et al., 2013; AMTE, 2017; Colegrove & Krause, 2017). While this collaboration was focused within a specific community, it is adaptable and can extend to other communities and subject areas, such as science. The primary challenge lies in ensuring that school administrators and teachers are both committed and prepared to allocate the time and resources necessary to establish authentic partnerships with parents.

Future research could explore how the insights gained from the lens of the Rights of the Learner framework might inform the collaborative parent and teacher design of family mathematics workshops. Such research is important for deepening the understanding of the rich mathematical knowledge held by parents from underserved communities. Given that our study focused on seven mothers, future research could expand to include a larger and more diverse sample of parents/caregivers across national and international contexts to examine potential different trends across different communities.

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Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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