

Challenges, Opportunities, and Key Questions in Research for Mathematics in Indigenous and Migrational (MIM) Contexts Through a Language- Focused Lens

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Abstract

This paper presents some challenges, opportunities, key questions, and ways forward for research in mathematics in Indigenous and Migrational (MIM) contexts as discussed by the two featured panelists and mediated by the moderator in the closing symposium of the MIM Conference in Alta, Norway in November 2022. Punctuated with quotations, photos and images, the paper begins by introducing the three researchers, their contexts, and their respective research interests. Next, the paper unfolds as a discussion organized around the four main points (challenges, opportunities, key questions, ways forward). The moderator invited the panelists to examine these discussion points with a view towards the role of language in their respective contexts and research, therefore the theme of language features throughout. The paper concludes with a synthesis of common threads that emerged through the discussion and a focus on action moving forward.

Keywords: Community-Based Education, Land-Based Education, Language, Storylines

Introduction

The MIM Conference took place in Alta, Norway from 8-10 November 2022. Mathematics in Indigenous and Migrational Contexts (MIM) is a five-year research project (<https://www.usn.no/mim>) funded by the Norwegian Research Council (NFR). Over the course of the three days of the conference, many interesting and important conversations were had about mathematics education in Indigenous and/or Migrational contexts. We, the co-authors of this paper, had the honour of taking part in the closing symposium for the conference (as the moderator and panelists), which allowed us to share some of our own insights as they relate to these topics while reflecting on the many connections, similarities and differences, we noticed between our own work and the thoughtful ideas shared throughout the conference keynotes and sessions. As the moderator

of the symposium, Karla Culligan invited the two panelists, Sacha DeWolfe and Anita Movik Simensen, to reflect on the following overarching questions in preparation for our symposium panel discussion related to research in MIM contexts: 1. What are the current challenges? 2. What are the opportunities? 3. What are the important research questions moving forward? 4. How might we explore these questions? Further, Karla's expertise is in the area of language education within mathematics education, and she suggested to the panelists that language might play an important role (either directly or indirectly) in their own work and in the work of others attending the MIM Conference. Language issues are neither simple nor straightforward because relationships with language are quite the opposite, they are complicated and complex. Thus, panelists were invited to reflect and comment on the role of language in their contexts, as it relates to the four key overarching questions. Beyond that, Karla emphasized to the panelists the flexible nature of the symposium presentations and structure and encouraged them to bring their own individual style, issues, and passions to their respective presentations. In the end, the symposium unfolded as follows: Karla began with an introduction and contextualization; Sacha then presented her thoughts, which were followed by a brief question period; next Anita presented her contributions, which again were followed by a brief question period; the audience then engaged in some discussion with both panelists; and finally, the symposium was concluded with some synthesizing comments offered by Karla.

This paper essentially presents the symposium in written form. As such, although it is informed and inspired by the theoretical and empirical research that we have undertaken in the past and in which we participate currently, it is neither an empirical nor a strictly theoretical paper. Rather, we invite readers to engage with the paper in what we would describe as a "dialogue" related to the challenges, opportunities, and key questions moving forward for research in MIM contexts, with particular focus on the role of language therein. Similar to the symposium itself, the paper begins with an introduction to contextualize the writing and outline the structure of the paper.

Next, we situate ourselves in our respective contexts, in order to recognize our own positionings

within our research and so that we might invite readers to engage in the same reflection. The contributions of the two panelists are then highlighted, organized as a discussion around the overarching points (challenges, opportunities, key questions, and ways forward). In these contributions, each panelist also reflects on the role of language as they see it in their contexts and in relation to their discussion of the overarching points, underscoring issues such as colonialism, language loss, and the links between language, culture, land, and the curriculum. Finally, the paper concludes with a synthesis of common threads and potential actions for moving forward.

Throughout the paper, we include quotations, photos, and images (taken directly from slides used during the original symposium), which we feel are essential components to the discussion; we argue that their inclusion in the paper allows us to remain true to the spirit and nature of the original symposium.

Situating Ourselves in Our Contexts and Work

Karla opened the symposium by speaking about how she first met two of the local organizers of the conference, one of whom (Anita) was a panelist in the symposium, and how this working relationship and her connection to Alta and UiT The Arctic University of Norway initially developed:

Welcome, everyone, to this closing symposium for the MIM Conference. It has been such a wonderful few days of learning, sharing, and discussing. What a privilege it has been for me to be able to return to Alta. I first visited Alta in February 2017, when I was part of a research exchange with Hilja Huru and Anita Movik Simensen of UiT The Arctic University of Norway. Anita and I met at the Psychology of Mathematics Education Conference (PME 38/PME-NA 36) in 2014 in Vancouver, Canada. I was presenting my doctoral work at the time, on the nature of students' communication and especially first language use while working through problem solving tasks in a second language mathematics classroom (Culligan, 2014). At the same conference, Anita was presenting her work with colleagues, exemplifying how students with low achievement in mathematics can contribute substantially in collective meaning making processes (Simensen et al., 2014). Anita and I had a wonderful discussion following my conference presentation and, from there, we continued our conversations and eventually a research exchange followed, with our colleagues from UiT visiting us at the University of New Brunswick (UNB) in Fredericton, New Brunswick, Canada in the fall of 2016, and then we from UNB visited our colleagues at UiT in Alta, Norway in the winter of 2017. We were able to learn about the teaching of mathematics and language in each of our contexts: In Canada, visiting with the Mi'kmaq-Wolastoqey Centre (<https://www.unb.ca/mwc/>) at the University of New Brunswick and the university's Elder-in-Residence at the time, Imelda Perley, and visiting with schools in New Brunswick and Prince

Edward Island. And in Norway, visiting the UiT campus, Alta Museum, Sorrisniva, and schools in Alta and Lakselv. In the schools in Canada and in Norway we saw the teaching and learning of mathematics, and of languages—English, French, Norwegian, Sámi, and Kven (Dicks et al., 2019). As I said, it is so wonderful to be back in beautiful Alta, the land of the Sámi and the Kven peoples, this time to participate in the MIM Conference. And I am thrilled and honoured to be able to facilitate this closing panel. (Culligan, 2022)



Figure 1: Alta, Norway, February 2017. Photo by Karla Culligan.



Figure 2: Research exchange visit UNB to UiT, Norway, February 2017. Northern Lights, Alta (top left); Sorrisniva (bottom left); School visits, Lakselv (middle, top and bottom right). Photos by Karla Culligan.

While Karla and Anita had met in 2014 and continued their work together thanks to a High North Programme Grant (“Second Language Immersion in Mathematics in the High North for Endangered Indigenous and Minority Languages,” 2015-2017), Karla and Sacha had also met previously through their various roles in their local New Brunswick context. For example, Karla

and Sacha had liaised while Sacha was the Director of the Office of First Nation Education at the New Brunswick Department of Education and Early Childhood Development. Now, Karla and Sacha are working together on projects supported by a national grant funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada (“Migration and Indigenous contexts of Mathematics Education (MIME): Changing storylines with strength-based pedagogies,” 2022-2026), along with David Wagner (Principal Investigator, University of New Brunswick), Annica Andersson (University of Southern Norway), Hilja Huru (UiT The Arctic University of Norway), and Beth Herbel-Eisenmann (Michigan State University).

Although we broadly share some common research interests and an ongoing working relationship, we each bring our own unique background, interests, and expertise to our ongoing dialogue. We have found storylines and positioning to be concepts that provide a common thread in our work and useful to think about as we introduce ourselves. Storylines and positioning theory relate to each other in the idea of how storylines are used to interpret and navigate interactions between individuals and groups (Herbel-Eisenmann et al., 2015). As Culligan and Wagner (2018) explained, “we decide what is happening in an interaction based on what is said and done, and we decide what to say based on our interpretation of what is happening in an interaction” (p. 14). Positioning theory, in turn, allows us to reflect on “how multiple storylines are used simultaneously and how different people may use different storylines to understand an interaction” (Culligan & Wagner, 2018, p. 15). We introduced ourselves in order to situate ourselves in our work and to allow ourselves and invite readers to reflect on how our storylines, both individual and intersecting, and our positioning are part of how we approach our work.

Karla Culligan is an Assistant Professor at the Second Language Research Institute of Canada (L₂RIC), in the Faculty of Education at the University of New Brunswick in Fredericton, New Brunswick, Canada. She holds a PhD in Education Studies, and teaches and conducts research in the areas of bilingualism/multilingualism, mathematics education, and assessment. The L₂RIC research team includes faculty members, graduate students, and faculty associates. Karla’s projects

are local and national in scope and involve a wide range of topics related to second language learning and teaching. Beyond Karla's research with L₂RIC, she is currently a Co-Investigator along with David Wagner and several local and international collaborators on a SSHRC-funded research project (SSHRC Insight Grant, 2022-2026) titled, "Migration and Indigenous contexts of Mathematics Education (MIME): Changing storylines with strength-based pedagogies." Karla is also a member of the Teacher Education Research Consortium, a national team of researchers from University of New Brunswick, University of Ottawa, and University of British Columbia on a research project entitled, "Identifying Requirements and Gaps in French as a Second Language (FSL) Teacher Education: Recommendations and Guidelines" funded by a Canadian Association of Second Language Teachers (CASLT) Research Grant (2020-2022) (University of New Brunswick, n.d.).

Sacha DeWolfe is an Assistant Professor at Mount Allison University in Sackville, New Brunswick, Canada working with the Canadian Studies Department. She is a Dr. Althea Warren Macaulay CFUW scholarship recipient (2018-2019), Indspire's Building Brighter Futures: Bursaries, Scholarships and Awards recipient (2018-2019, 2019-2020 and 2020-2021), an O'Brien Fellowship recipient (2019-20) and was recently awarded a Social Sciences and Humanities Research Council grant (2020-2022). The focus of her PhD research is investigating the social, political and historical factors contributing to her identity as a Mi'kmaq person and how her life stories contribute to an expanded dialogue of Wabanaki identity. Included in her dissertation is a documentary film which takes the audience on a journey from damage to desire. Sacha has been an educator for over 15 years at all levels of practice. She was formerly the Director for the Office of First Nation Education at the Department of Education and Early Childhood Development in New Brunswick. Sacha has also been involved on research teams investigating various aspects of Indigeneity (Mount Allison University, n.d.).

Anita Movik Simensen is an Associate Professor of special education at UiT The Arctic

research interests are related to mathematical learning opportunities from a relational perspective. Based on the field of mathematics education and the field of special education, she explores how social and cultural factors, such as interactions and local history, may impact mathematical learning opportunities. Anita's work in her PhD project was guided by the following research question: What characterizes mathematical learning opportunities in heterogeneous small groups for students who perform low in mathematics? She is currently involved in two research projects: One is the MIM-project ("Mathematics Education in Indigenous and Migrational Contexts"). Here she uses positioning theory as a lens to investigate how mathematical education develops in multilingual and multicultural classrooms (Herbel-Eisenmann et al., 2015). Her second project is ROM, a project where Anita and colleagues from special needs education study gifted students' mathematical learning opportunities in the Norwegian education system, which "is close to a 'one-track' system" (Fasting, 2013, p. 265).

In the next part of this paper, first Sacha and then Anita provide their perspectives on the discussion points (challenges, opportunities, research questions moving forward) all while reflecting on the role of language with respect to these and other salient points. To lead into this discussion, we offer a quote from Karla as she moderated the original symposium and invited the panelists to speak:

This is the last "thing" of the MIM Conference. I would like to humbly begin this closing panel in the spirit of Piluwitahasuwawakon, (English pronunciation: bill-wee-duh-huz-zoo-wows-sue-wah'-gn), a Wolastoqey term shared with us at the University of New Brunswick by our former Elder-in-Residence, Imelda Perley. It means: "Allowing your thinking to change so that action will follow in a good way toward truth." I look forward to listening and learning from our panelists. (Culligan, 2022)

Discussion

Mathematics and Fostering Community

Sacha DeWolfe introduced herself as a member of Natoaganeg First Nation, a Mi'kmaq community of the land now known as the province of New Brunswick, Canada. Sacha's career in education has spanned various levels—schools, district, department, and now university. She has

found that there has been one common barrier across all systems: trying to incorporate Indigenous worldviews and contemporary realities into a colonial institution. In Sacha's view, curricula may include parts of Indigenous realities but to actually teach and learn from this lens requires a setting that is not colonial defined. It is a challenge to ask students to think, for example, from a lens of relationality while sitting in a chair enclosed by four walls.

Sacha noted that colonial interference continues to impact Wabanaki languages in this territory. In her former position as Director for the province's Office of First Nation Education at the Department of Education and Early Childhood Development, she found that language was often an area of contention, contending for respect and space against French and English, the two colonial yet provincial official languages. Although meaningful curricula and mentorships continue to be developed in partnership with fluent speakers of Wabanaki languages, the space of offering (provincial schools) is in direct contrast with the philosophical underpinning of Indigenous languages, which is largely an intimate connection with the land. Utilizing the community as the learning environment offers a way for language to be naturally embedded into learning without having to be a separate course offering. Since learning on community directly involves community members, this continuance of culture and language focuses less on the "what" and more on the "how," which is a welcome addition to the ongoing struggle for language maintenance.

Sacha next identified three profound challenges for education, ones that educators and researchers must confront as she sees it in her context, concerning significant structural and institutional barriers. These challenges relate to educators and researchers who are: trying to culturize a space that was built to control and dominate; trying to engage students in learning that is disconnected from their lives; adhering to deficit, damage, and generalized approaches that only speak our pain (hooks, 1990).

Despite the magnitude of these challenges, Sacha framed her discussion of research as one that focuses on opportunity by discussing the importance of fostering community as the learning environment. Sacha suggested that this community approach to learning

...incorporates the ethical responsibility of respect, reciprocity, and relationality. It challenges positioning and hierarchical structures, honours the voices and storylines of learners and addresses issues of cultural discontinuity and dissonance. Further, a community approach to education interweaves principles of Asset Based Community Development, looking at what is strong and not what is wrong with communities. Utilizing this lens fosters student, educator, and community connectedness; nurtures community goals; focuses on strengths, economic growth, and sustainability; and actions community voice in learning. An approach that views community as the learning environment is an exemplar for student connectedness: Being able to learn on and with communities allows for students to experience real life application of learning. (DeWolfe, 2022)

Sacha argued that an important aspect of utilizing the community as the learning environment is that this approach employs a desire-based lens as the foundation. Desire struggles against “only speaking from a space in the margin that is a sign of deprivation, a wound, an unfulfilled longing...to only speak our pain” (hooks, 1990, p. 152). By utilizing spaces to foster learning outside of the institution (where many wounds have been caused) the environment for learning and thriving is shifted. Closely related and guiding Sacha’s work is damage research, which “operates from a theory of change that establishes harm or injury in order to achieve reparation” (Tuck, 2009, p. 413). The three become linked as fostering community as the learning environment simultaneously works against damage by enacting desire-based strategies as the foundation. Additionally, Renga (2017) has offered a framing of desire that “treats humans as essentially desiring beings and defines desire as a potent force formed through participation in communal practices that orient practitioners’ hearts toward particular futures” (p. 263). Thus, to authentically engage with fostering the community as the learning environment one must start with the fact that Indigenous peoples are desiring beings. To guide researchers’ thinking on this interaction between community, damage, and desire, we might look to questions posed by Renga (2017) such as: “What does desire look like in local communities? How does it form? What does it produce? What desires are latent, privileged?” (p. 264).

After discussing these theoretical underpinnings Sacha next explained how the desire framework and the Asset Based Community Development (ABCD) approach come together in many of her past and current research and education projects:

What I am proposing is that Asset Based Community Development should also consider desire and move from that as the foundation. Desire and ABCD seek to disrupt the monopoly institutions have over education. With this lens I sought out to partner with First Nation communities that would welcome and support this sociological approach. On the screen (see Figure 3) are samples of learning in various communities. Students met curricula outcomes on community in literacy, environmental science, mathematics, art, trades, technology, et cetera. In addition, students worked with every global competency that is identified in the *New Brunswick Global Competencies Model* (Province of New Brunswick, 2019). One dominant practice in New Brunswick provincial schools is the over reliance on cultural activities to represent First Nation peoples/learners. In so doing, schools are essentially trying to culturize spaces that were simply not built on this value system. In addition, if students are only understood through “cultural attributes” this distances First Nation learners from being viewed within the Western lens as academic. In a constructivist view, “knowledge is seen as being individual in nature,” which is in contrast to an Indigenous paradigm (Wilson, 2008, p. 38). In an Indigenous paradigm, people are one part of a relational cycle of shared knowledge and this knowledge does not belong to one person, to gain advantage in the world, but the knowledge is used to take better care of those relations. I do not suggest that educators are incapable of embedding various paradigms into their classrooms but that a way to remedy these intersecting worldviews and honour relationality is to move learning to communities where various worldviews are naturally embedded in everyday life. In my opinion, this fostering of place attachment through real-world practice provides a much greater sense of identity and understanding of worldviews than any classroom. This is not about competing practice but rather how to enable learning to flourish. An alternative approach to classroom-based pedagogy is to move learning to the community where culture and language are already present, therefore being able to focus less on cultural continuity and more on content, informed by community goals. (DeWolfe, 2022)



Figure 3: Samples of learning with community as the learning environment in various First Nation communities in New Brunswick, Canada. Photos by Sacha DeWolfe and team, and Shane Fowler (2021)/CBC.

Sacha explained that actualizing this kind of ABCD approach requires not only great efforts but also ample and appropriate resources, both material and personnel (Russell, 2011). From the

outset and throughout this project, she and her colleagues spoke with community leadership, members, and students to inform the community learning approach. As a team, they built curriculum and learning around the needs, opportunities, possibilities, and desires of each participating community. A full-time educator was assigned to each participating community, and the project also hired Community Builders who were from the communities to support students. Several students were bussed from various high schools (provincial schools) to First Nation communities in the afternoon to participate in community-based learning. Sacha described the project as an “amazing collaboration between community, industry, educators, students, and families” (DeWolfe, 2022).

Through this kind of community-based education and research, Sacha described how she sees opportunity. By utilizing the community as the learning environment, she envisions curricula as a living document, collaboration, revitalizing communities, reconnecting students to the world around them, economic growth, culture and language security, and a space of growth and not ruin. For example, the initial ABCD initiative is currently being expanded through another learning opportunity, Indigenous Community Assets. To lay the groundwork for this learning opportunity, students spoke with over 100 community members and asked three questions: What would you like to see happen on your community? What are the strengths on the community to support this? How could your gifts support this? Students utilized community voice to inform plans for community engagement, which will be enacted on communities in summer 2023 through what Sacha has called the Community Builder Program.

With her own context at the forefront and a broader view of MIM research in mind, Sacha suggested the following key questions for research in Indigenous contexts moving forward:

- How do communities become the learning environment?
- How could postsecondary institutions support an evergreen-, asset-, and community-based approach to learning? (If evergreen, topics such as exploring the levels of mathematics achievement needed for certain careers explored with industry or community could be examined.)
- What can happen on communities to support learning mathematics? What is the community role?

- How do we reconceptualize schools/institutions? Could they, for example, be centers of excellence?

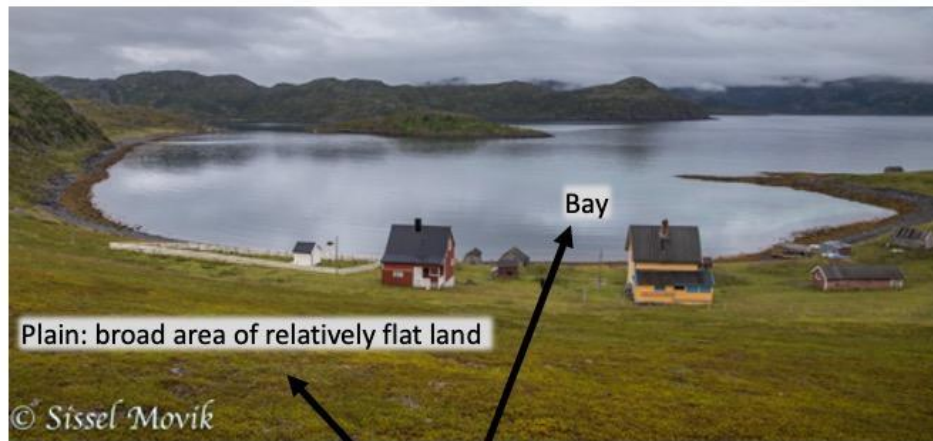
Sacha shared that she hopes to explore some of these questions moving forward through her work on a SSHRC-funded research project mentioned earlier (“Migration and Indigenous Contexts of Mathematics Education (MIME): Changing Storylines with Strength-Based Pedagogies”) along with Karla, David Wagner, and several local and international collaborators. Hearing what storylines students are bringing into the classroom will enable the team to analyze whether these storylines and positionings are due to the physical learning space and institution. If a storyline, for example, is “my family does not trust the education system,” families would better be served by education on their community. A possible remedy could be to move learning to the community.

This serves as a brilliant segue to Anita’s talk, which explored the idea of “land.”

Mathematics and Land

Anita Movik Simensen began by explaining that she lives and works in northern Norway and was born in a community that has largely been molded by the ‘Meeting of the Three Tribes’ (Golmma čearddaid deaivvadeapmi), with its Norwegian, Sámi, and Kven culture. She expanded on this by sharing the following:

Land is an important aspect of my and my family’s history. My middle name (which is my mother’s last name), describes the land my mother’s father’s parents (read: my grandfather’s parents) owned and lived on: Movik (Mo = Plain: broad area of relatively flat land, and Vik = Bay, see Figure 4). I was born in the 70s in a family rooted in Sami, Kven, Finnish, and Norwegian languages and cultures. In the 70s the assimilation process was still very visible, and in my family, we only spoke about the Norwegian and Finnish parts of our history. Today, I identify as both a farmer and an academic. To me these identities feel very different, often not compatible. I feel them as different shadows with different storylines available and visible. Still, the farmer part (attached to land and nature) feels like the real me, and the academic part feels like “something learned.” (Simensen, 2022)



Anita **Movik** Simensen

Figure 4: Movik: Mo = Plain: broad area of relatively flat land, and Vik = Bay. Photo by Sissel Movik.

Anita pointed out that the situation for Sámi and Kven people is that many of them have lost their languages as a consequence of the assimilation processes in Norway (Simensen et al., 2023). However, the culture is still within the people as a silent, and sometimes tabooed, identity. To meet these silent identities, educators and researchers should include “Indigenous sensibilities within mathematics education and so form the basis for a different kind of social justice for Indigenous students, than the one most often advocated by non-Indigenous educators” (Meaney et al., 2022, p. 563). Anita explained that the people’s loss of language is a strong part of the local history related to learning opportunities, which became visible during the MIM conference when people in the audience shed tears when the issue came up during some of the presentations. In a study involving the Kven language context for example, Huru et al. (2018) found that culture-based mathematics classrooms can be a fruitful way to “support learning of the Kven language and culture and support the students’ Kven identity” (p. 128).

Much like Sacha, having some of the literature pertinent to her context and work, Anita then identified a number of current challenges from her point of view. She addressed educators and researchers in MIM contexts and especially Indigenous contexts by raising the following: mathematics is often taught regardless of the culture and the language in which it is embedded,

students tend to have a feeling of fixed positions (being stupid), and tensions exist between traditional practice and mathematics education (land is important) as well as between traditional knowledge. More details about this are elaborated in Fyhn and Steinfjell (2023) who discussed how practices from three different Sámi cultural contexts (Sáhkku, ear marking, and ruvden) relate to Western mathematics.

Again, similar to Sacha, Anita then identified and focussed on opportunities despite the significant challenges noted previously. The first key opportunity related to storylines. Anita explained that the opportunity lies in our ability to give alternative positions to those with whom we interact: There is opportunity for change in storylines and in positionings. With respect to research, Anita suggested that participatory research, that which is conducted with and by teachers and students, holds the most promise to challenge mathematics education as decontextualized. Participatory research can be one approach to move towards greater equity and social justice. Finally, Anita underscored the importance of opportunities for inclusion, in other words, creating spaces where students can be themselves.

Thus, the following questions were proposed by Anita as key areas of focus moving forward, for researchers working in MIM contexts:

- How can school mathematics support students being themselves?
- What characterizes research that teachers and students find helpful?
- How can mathematics classrooms grow into spaces where people can speak their own language(s)?

In Anita's view, in the Arctic context language in the mathematics classroom and more broadly is a multifaceted issue. Anita argued that in fact it involves such acts as communicating who you are, negotiating positioning, and addressing and talking about challenging storylines. Language can be part of those who are carriers of cultural knowledge; indeed, taking away a language is an effective way to create people with no voice (Huru et al., 2018). The histories, contexts, and relationships are not straightforward nor are they linear. As Anita explained:

The pictures of the girl (see Figure 5) illustrate how many children in Northern Norway still are raised as children of nature. The languages (Kven and Sámi) are disappearing from many families but learning to survive in nature and hunt for food are still visible in peoples' lives. (Simensen, 2022)



Figure 5: Young girl in Northern Norway, fishing. Photos by Ane Marthe Johannessen.

Concluding Thoughts

In her closing remarks, Karla noted that Sacha and Anita represented different geographical regions and brought with them their own unique perspectives and approaches. Nonetheless, both identified challenges, opportunities, key questions, and ways forward that, we suggest, will resonate with many researchers working in various MIM contexts. In her invitation to participate in the symposium and co-author this paper, Karla had invited Sacha and Anita to pay special attention to the role of language in their respective mathematics education research contexts. The panelists' views were, unsurprisingly, varied, with Sacha focusing on language as it exists within the larger community and its role in culture and linguistic security, and Anita noting the connections between language, land, positionings, and culture. Taking into account not only the panelists' discussions but also many others over the course of the MIM Conference, Karla remarked:

It is clear that language is not a simple concept, it is not straightforward, it is not “easy.” It is clear that language and culture are part of the storyline of the mathematics classroom, part of our students' identity, and affect the way students not only “learn” but also experience or “feel” mathematics. (Culligan, 2022)

In conclusion, we invite colleagues and readers to reflect on their own storylines and positionings, and on their challenges, opportunities, key questions, and ways forward. We challenge researchers in MIM contexts to keep language ever present in the dialogue, recognizing peoples' complex relationships with it and its connections to community, land, culture, identity, and mathematics.

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