Learning together with immigrant students: differences as resources in mathematics classes to fight racism

Manuella Carrijo

To cite this version:

Manuella Carrijo. Learning together with immigrant students: differences as resources in mathematics classes to fight racism. Twelfth Congress of the European Society for Research in Mathematics Education (CERME12), Feb 2022, Bozen-Bolzano, Italy. hal-03747795

HAL Id: hal-03747795
https://hal.science/hal-03747795
Submitted on 8 Aug 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
Learning together with immigrant students: differences as resources in mathematics classes to fight racism

Manuella Carrijo

São Paulo State University, Brazil /University of Klagenfurt, Austria; manuellaheloisal@gmail.com

Several situations of racism and xenophobia indicate the need for the school to consider means to promote the recognition of diversity and foster inclusive learning practices considering immigrant students. Racism fosters prejudice and intolerance based on stereotypes that can limit the foreground of the students. Fighting racism requires recognizing differences. Meeting amongst Differences in mathematics classes call immigrant students to collaborate, and differences can be resources for investigation in mathematics classes. They can choose themes referring to their own realities. This is related to students' motives for learning mathematics for social transformation.

Keywords: Foregrounds, Racism, Mathematics education, Immigrant student.

Introduction

According to the United Nations International Migration Inventory, in 2019, around 3.5% of the population on the planet are migrant people. Education systems across the world are becoming increasingly more diversified and are being called upon to rethink their policies and structures in the understanding that migration is a human right that includes the right to education.

The debate on immigration and its impact on education are not new. However, it is a relevant and complex theme that demands constant reflection. Several situations of racism and xenophobia indicate the need for the school to consider means to promote the recognition of diversity and foster inclusive learning practices considering immigrant students.

Education is a political act because it is at the service of certain proposals (Freire, 1972; 1998). It is therefore not disjointed, disinterested and neutral and can take a democratic or authoritarian position. Education can consider the demands of subordinate groups such as people with disabilities, women, LGBTQIA+ people, black people, immigrants, and other members of marginalized groups. It can be exercised in the sense of anti-racist practices.

Skovsmose (2020) argues that mathematics can shape society, and this requires considering an ethical dimension in the face of a series of social implications. Mathematics education has a political and social dimension and must propose reflections that express concerns about oppression and exploitation, poverty and economic inequalities, racism, democracy, and ecological crises.

Consequently, mathematics education is also not neutral and apolitical. It can give power to a group of people by making them more accepted in society's decision-making abilities. This fact is directly related to racism, not only in relation to access to mathematical knowledge, but also to the different types of knowledge that are considered or not in school. Also because of the misuses of

---

mathematical knowledge and skills in the hands of exploiters to keep privileges of certain groups according to racist assumptions.

This essay is a result of doctoral research reflections. It is in the process of qualitative research in the phase of data production through interviews with immigrants and teachers who teach mathematics. The research is structured around understanding the possibilities of mathematics education for the inclusion of immigrant students (Carrijo, in progress—a).

This essay aims to foster the debate on the possibilities and challenges that contemporary migratory processes present to the field of mathematics education. Therefore, it seeks to problematize, reflect, and signal the learning possibilities that migrations and cultural diversity provide.

For presenting a theoretical discussion on themes addressed in my doctoral research, I will, in the first section, discuss racism and how it can shape the foregrounds of immigrant students. Next, I discuss meeting amongst differences as a learning opportunity for mathematics classes. Then, I address the necessity to include themes with political and social implications in the process to consider immigrant students’ differences as a resource for mathematics education with antiracism proposes.

**Immigrant students and racism**

Racism is part of a larger, structurally based racial system and it is constantly being brought up to date. It is a systematic form of discrimination through practices that produce disadvantages or privileges for individuals, depending on the racial group to which they belong. Not only black people are victims of oppression of a racialized system. Latinos, Arabs, Persians, Gipsies, Jews, Asians are included in this system (Bonilla-Silva, 1997; Marinucci, 2018; Romero, 2008).

In terms of a globalised world, the inequalities are intense and based on ideas of belonging and not belonging, and of favouring and disfavouring. This includes precarious public services, social and political instability, and social and economic vulnerability. In this context, populations in migratory movements experience several forms of exclusion and violence centred on racialisation. In other words, racism fosters prejudice and intolerance based on stereotypes and produces xenophobic practices that perpetuate the oppression and subordination of migrant populations. In the social context of exclusion, differences can be used to degrade, a variant that combines fear and contempt.

Racialized societies reflect the ways in which the school reflects privileges and exclusions. Thus, racism permeates the way diversity can be understood as a problem and is often ignored or fought. In culturally diverse environments with the presence of students of different nationalities, this may be even more evident.

The denial of diversity in the educational context can mean barriers to learning. Vandenbroeck (2013) points to the following misconceptions: Believing that all students should all be treated the same way: This can put the teacher in a position to consider the criteria of a “standard” student, an ideal student. In this case, this “standard” student may be in the teacher's imagination a student who corresponds to a white, middle-class child who lives in a traditional family. Reduce the student to a nationality or a cultural group: it denies the enormous diversity present in cultures. There is a risk
of having the stereotyped idea that the child of African origin will be a good dancer or that they will eat with their hands, for instance.

Because of stereotypes, students can be excluded from mathematics opportunities. Barros (in progress) has noticed that social stereotypes might shape and limit the **foregrounds** of groups of people. A **foreground** is constituted by the person's hopes, priorities, perspectives, aspirations, and possibilities in life (Skovsmose, 2014). In this sense, racism can limit the **foregrounds** of immigrant students by belittling and oppressing them.

About schools in the USA, Danny Martin (2019) states that black children routinely experience different forms of systemic violence in mathematics education. For Black students, teacher evaluation was nearly as powerful a predictor as math performance. The white frames and white imaginations of Black children’s intellectual inferiority also emerge to produce injurious intellectual violence against Black children.

Also, for Carneiro (2005), the **epistemicide** acts beyond the annulment and disqualification of the knowledge of the subjugated peoples, but also by the restriction of access to quality education, by the processes of intellectual inferiority, underestimation of the cognitive capacity and discrimination present in the educational processes.

Fighting racism requires recognizing differences. And this demands educational processes that challenge and deconstruct homogenizing practices that do not recognize differences. For this, it is necessary to create spaces, actions and activities that encourage the overcoming of exclusion and social injustice.

In this context, the challenge for mathematics education is to mobilize inclusive ways of connecting to diversities. This includes seeking forms of understanding them as a learning possibility. That is, transforming differences into a pedagogical advantage and creating spaces, actions and activities that encourage overcoming exclusion and social injustice.

### Meeting amongst differences for learning together

Racism is a narrative based on the oppressor-oppressed power relationship. The oppressed are transformed into almost a “thing” and subjected to domination, alienation, or marginalization. The dehumanization of non-white people guaranteed white supremacy and justified exploitation and social inequalities.

In this sense, the humanization process through education must raise awareness of people who are capable to reflect, analyse, critically position themselves and make ethical decisions in society. Mathematics can bring possibilities to understand the world critically, pointing out that situations of social inequalities need to be transformed.

According to Skovsmose (2019), the **Meeting amongst Differences** in mathematics classes highlights the meeting between people with different life experiences, cultural backgrounds, different fulfilled and frustrated dreams. Also, with different hopes, priorities, opportunities, perspectives, and aspirations. It is about the meeting between students with different **backgrounds** and **foregrounds**.
The meeting between immigrants and nationals in school and non-school environments demands respect for diversity. It requires valuing all the knowledge and experiences involved. This meeting is a possibility to learn about cultural, linguistic, religious, physical multiplicities, and so on, through mathematics.

Gutstein (2006) points to the possibility of *reading and writing the world with mathematics*. It means involving students in issues related to social justice. This can help to create space for human rights reflections and students can discuss reality and engage in social change. In this sense, immigrant students, through mathematics, can interpret their life contexts. Furthermore, they can recognize themselves as agents of change and use mathematics to change their realities into a sense of belonging. When writing about the world, the students can use mathematics to find solutions. When students want to understand, for example, the situation of labour market, they can identify themselves or members of their communities, schools, or churches as potential victims of work analogous to slavery. They can engage in denunciation and understanding the needs to combat precarious work circumstances, for example.

In a social racialized system mathematics can be used as a tool for oppression and dehumanization. Also, the access to mathematics, and hence to economic opportunities, is selective in protecting white and male privilege rather than being truly democratic in nature (Martin, 2013).

But on the other hand, the *Meeting amongst Differences* in the mathematics classroom together with *reading and writing the world with mathematics* can create an environment in mathematics classrooms to learn collaboratively. It is a possibility for students who are culturally and linguistically different, poor students, students with disabilities, and immigrant students or children of immigrants, for example, to have mathematics learning opportunities. This space is invited for *Dialogue Across Differences*.

*Dialogue Across Differences* supports place across differences by establishing dialogues between different worldviews. The participation of students in the educational process takes place in a dialogic educational process in which each student can express their worldview, can be heard, and be considered. Any kind of differences with respect to cultural backgrounds, religions, nationalities, economic conditions, or abilities is considered to provide learning environments where all students can learn together (Skovsmose, in progress).

Moura (2020) reports in his research the possibility of meeting between deaf and hearing students in mathematics classes. This context provides to students the movement to see the other, to wanting to be together with each other and to learn from each other, promoting cooperation and building equity.

Considering diversity at school goes through valuing and using student diversity as a resource for education and taking responsibility in the search for social justice and equity (Akkari, 2018). In this process of being together and being able to see the other as possibilities to learn together, the differences that students bring to the mathematics classroom are considered an important contribution to the construction of knowledge.
Immigrant students need to be considered in mathematics classes. Respect for diversity goes through recognition. This is the way to combat racism that mutually feeds practices in society and at school. The themes addressed in mathematics classes are also important bridges between differences.

**Political and social implications issues in mathematics classes**

Thinking about the issues that can create barriers in the mathematics learning of immigrant students goes through many issues. A widely debated point involves mathematics classes in linguistically diverse contexts. Barwell et al. (2016) point out that diversity in language can create hierarchies and exclusion since not speaking according to a standard form of the local language can put students in the position of “less educated”. One must consider that each participant in a mathematics classroom, including the teacher, brings their own combination of languages, varieties and modes of speech that must be considered to strengthen dialogue.

On the other hand, speaking the local language is essential in the learning process context but does not guarantee that immigrant students are considered as equals in mathematics classes. Although the immigrant students speak the local language without any indication of foreign accent, it does not prevent them from exclusion and to be labelled as “foreigners” (Baber, 2007).

I consider it is also important to include *themes with political and social implications* in mathematics classes to support an inclusive environment. These themes can involve issues of interest of the students and mathematics can help in understanding and reflecting on different realities. Themes such as distribution of wages and wealth; racism and xenophobia; migratory contexts; housing and living conditions; or about representation in social media, are some examples of real contexts that can be explored. Immigrant students are called to collaborate, and differences can be resources for mathematics classes.

Skovsmose (in progress) proposes the landscape of investigation *Erosions of Democracy* focused on some specific issues. Students can imagine the functioning democracy of many countries with extreme differences between rich and poor, investigate the distribution of welfare and share particular interests. Also, Britto (2013) planned mathematics lessons that relied on the investigation into the visibility of black people in Brazil. Through a landscape of investigation, he proposed an investigation to some students about the presence of black people in magazines. Students had to look for pictures of children and consider whether these children were being registered in positive or negative contexts and reflect the visibility of black people.

These two examples illustrate the possibility of proposing investigation in mathematics classes focused on themes with political and social implications. Students can look and reflect on these questions and understand the reality in a broader way. Mathematics is a tool to understand society's injustices and adopt a critical stance towards inequalities. In classes with immigrant students, these themes can refer to their own realities.

However, considering social and political issues goes beyond simply bringing certain issues into the planning of mathematics classes. It is crucial when considering topics referring to the context of immigrant students, not put them in the place of “folklorization”, of exotics. Also, the mistaken
perception of “foreigners” as inferior intellectually and culturally, would contribute to the exclusion process.

According to Akkari and Maleq (2020), citizenship refers to belonging to a global community. Education must include demands for local and global challenges. In this sense, it is important to consider the global context in the themes addressed in the classes. In the landscape of investigation Global Visibility Matters (Carrijo, in progress—b), I consider Global Citizenship and the necessity to enable students to understand global issues in mathematics classes. It includes an awareness of other perspectives, a perception of oneself as part of the global community. It can help to develop a sense of social responsibility and solidarity towards less privileged groups of people. This perception is also part of the process to fight against racism.

Such an education demands a critical and transformative approach. It means considering and respecting diversity in mathematics classrooms, ensuring inclusive and equitable quality education, and promoting learning opportunities for all. Such an education must also value diversities in mathematical knowledge, which means considering and learning together with others, and acquiring different kinds of mathematics knowledge.

Concern about how racism can create exclusions within and outside the school context must be part of the teaching and learning process with immigrant students reflecting on their expectations for the future. I see the concerns of mathematics education moving towards combating racism by using social-political themes as tools to read the world with mathematics. But beyond that, you must write the world with mathematics. And this is related to students' motives for learning mathematics as it relates to their own future possibilities for life and social transformation.

**Concluding Remarks**

In a society strongly marked by great inequalities, the coexistence of differences in the same educational space has been a challenge in building education systems that truly consider everyone.

Only the access of immigrant students to school, supported by legislation, does not guarantee support to immigrant students in the process of belonging that is crucial to immigrant people.

Racism can create a learning barrier for immigrant students because of stereotypes that can limit their foreground. They can feel excluded in the mathematical learning process, or they don't see that mathematics plays any significant role in their futures.

Mathematics education has a political and social dimension and must propose reflections that express concerns about racism. It is necessary to embrace differences and consider the contexts and knowledge that students bring to school, developing actions that can impact the inclusion of immigrant students.

*Meeting amongst differences* for reading and writing the world with mathematics together makes it necessary to address political and social issues. These themes can refer to the immigrants’ reality and by investigation, students can learn together.

The next steps of the doctoral research will bring an analysis of reports of experiences lived by immigrants and also discussions with teachers who teach mathematics in Brazil about possibilities in mathematics classes with immigrant students.
Acknowledgement

This material is based upon research supported by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes) from Brazil under Grant No. 88887.570282/2020-00, and Ernst Mach Grant from Austria under Grant No. MPC-2020-01204.

References


