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Challenging black people's invisibility in the media of Brazil: possibilities in Critical Mathematics Education

Desafiando a invisibilidade do negro namídia do Brasil: algumaspossibilidadesnaEducaçãoMatemáticaCrítica

Desafiando lainvisibilidad de los negros enlosmedios de comunicación de Brasil: algunasposibilidadesenlaEducaciónMatemáticaCrítica

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Abstract: The articles aims to analyze the contribution of Mathematics Education to reading and writing situations that involve racism in the Brazilian media. To this end, we will discuss landscapes of investigation in which students were invited to analyze the (in)visibility of black people in Brazilian media. In the first landscape of investigation, entitled “Media and Racism,” the students of the final years of a public elementary school in Juiz de Fora, in Minas Gerais, Brazil, analyze the presence of black children in Brazilian magazines. In the second landscape of investigation, entitled “Billboards: analyzing issues of race and representation”, undergraduates in Education Research Degree analyze the presence of black and indigenous people in the billboards of a city in the state of Mato Grosso do Sul. This study shows that in the two investigated landscapes of investigations, the students identified the disproportionality between the percentage of black people in Brazil and thepercentage of their presence in magazines and billboards. The data also provide evidence that the landscapes of investigation have enabled students to use mathematics to identify situations of oppression and the fact that mathematics classrooms might constitute a place to challenge racism. At any educational level, the mathematics classroom could become a learning environment for the critical reading of different social practices, thus unveiling asymmetric processes and power relations established upon racial relations of the same nature.

Keywords: Media. Racism. Diversity. Critical Mathematics Education.

Resumo:O artigo tem como objetivo analisar a contribuição da Educação Matemática para situações de leitura e escrita que envolvem racismo na mídia brasileira. Para tanto, discutiremos cenários para investigação nos quais estudantes foram convidados a analisar a (in)visibilidade de pessoas negras na mídia do Brasil. No primeiro cenário para investigação, intitulado “Mídia e Racismo”, os estudantes dos anos finais do Ensino Fundamental de uma escola pública de Juiz de Fora, em Minas Gerais, Brasil, analisam a presença de crianças negras em revistas brasileiras. No segundo cenário para investigação, intitulado “Outdoors: analisando questões de raça e representatividade”, graduandos do Curso de Licenciatura em Pedagogia analisam a presença de negros e indígenas em outdoors de uma cidade do estado do Mato Grosso do Sul. Este estudo mostra que nos dois cenários para investigação, os estudantes identificaram a desproporcionalidade entre o percentual de pessoas negras no Brasil e o percentual de sua presença em revistas e outdoors. Os dados também fornecem evidências de que as paisagens de investigação permitiram que os estudantes usassem a matemática para identificar situações de opressão e, traz indícios de que as salas de aula de matemática podem constituir espaços para desafiar o racismo. Em qualquer nível educacional, a sala de aula de matemática pode se tornar um ambiente de aprendizagem para a leituracrítica de diferentes práticas sociais, revelando assim processos assimétricos e relações de poder estabelecidas sobre relações raciais da mesma natureza.

Palavras-chave:Mídia. Racismo. Diversidade. Educação Matemática Crítica.

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Resumen: El artículo tiene como objetivo analizar la contribución de la Educación Matemática a situaciones de lectura y escritura que involucran racismo en los medios de comunicación brasileños. Para ello, discutiremos escenarios de investigación em los cuales se invitó a estudiantes a analizar a (in)visibilidad de personas negras en los medios de comunicación de Brasil. En el primere scenario de investigación, titulado “Medios de comunicación y racismo”, los estudiantes de losúltimosaños de la Educación Primaria en una escuela pública de Juiz de Fora, Minas Gerais, Brasil, analizan la presencia de niños y niñas negras en revistas brasileñas. En el segundo escenario de investigación, titulado “Outdoors: analizando cuestiones de raza y representatividad”, estudiantes del curso de Licenciatura em Pedagogía analizan la presencia de negros e indígenas en vallas publicitarias de una ciudad del estado de Mato Grosso do Sul. Este estudio muestra que, en ambos escenarios de investigación, los estudiantes identificaron la desproporción entre el porcentaje de personas negras en Brasil y el porcentaje de su presencia en revistas y vallas. Los datos También ofrecen evidencia de que estos paisajes de investigación permitieron a los estudiantes usar la matemática para identificar situaciones de opresión y, ofrecen indicios de que las aulas de matemática pueden constituirse en espacios para desafiar el racismo. En cualquier nivel educativo, el aula de matemáticas puede convertirse en un ambiente de aprendizaje para una lectura crítica de diferentes prácticas sociales, revelando así procesos asimétricos y relaciones de poder establecidas sobre relaciones raciales de la misma naturaleza.

Palabras clave: Medios de comunicación. Racismo. Diversidad. Educación Matemática Crítica.

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INTRODUCTION

At present times, racism seems to be emerging as one of the main themes to be discussed by societies that aim to achieve the status of inclusive and democratic. In this regard, we can say that Brazil presents itself as a relevant sociological scenario for reflection despite important historical differences. The data and social indicators regarding black people in Brazil show social places of inferiority built for these citizens. The statistics that demonstrate this reality in Brazil are abundant, either in the usual way in which security forces treat African descendants, or in school systems, making African and Afro-Brazilian participation invisible for the construction of knowledge. Marielli Franco[1], João Pedro[2], and Evaldo dos Santos Rosa[3], in Brazil, represent the extremes of such an inferiority construction, which leads people of different ages and gender who share the same race to be murdered.

In the context of the teaching and learning processes of mathematics, as well as in educational systems in general, a process that hinders the social inclusion, development and learning of Afro-descendant students remains. When we look at the curricula, part of the explanations for these gaps between white and black people can be credited to their proposals, which in general neglect or deny the African participation in the production of knowledge. These absences impact negatively self-esteem and interfere and distort the identity processes, which are fundamental for cognitive development. In mathematics, the process of ethnic invisibilization finds fertile ground. Here, in particular, the "Colonial education presented mathematics generally as

[1]Mariele Franco, a black woman, activist and Brazilian politician, murdered on March 14, 2018. The confessed murderers, former police officers, were arrested although the perpetrators of the crime have not been identified.
[2]João Pedro, a 14-year-old black man, shot and killed in the back on May 18, 2020 during a police operation in Rio de Janeiro.
[3]Evaldo dos Santos Rosa, a 51-year-old musician, was hit by 80 shots fired by the military on April 7, 2019 in Rio de Janeiro.

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something rather “western” or “European”, as an exclusive creation of “white men” (Gerdes, 1997, p. 337).

Before such a scenario, a growing number of researchers (Gutstein, 2006; Skovsmose, 2011) have been highlighting the importance of social and political issues to be addressed in mathematics classrooms. According to Gutstein (2006), it is essential that the teaching and learning of mathematics contribute to the development of positive cultural identities and that the contribution of different people to the construction of mathematical knowledge is recognized.

The work presented here intends to join a group of insurgencies against the advance of racism, particularly in Brazil, as it has affected and deteriorated racial relations in the country, although this fact has also been verified on a global scale. Therefore, the objective is to analyze the contribution of Mathematics Education to reading and writing situations that involve racism in the Brazilian media. To this end, we will discuss landscapes of investigation in which students were invited to analyze the (in)visibility of black people in the media of Brazil.

STATISTICAL DATA, RACISM AND MEDIA IN BRAZIL

Brazil is a structurally unequal country, especially when issues related to gender and ethnicity are discussed. According to the Brazilian Institute of Geography and Statistics (IBGE), the Brazilian black population consists of the sum of those who declare themselves as black and brown (*pardo*). The official data of the National Household Sample Survey (*Pesquisa Nacional porAmostra de Domicílios - PNAD*) of 2019 show that 42.7% of Brazilians declared themselves as white, 46.8% as brown (pardo), 9.4% as black and 1.1% as yellow or indigenous. Thus, adding the percentage of the population that declares themselves as brown (*pardo*) and black, there is 56.2% of blacks in Brazil. However, although official demographic data show that blacks represent more than half of the Brazilian population, this population is still the target of structural racism, which is linked to the myth of racial democracy and the ideology of whitening.

In education, the indicators denote what can be called a degree of racial democracy in Brazil and are also significant to highlight racial inequality. The gaps between whites and blacks can be observed in any of the educational indicators used for analysis. Regarding, for example, illiteracy, while in 2015 we recorded a percentage of 4.9%, of white illiterate women, in the segment of black women, the percentage was 10.2%. Regarding the average number of years of schooling, we observed that in 1995, this average was 6.4 years for whites and 4.3 years for blacks. When we look into the variation of the latter indicator in time, it is possible to understand the meaning of saying that racism is structural.

From 1995 to 2015, there was a displacement in the average number of years of schooling for whites from 6.4 years to 9.0 years in Brazil. In the same period, this indicator varied from 4.3 to 7.4 years of schooling on average for blacks. Thus, if in 1995 we had a gap in this indicator, of about 2 years more of education for whites, 20 years later, in 2015, this difference was close to 1.6 years of education which, from our point of view, keeps practically unchanged this racial educational difference.

When the regions of Brazil are observed considering this last indicator, the data reveals some changes, which suggests that there is also an economic component that actually operates together with the phenomenon of racism or black inferiority produced socially. So, racism certainly suffers influence from the economy, indeed like any other sphere of our social relations, but it is absolutely not produced by it. More than that, even when there are “advances” observed in the average number of years of schooling of the black population, we realize the construction of a kind of “barrier” between white and black groups that delimits an almost formal distance, “produced” by education systems.

We consider that these differences cannot be attributed, as a cause, only the historical and socioeconomic lags. Mainly because despite the improvement in the average indicator of years of schooling for both whites and blacks, there is a difference that remains, inertially, for a long period of time, as we have seen. This leads us to consider that it is necessary to focus efforts on affirmative action policies. The commitment to combat racism must be of the whole society, and the school, being

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themain institution whose function is to deal with the formal processes of education, must begin the change from within.

However, this is not an easy task given that, not being isolated from the social fabric, the school also feels the effects of pedagogical and curriculum structures for this task, and especially suffers the effects of historical processes that helped to sustain racism here in Brazil.

Racism has its origins in the historical processes known as whitening ideology and in the myth of Brazilian racial democracy. The “whitening,” in fact, constituted an ideological movement, which in itself already indicates the difficulties to confront it. It is the idea or thesis “accepted by most of the national elite in the period between 1889 and 1914” (Skidmore,2012,p.110) that “was based on the assumption of white superiority” (Skidmore,2012, p.111).

Several scholars have contributed to the construction of the ideas of whitening. Some Brazilianists, who are foreigners, who “studied” Brazil, are also part of the group of those who made pessimistic predictions about the black people and about racial relations in Brazil, believing and, more than that, spreading the idea that “the black is indolent,” “lazy,” did not like to work, inferior, and would disappear over time.Among these voices, Skidmore (2012) cites Pierre Denis, for whom the “economic and moral inferiority of the Black population in Brazil” was considered “irrefutable” (p. 114). As we can see, racism in Brazil has been sustained not only by unfavorable economic conditions but also by a deeply rooted belief in white superiority.

One can materialize the predictions and eugenic desires about the future of Brazil also, for example, by the figure of Monteiro Lobato (1882-1948) who, with an intense literary production in the first decades of the twentieth century, would have contributed “as a laudatory resource for whitening” (Domingues, 2004, p.275).

Domingues (2004) brings us one of the letters Lobato exchanged with Godofredo Rangel, in which he expressed his contempt for the black individual. In this letter, in an account of a trip he had made to Rio de Janeiro, he describes having found a “counter-Greece,” in his eugenic vision. For Lobato, walking down the “horrible Marechal Floriano street” of the “people who return to the suburbs, all degenerations, all the

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forms, and bad forms – all but the normalcy pervades." From Monteiro Lobato's perspective, the African black man brought here by force took revenge against the Portuguese, in the "most terrible way – darkening them and liquefying them, resulting in that residual thing that comes from the suburbs in the morning and refluxes to the suburbs in the afternoon."

We believe we can say that the myth of racial democracy in Brazil is not something separate from the ideology of whitening. It arises as part of an intellectual and social effort to "solve" the Brazilian racial problem, mainly by enhancing the qualities of the individual generated by the mixture between whites, blacks, and indigenous people. And by the false allusion to the harmony in which racial relations were established in Brazil.

The history of Brazil, the official history, leads us to the prevalence of the idea of the mixture (*mestiçagem*) as a dual element that, on the one hand, represents the degeneration of character, as we have seen in Monteiro Lobato, and, on the other hand, is the agglutinating element of national identity. This last perception permeates the role attributed to Gilberto Freyre in the production of his seminal book Casa Grande &Senzala.

In the construction of the myth, Brazilianists also played an important role. This is what Petrônio Domingues (2005) highlights when quoting Couty, who described Brazilian racial relations in idealized terms:

> In Brazil, the freedman enters fully into a society in which he is immediately treated as an equal (...). In Brazil, there is not only no racial prejudice, and the frequent unions between the different colors constituted a large and important mixed-race population; but also those freed blacks and those mixed-race mingled entirely with the white population (...). It is not only at the table, in the theatre, in the halls, in all public places; it is also in the army, in public administration, in schools, and in legislative assemblies that we find all the colors mixed, on equal terms. (Domingues, 2005, p.119).

It turns out that an ideological structure and a myth are not disseminated without vehicles that make them circulate. Thus, both whitening and the supposed "racial equality" move from discourses - or even through them - to constitute institutions such as the School and Media.

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The media, in the discursive interpellation for black inferiority, has in the dissemination of images the main diffusing factor of racism. Not only because of the operation produced by the little exposition but by the artifice of what Bourdieu calls "show by hiding" that would consist of showing "... that we need to show, but in such a way that [it] is not shown or becomes insignificant, or building [it] in such a way that [it] acquires a meaning that does not correspond absolutely to reality". (Bourdieu, 1997, p. 24). This is how racism is expressed, in the in-visibility, in the absence of representativeness of the black population in government positions, in educational indicators of access to and permanence in school, and also in the media.

In the book *Educar com a mídia*, Paulo Freire and Guimarães (2011) highlight the importance of learning to make a critical interpretative reading of the media, of learning to analyze the position of images, the movement of images, the position they occupy within a general context of a history or a social context, the need "to ask at the service of 'what' and at the service of 'who' the media are. And this is an issue that has to do with politics and power, therefore" (Freire& Guimarães, 2011, p.32). Thus, basing their analyses on the relationship between power, media, and school, the authors highlight the importance of the teacher's role in problematizing the media:

> So, I think that educators as politicians, - as long as they have an option to transform their society and not to keep society as it is -, educators who are not satisfied with this consumerist conception of the world, should see what can be done as an antidote to the high manipulative or ideologizing formation of some of these means of communication (Freire& Guimarães, 2011, p. 34).

We agree with the authors, and consider it important that such issues that relate media and racism be addressed in the mathematics classroom. What we mean is that the mathematics classroom has become a sanitized place, with regard to what we call the Brazilian racial issue. And this is why this work is articulated and results, as an expression of efforts that have been produced within mathematics education in Brazil, that, anchored especially by the assumptions of ethnomathematics and critical mathematics education, have constituted strategies to confront racism. It is necessary that decolonial movements on pedagogical practices in our mathematics classes are produced at different levels of education in Brazil.

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METHODOLOGICAL PROCEDURES

This study is based on a qualitative approach that seeks the interpretation and understanding of the phenomenon studied (Bogdan& Biklen, 1994). The researcher is the main instrument of the investigation and excels in understanding the meanings and the way the research participants interact and understand each other in this interaction. The data was collected from the analysis of the students' reports, notes in the researchers' field diaries, and photographic registers. Thus, in this work we chose, by a political position, to describe and analyze two landscapes of investigation that involve experiences of resistance and fight against racism, rooted in the mathematics classes, and that involved the issue of visibility and black representativeness.

The first landscape of investigation, called "Media and Racism," was developed with students from the final years of elementary school, who are between 14 and 15 years of age and study in a public school in Juiz de Fora, Brazil, where the first author teaches. In this landscape of investigation, students analyzed the relationship between media and racism in images found in magazines.

The second landscape of investigation, entitled "Outdoors: analyzing issues of race and representativeness," was developed with students of the Pedagogy Teaching Degree of the Federal University of Mato Grosso do Sul (UFMS), who participated in Ta'arõmby - Group of Studies and Research in Mathematics Education and Society-, coordinated by the second author of this article. The meetings last about 1 hour and a half to 2 hours biweekly, when texts on critical mathematics education are discussed and landscapes of investigation are experienced. In the landscape of investigation addressed in this article, the undergraduates analyze the relationship between media and racism in billboard images. In the next sections, these landscapes will be described and analyzed.

LANDSCAPE OF INVESTIGATION 1: MEDIA AND RACISM

In this landscape of investigation, students in the final years of elementary school investigated the participation of white and black characters in printed

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magazines, demonstrating how mathematics is an important tool for the "reading" of various social processes and practices that are fundamental to democracy.

The students were challenged to answer the following question: Does the print media offer the same space for white and black people? They worked in small groups collecting photos and then classified the characters according to two ethnic "types", white or black, and qualified the context in which those characters were represented. They also performed percentage calculations that described the ways in which white and black characters were portrayed, expressing themselves through what we call *Mathematical Measures of Democracy* (MMD): the degree of visibility of each ethnic group and the quality of their participation in the magazines (Britto, 2013).

The degree of visibility aims to describe the percentage of participation of each ethnic group in the journals surveyed. The Mathematical Measure of Democracy, named quality of participation, in turn, aims to describe how each ethnic group is represented. In the activity titled Media and Racism, in which we discussed the participation of black characters in magazines of national circulation, the objective was to discuss social practices of discursive production of racial inferiority and show that the mathematics classroom can be a space for discussion about racism. At the same time, we wanted to show how the curriculum contents of mathematics, such as percentage calculations, the idea of proportionality, treatment, and analysis of information, among others, could be studied from *references to reality* (Skovsmose, 2008).

The results of some of the years in which this landscape was repeated reveal the effects of whitening in print media. The first conclusions show that the printed media does not offer the same opportunities for black and white characters to participate in advertising or journalistic articles. And more, in the reduced spaces it offers black characters, they are more proportionally portrayed in situations of vulnerability or social "lower prestige." More than a complaint, the work invited to a reflection.

In the 2013 edition of the research, two 9th grade classes of elementary school collected 439 photos with characters that they later classified as white or black, according to their judgment. Of the photos, 388 characters were classified as white

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and 51 as black. We can then conclude that the degree of visibility(GV_i)[4]for the white ethnic group was approximately $GV_B = 0.88$. That is, about 88% of the photos had white characters. The degree of black visibility was also approximately $(GV_N = 0{,}12)$. The quality of participation (QP_i) of each ethnic group, in this research, indicated in the 388 white characters were qualified in positive (or more prestigious) participations. In 345 photos $(QP_{B+} \simeq 0{,}89)$, i.e., in 89% of the photos of white characters, the context was positive. Of the 51 photos with black characters, 37 were in positive contexts and 14 in negative situations, i.e., we had here $QP_{N+} \simeq 0{,}73$ *and* $QP_{N-} \simeq 0.27$ respectively. Thus, while white characters occupied most publications and were negatively qualified in about 10% of them, black characters had fewer spaces and were qualified, in greater proportion, in negative contexts (27%).

The students' reports and conclusions are also enlightening. From the version of this activity in 2018, we underscore below two students' excerpts:

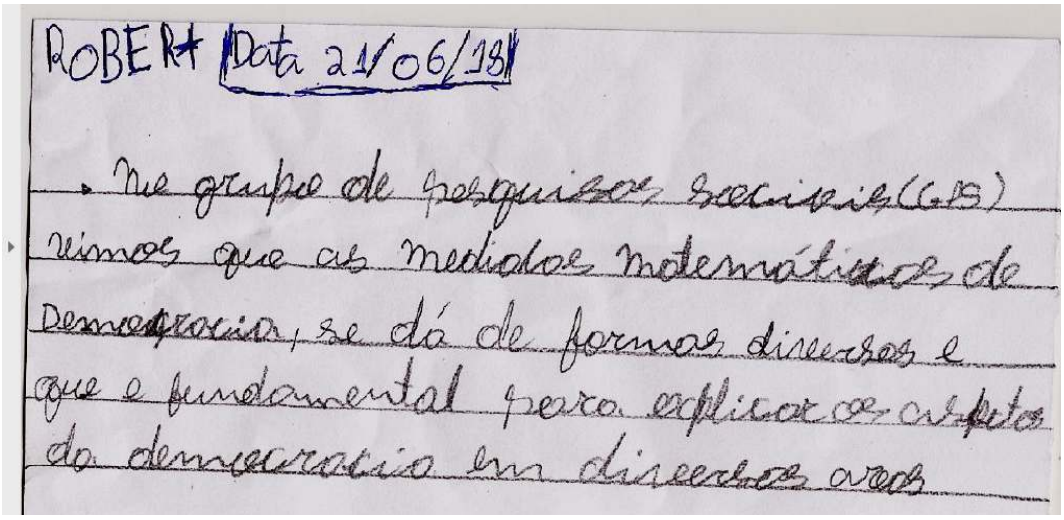

Figura 1. Description of a SRG researcher's report in 2018[5].

Fonte: Social Research Group (SRG) archive (2018).

In this photo, the student describes his perception of the potential of mathematical measures of democracy for the examination of democratic practices "in several areas."

[4]Degree of visibility, where (i) it can assume the status: white or black.
[5]In the social research group (SRG) we saw that the mathematical measures of democracy take place in different ways, and that it is fundamental to explain aspects of democracy in different areas.

Then, the researcher who suggested the acronym (MMD) for the *Mathematical Measures of Democracy* expresses both his contribution (Figure 2) and his perception of black invisibility (Figure3).

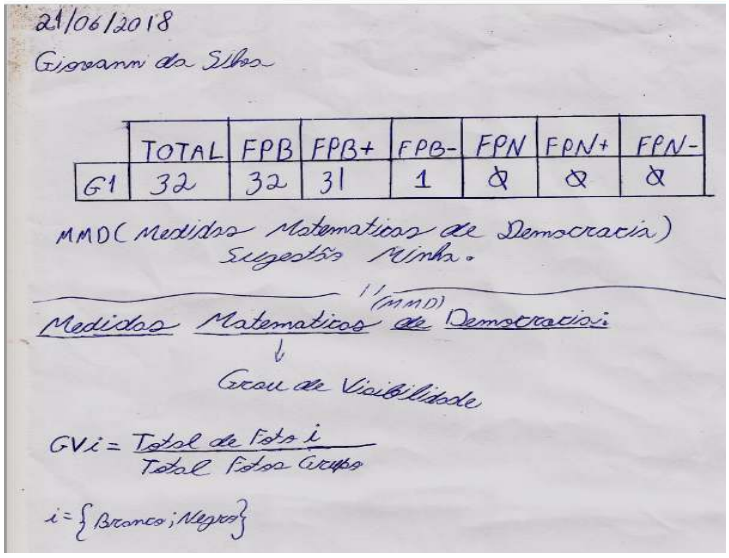

Figura2. Report of the researcher who created the acronym MMD for the idea of Mathematical Measures of Democracy.

Fonte: Social Research Group (SRG) archive (2018).

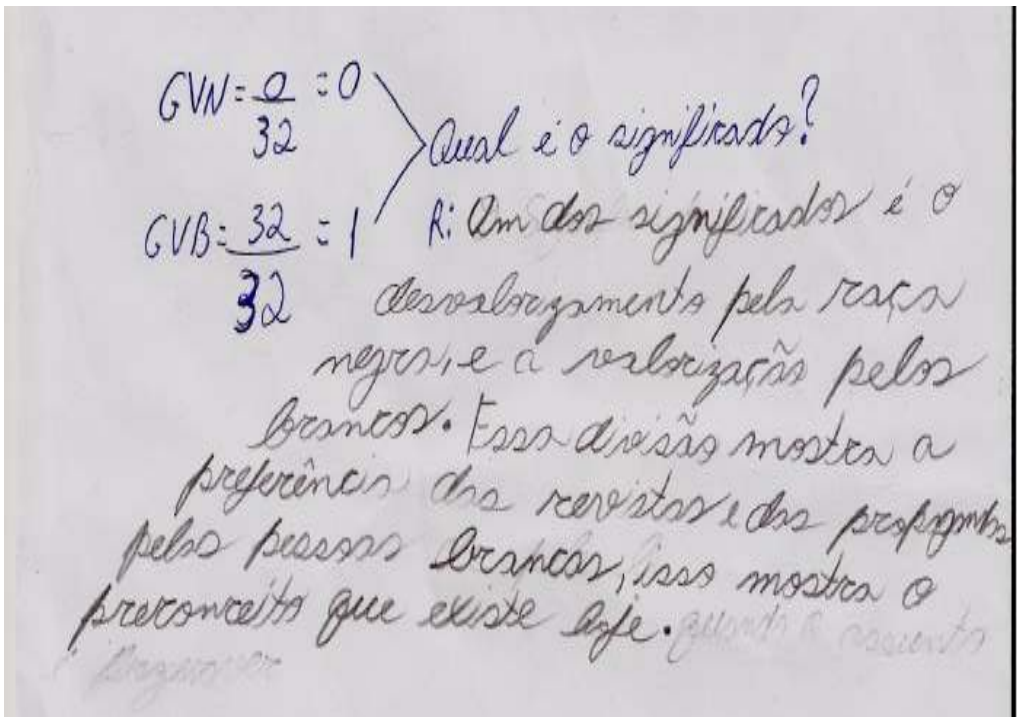

Figura3. Report of the researcher who created the acronym MMD for the idea of Mathematical Measures of Democracy.

Fonte: Social Research Group (SRG) archive (2018).

Figure 2 shows that one of the groups in this edition of the landscape of investigation in 2018 did not find - or did not collect- any black character, so the degree of visibility for the white ethnicity reached$GV_B = 1.\ (100\%)$. The degree of visibility$GV_i$was an idea, an "abstraction to think" that Britto (2013) elaborated in the context of pedagogical practices in the Social Research Group, at the Escola Gabriel G. Silva, in Juiz de Fora. MG, Brazil.

Close reflection can be considered for the other *Mathematical Measures of Democracy* as the quality of participation (QP_i), whether positive or negative. So, the way we think,$GV_i$and$QPi$are abstractions to think about racial democracy in the media. Mathematical Measures of Racial Democracy and its analysis in landscapes of investigation in our mathematics classrooms represent an essential strategy to unveil - and help deconstruct- black in-visibility in social practices.

LANDSCAPES OF INVESTIGATION 2: OUTDOORS: ANALYZING ISSUES OF RACE AND REPRESENTATIVENESS

This landscape of investigation was developed and experienced by students of the Pedagogy Teaching Degree of UFMS, who participated in Ta'arõmby - Group of Studies and Research in Mathematics Education and Society. After some meetings in which participants talked about texts of critical mathematics education (Alrø & Skovsmose, 2004; Brito, 2013; Skovsmose, 2000, 2014; Moura & Faustino, 2017).

At the meeting in which Britto's text (2013) was discussed, the students talked about the racisms present in Brazil, related aspects of the text with their lives and highlighted the importance of analyzing issues that could involve racism. In the next meeting, the students and the researcher began to outline the landscape of investigation they would develop, based on the epistemological curiosity of investigating the representation of different social groups in the billboards of the city in which they studied (Faustino, Santino& Lopes, 2019).

The question guiding the investigation was, “Who appears on our city billboards?” which generated many other questions such as: Are blacks represented in the billboards of our city? Is the proportion of blacks represented on the billboards proportional to the official demographic data of the Brazilian population? When there are black people represented on the billboards, do they appear alone or accompanied by people from other racial groups? When there are white people on the billboards, do they appear alone or accompanied by other racial groups?

For a month, the Pedagogy undergraduates photographed billboards that contained the image of people. The students jointly established criteria that defined which billboards should be photographed: (a) they should contain people regardless of race, ethnicity, gender; (b) the billboard should be large (9x3 meters on average); (c) the address of the billboard photographed should be registered in notebooks or with the help of the google maps.

Another aspect the students highlighted was that the photo had to be taken in a way that the whole image of the billboard appeared. After this stage of data collection, the photos were printed and the students were divided into two groups to analyze them. Each of the groups received the total amount of photos collected by all participants.

Students analyzed the presence of white, black, and indigenous people on billboards in the city. The data collected were compared with the official demographic data of the Brazilian population (56.2%), revealing a disproportion between the population and the percentage related to the presence of blacks on billboards (12.5%). Furthermore, no indigenous person was identified in the images analyzed. The students considered this data important because Mato Grosso do Sul, where the landscape of investigation was conducted, is the second Brazilian state with the largest indigenous population.

Another aspect analyzed by the students was that black people who were present on billboards did not appear as central figures. They always appeared accompanied by other white people. White people, on the other hand, appeared alone on billboards, as centers or with other ethnic groups. This landscape of investigation enabled future pedagogues to collect data, analyze them, elaborate bar graphs and sector graphs,

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elaborate texts to communicate their ideas, share with the group all the work they had developed and use mathematics to understand that racism is present even in the choice of images of the people who will compose the billboards.

CONSIDERATIONS

These landscapes of investigation brought to mathematics classrooms an aspect of everyday life, the production and dissemination of images of black people in magazines and on billboards, through which the ideology of whitening and the myth of racial democracy could be challenged. Thus, let us consider that mathematics classes can serve both to maintain racism, but on the other hand, as in the landscape of investigation presented in this article, they can contribute to interpret and understand how racism manifests itself in society. The strategies proposed in the actions described in these landscapes of investigation are relevant, especially for the Brazilian context, for one main reasons: we can call here, in this final part of our work, eugenic environments that have become a significant part of the spaces of our mathematics classrooms. Racial themes traditionally have no space in the mathematics classroom and professionals who work in it have difficulties with this approach.

These reasons have represented an obstacle for social issues relevant to citizenship to “take” the classroom space. But in the specific case of racial issues, we understand that what in fact justifies its “absence” is actually in broader processes and is related to the production of the world and science. There is a need to build a decolonial look into these spaces, which has been the endeavour of many researchers and teachers around the world and in Brazil, to which we have joined our efforts. We are heirs to a “science” produced from a Eurocentric bias that “persists and influences the schooler curriculum, even in a subject supposed neutral as mathematics” (Frankenstein &Powell, 1997, p.7).

The results of these studies show that students used mathematics to interpret the media and its relationship with the invisibility of the black population in Brazil. In both contexts, mathematics, through data collection, proportional thinking, percentage calculations, construction of graphs, etc., contributed to students understanding that

the percentage of blacks present in Brazilian society is higher than their presence in the media and that the criteria for choosing images are not neutral. Moreover, the use of mathematics allowed an inverse effect of what ideological orientations normally produce, the visibility of the racial issue, although mathematics itself can also serve ideological interests. Thus, it is necessary, and these landscapes propose it, to build decolonial strategies for the space of our mathematics classes.

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