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Room for dreaming in mathematics classes: problematizations and possibilities

Espacios para los sueños en las clases de matemáticas: problematizaciones y posibilidades

Les espaces du rêve dans les cours de mathématiques : problématisations et possibles

Espaços para sonhos nas aulas de matemática: problematizações e possibilidades

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Abstract

This article is based on an investigation that aimed to identify which spaces for dreams are possible in mathematics classes and which problems may be encountered regarding these spaces. This was based on the responses produced by socially disadvantaged Brazilian and Colombian teenager students, who studied in public schools. In discussion groups, students were asked about how they saw spaces for discussion and the production of dreams at school and, specifically, in mathematics classes. As a result, it was possible to identify that both the school and the math classes provide very few room for the manifestation and development of young people's dreams. Even so, the students identified possibilities for teachers to provide more spaces for this, based on investment in the teacher-student relationship; content closer to students' lives; and the prioritization of collective and collaborative activities to the detriment of competitive ones. Making dialogues with Freirean and critical perspectives, it was also reflected on the importance of mathematics classes producing meaning in students' lives and that critical perspectives be incorporated to interpret mathematical knowledge, in order to make dialogues with culture and society. Finally, it is questioned the role of current economic and ideologies systems in erasing young people's dreams.

Keywords: Dreams, Foreground, Room for dreaming, Alterity, Mathematics classes.

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Resumen

Este artículo se basa en una investigación que tuvo como objetivo identificar qué espacios para los sueños son posibles en las clases de matemáticas y qué problemas se pueden encontrar con respecto a estos espacios. Esto se basó en las respuestas producidas por estudiantes adolescentes brasileños y colombianos en desventaja social, que estudiaron en escuelas públicas. En grupos de discusión, se preguntó a los estudiantes cómo veían los espacios de discusión y producción de sueños en la escuela y, específicamente, en las clases de matemáticas. Como resultado, fue posible identificar que tanto la escuela como las clases de matemáticas brindan muy pocos espacios para la manifestación y desarrollo de los sueños de los jóvenes, según los participantes de la investigación. Aun así, los estudiantes identificaron posibilidades para que los docentes brinden más espacios para ello, a partir de: inversión en la relación docente-alumno; contenido más cercano a la vida de los estudiantes; y la priorización de las actividades colectivas y colaborativas en detrimento de las competitivas. Haciendo diálogos con las perspectivas freireana y crítica, también se reflexionó sobre la importancia de que las clases de matemáticas produzcan sentido en la vida de los estudiantes y que se incorporen perspectivas críticas para interpretar el conocimiento matemático, con el fin de dialogar con la cultura y la sociedad. Finalmente, también se cuestiona el papel de los sistemas económicos e ideológicos actuales a la hora de borrar los sueños de los jóvenes.

Palabras clave: Sueños, Provenir, Espacios para los sueños, Alteridad, Clases de matemáticas.

Résumé

Cet article est basé sur une enquête qui visait à identifier quels espaces pour les rêves sont possibles en cours de mathématiques et quels problèmes peuvent être rencontrés vis-à-vis de ces espaces. Ceci était basé sur les réponses fournies par des adolescents brésiliens et colombiens socialement défavorisés, qui ont étudié dans des écoles publiques. Dans les groupes de discussion, les élèves ont été interrogés sur leur perception des espaces de discussion et de production de rêves à l'école et, plus particulièrement, dans les cours de mathématiques. En conséquence, il a été possible d'identifier que les classes d'école et de mathématiques offrent très peu d'espaces pour la manifestation et le développement des rêves des jeunes, selon les participants à la recherche. Néanmoins, les étudiants ont identifié des possibilités pour les enseignants de fournir plus d'espaces pour cela, sur la base de: l'investissement dans la relation enseignant-élève; un contenu plus proche del vie des étudiants; et la priorisation des activités

collectives et collaboratives au détriment des activités compétitives. En dialoguant avec Freirean et des perspectives critiques, il a également été réfléchi sur l'importance des cours de mathématiques produisant du sens dans la vie des étudiants et que des perspectives critiques soient incorporées pour interpréter les connaissances mathématiques, afin de dialoguer avec la culture et la société. Enfin, le rôle des systèmes économiques et idéologiques actuels dans l'effacement des rêves des jeunes est également questionné.

Mots-clés : Rêve, Premier plan, Place aux rêves, Altérité, Cours de mathématiques.

Resumo

Este artigo baseia-se em uma investigação que teve como objetivo identificar que espaços para sonhos são possíveis nas aulas de matemática e que problemáticas podem ser encontradas no que diz respeito a esses espaços. Isso se deu a partir das respostas produzidas por estudantes adolescentes brasileiros e colombianos em desvantagem social, que estudavam em escola pública. Em grupos de discussão, foi perguntado aos estudantes sobre como elas e eles viam os espaços para discussão e produção de sonhos na escola e, especificamente, nas aulas de matemática. Como resultado, foi possível identificar que tanto a escola como as aulas de matemática possibilitam pouquíssimos espaços para manifestação e desenvolvimento dos sonhos dos jovens. Ainda assim, os estudantes identificaram possibilidades para que professoras e professores pudessem fornecer mais espaços para isso, sendo a partir: do investimento na relação professor-estudante; de conteúdos mais próximos da vida dos estudantes; e da priorização de atividades coletivas e colaborativas em detrimento das competitivas. Fazendo interlocuções com perspectivas freirianas e críticas, refletiu-se também sobre a importância de que as aulas de matemática produzam significado na vida dos estudantes e que sejam incorporadas perspectivas críticas para interpretar o conhecimento matemático, de forma a fazer interlocuções com a cultura e a sociedade. Por fim, também se questiona o papel dos atuais sistemas econômicos e ideológicos no apagamento dos sonhos dos jovens.

Palavras-chave: Sonhos, *Foreground*, Espaço para sonhos, Alteridade, Aulas de matemática.

Room for dreaming in mathematics classes: problematizations and possibilities

The documentary “*Nunca me Sonharam*” (I’ve never been dreamt), directed by Cacau Rhoden (2017), features interviews with students, parents, teachers, directors and professionals interested in the area of education. Regarding the reality of public schools² for students, psychoanalyst Christian Dunker describes in this video how he sees the childhood, adolescence and future of these young people:

For the most vulnerable, least favored youth, childhood is shortened: so, you play less, you are harassed by the imminence of working earlier, you have a relationship with learning and education that is strongly instrumental, that is, a 'learning for', an activity or a craft for the profession, learning the simplest version of things, learning without having too much ambition. This compression of adolescence and childhood produces what seems to me to be the main psychological consequence, which is the shortening of dreams. This is worse than offering real non-equitable opportunities. This is killing the future³. (Rhoden, 2017)

In other words, faced with the difficult reality of the most socially vulnerable young people, Dunker states that there is an instrumentalist vision of school, as well as the shortening of dreams. And that would represent the end of the future. I agree with Dunker and understand that, especially for this population, school has a fundamental role in broadening their future and dreams.

Dreams play a decisive role in shaping the future of young people. Some academic works have already demonstrated this, although using other terms. Biotto Filho (2015), for example, in his thesis entitled “*Quem não sonhou em ser um jogador de futebol*” (Who did not dream of being a football player), highlights the role of aspiration in sport for young people at a social disadvantage condition and how the context in which these young people live influences the limitation of their future prospects. More recently, the dissertations by Oliveira Filho (2021) and Ferreira (2019), as well as the article by Silva et al (2021), deal with the topic of re-elaborating perspectives on the future and learning in mathematics classes. These works are based on the concepts of foreground and unfinishedness, which I will present in the next section, but they do not develop a deeper understanding of the theme of dreams. Within this theme, I

² In Brazil and Colombia, public schools are generally attended by students from families who cannot afford private schools.

³ Original version: *Para a juventude mais vulnerável, menos favorecida, a infância se encurta: então, você brinca menos, você está assediado pela iminência de trabalhar mais cedo, você tem uma relação com a aprendizagem e com a educação que é fortemente instrumental, ou seja, um 'aprender para', uma atividade ou um ofício para a profissão, aprender a versão mais simples das coisas, aprender sem ambicionar muito. Essa compressão da adolescência e da infância produz o que me parece ser a principal sequela psicológica, que é o encurtamento dos sonhos. Isso é pior do que oferecer oportunidades reais não equitativas. Isso é matar o futuro.*

highlight some Brazilian works in the area of education, such as those by Araújo (2009), Lopes (2010) and Gomes (2014), which address the concept of dreams, but are not related to mathematical education.

Like Dunker, I believe that dreams would be a fuel capable of making revolutions in the lives of these young people, even within Mathematics Education. In this sense, I developed a doctoral research that revolves around this theme. I describe more details of this study in the following paragraphs.

The study⁴ was built based on data produced in 2019 during my doctorate, carried out in two public schools that serve socially disadvantaged students⁵: one in the interior of the state of São Paulo and the other in the city of Bogotá, Colombia. On that occasion, I interviewed students and held discussion groups with these same young people in each of the schools. In Brazil, the discussion group was made up of seven people, divided into two groups who talked to each other and responded to some triggering themes. No other material was presented to them, besides the triggering themes, and there was no prior discussion about the themes, other than those that had already been carried out during the interviews. At times, the students debated within the group and, at other times, the debate was general, with my intervention. The same happened in Colombia, with the participation of eight students divided into two groups. This article uses as a basis the data produced from the following triggering theme:

- Theme – triggering questions: Do you see room at school (places, moments) for the discussion/production of teenagers' dreams? And in math classes? How do you think it would be possible to create more spaces for this, especially in mathematics classes?

Naturally, at the Colombian school, conversations with students were all held in Spanish. After the dialogues were transcribed, the analysis consisted of organizing the data according to the following categories: answering the question about the existence of spaces (yes or no); justify the lack or presence of these spaces; and suggest proposals. The most common content is the one that is most prominent in the article. To organize the data, the content analysis method was used⁶.

⁴This work is part of doctoral research (Soares, 2022) that was supported by the *Deutscher Akademischer Austauschdienst* (DAAD), with funding program no. 2020/21 (57507870).

⁵The concept of social disadvantage can vary greatly, from state to state, from country to country. In the case of this study, which involved the realities of Brazil and Colombia, it is understood that the students researched are in a situation of social disadvantage because they study in public schools, which mostly serve populations belonging to the less well-off social classes. Another reason is that its schools are located in peripheral regions of the city, where GDP *per capita* is usually below average and certain basic public resources are not accessible to the population. Other terms such as 'less favored' students, or 'in situations of social vulnerability' can be understood as synonyms.

⁶To learn more about content analysis, see Bardin (1995) and Oliveira et al (2003).

The Brazilian data production was carried out with students in the 1st year of high school⁷ at a Federal Institute of São Paulo – IFSP, which operates with Integrated Technical High School and Higher Education and is located in a municipality in the interior of the state on the margins from the metropolitan region of São Paulo. The school is regionally recognized for its teaching quality and is located in a peripheral neighborhood of the city. The vast majority of students enrolled at the school come from public schools.

The Colombian data production was carried out with students in the 10th year of *Educación Media*, which would be close to what is understood by 1st year of high school in Brazil. It is a District Educational Institution – IED, which works with⁸ Colombian Preschool, Basic and Media Education, from 1st to 11th grade, as well as offering optional technical training in the after-school hours. The school is located in the extreme south of the city of Bogotá, in a neighborhood classified as stratum 1, in the mountains⁹. All students who were interviewed live in the region that the school serves, coming from public schools.

In this article, I propose to meet the following objective: to identify which room for dreaming is possible in mathematics classes and what problems can be encountered with regard to this room. To this end, firstly, I present some important concepts that will serve as a basis for understanding the students' perspectives that will be explored later. In subsequent moments, I describe how the young people investigated see the current room for dreaming in mathematics classes, I highlight their criticism of these spaces and I present their proposals for fostering dreams during mathematics classes. I also establish connections with the previous theory presented and expand on new connections, based on what was said by the students and, sometimes, what was implicit in their statements. And, in a last moment, inspired by the notes and suggestions raised by the students, I present an overview of how this room for dreaming could be created from the school level to the global level, highlighting problems and possible paths.

⁷The names of the schools were omitted for reasons relating to the Ethics Committee. The names of the students I refer to are fictitious, for the same reasons.

⁸Source: www.mineduacion.gov.co/

⁹In Colombia, city neighborhoods are divided into strata, ranging from 1 (one) to 6 (six), in ascending order of material conditions. The idea of Colombian stratification is to differentiate the cost of public services, with the lower strata paying less for these services, and the higher strata paying more. A poor and peripheral neighborhood is classified as stratum 1, for example. This was the case in the neighborhood where the researched school is located in Bogotá. Homeless people are classified as belonging to stratum 0 (zero). For more information, see <https://www.dane.gov.co/index.php/servicios-al-ciudadano/servicios-informacion/estratificacion-socioeconomica>.

From unfinishedness to dreaming

Regarding the concept of unfinishedness, Freire (1983) argues that man is an unfinished, inconclusive being, and the desire to transcend, to be more, is characteristic of the human condition. This desire to be more generates anguish and creates possibilities, and this is clearly part of being a person, it is the root of hope and freedom. I add to Freire's ideas that unfinishedness generates foregrounds.

Foreground (Skovsmose, 2011, 2014) is a concept related to looking to the future and refers to the future possibilities envisioned by human beings. These possibilities may have relations with the past without this determining them. This past, as the individual's background, leaves marks, gaps, hurts, desires, obstructions, and perspectives. Economic difficulties, for example, can greatly influence a person's way of living and their understanding of their potential. The same can be said about gender, racial or disability prejudices. School experiences can also obstruct learning, just as good experiences can open up new perspectives, which can happen in any field. For example, a school education that values differences, a municipality that establishes inclusion and income redistribution policies, or a family that supports their children's decisions, are possible positive marks that could have an impact on future horizons. The contexts of the schools and students that took part in this research are also examples of backgrounds that can influence foregrounds. However, in no way do backgrounds determine foregrounds.

Foregrounds are related to possibilities for the future, both in the way they present themselves and in the way in which individuals or communities interpret them. They can also be understood as multiple, not fixed or determined, referring to the individual and the collective. In this way, the power of the background, of the context, can have a greater or lesser impact on the human being according to the experiences lived and the way in which that being meant these experiences.

Foregrounds can be either broad, full of possibilities, or they can be obstructed (Skovsmose, 2011, 2014). In this sense, if the foreground is obstructed, the desire to be more may not manifest. This happens because the meaning that people attribute to the oppressive relationships they experience dehumanizes them (Freire, 1983). Human beings give up on being more because they believe that there is nothing left to change, and this is reinforced by the modern discourse that progress has already happened and so has freedom (Rodrigues, 2008). This modern (and capitalist) discourse makes you believe that freedom is being able to compete, and happiness is having the chance to produce and consume what you want; it is not becoming

aware of historical relations of oppression and fighting for your dreams, that is, humanizing yourself. The fight against oppression starts to be replaced by an understanding of totalization, in which people stop paying attention to yesterday and tomorrow, just as they no longer need to turn inwards or outwards, nor towards the other.

It means that the option for totalization, a concept presented by Lévinas (1980), is rooted in Western foundations of totalitarian biases, which believe that unity and coherence are more important values than the human principles of diversity and singularity. And for those values to be more relevant than these principles, human beings need to disregard history and believe that the future is already given and determined. But that is not true.

When the being becomes aware of its historicity, of the relations of oppression to which it is subjected and understands itself as an agent that not only observes history, but also has the power to transform it, it not only no longer identifies itself with totalization, but also seeks to transcend. He clears his foregrounds and dreams.

When I mention “dream”, I am not referring to the dream projections that are manifested at the moment of sleep. I refer to the consciously imagined dream, the waking dream, inspired by the Freirian perspective on the awareness of the being, with regard to the relations of oppression that it suffers and its movement towards transcendence.

For Freire (1992, 2000), dreams or utopias¹⁰ have a political, collective perspective¹¹, and are linked to the historical experiences of freedom that women and men live and have lived, to their outlook on life. Dreams are projects that we fight for, and their realization does not happen easily, without obstacles; It implies, on the contrary, advances, retreats, sometimes long marches. In fact, the transformation to which the dream aspires is a political act, and dreaming would be one of the engines of making history. In this sense, the process of humanization that Freire refers to is linked to the importance of dreaming, but not a naive dream, but the result of a political transformation. Also according to Freire (1992), this process occurs through the “breaking of real, concrete ties of an economic, political, social, ideological order, etc.” (p. 92).

Dreaming, then, is a constitutive part of the human’s foreground, it is part of launching oneself into the future and is one of the characteristics of the movement to be more; in other words, dreaming is part of the movement of transcendence of the being that is understood as unfinished. And, once again, in the same way as Freire, I understand dreaming as a revolutionary act that transforms realities, especially for people at a social disadvantage

¹⁰In Freireian literature, the two concepts are commonly treated as synonyms.

¹¹In this work, the dream is approached both from a collective perspective, as Freire describes it, and from a more individual perspective, of being.

condition. To dream is necessary, and the school can help young people dream more freely. And mathematics classes too.

Finally, another movement that human beings can make during the exercise of being more is the alterity. From the perspective of Lévinas (1980), this concept can be understood as the ability to put oneself in someone else's shoes and take responsibility for them. Through alterity, the being recognizes that the other is not himself or herself; however, they see the other not as a stranger or enemy, but as a being as unfinished as they are, full of multiple possibilities. The relationship with the other, the desire for alterity, then, provides the possibility of plurality. Making an analogy with Freire, Lévinas' movement towards the other occurs through alterity; in Freire's terms, through dialogue (Guedes, 2007).

All of these concepts presented here will be important in the next sections, in which I show the research data. In this sense, I now dedicate myself to presenting students' observations of dream spaces at school and in mathematics classes.

What room for dreaming do students identify in mathematics classes?

All students who contributed to the research considered that school subjects, especially mathematics, dedicate very little space or even no space to dreams. It is possible to observe this in the speech of student Giselle, from IFSP¹²:

Giselle: [...] I think that schools, in general, end up not thinking much about this issue of dreams. I think the IFSP is a more open place for this, but still very closed in relation to this subject [...] I think mathematics is the subject that gives less room for this.

At IED, a dialogue on this subject also emerged in one of the groups, in which student Jhon summarized the ideas with the following speech:

Jhon: In this school there are almost no such spaces, and there are very few teachers who are interested in seeing us well. Here [at this school] there must be two or three, or something like that, who ask us "how is life?", or say "think about the future", "change some things", "be a better person", stuff like that. Well, we do have some room, but not at the school itself, but between friends.

Giselle argued that spaces for dreaming imply greater openness of the school. In this sense, an open school is understood to be a school that is not closed in on itself, with rigid values and concepts, but rather a school willing to always learn. On this point, it is possible to make a connection with Freire's concept of unfinishedness. Just like being unfinished, a school

¹²As can be seen, the statements of the students who participated in the research are explained in a format similar to direct quotations, but in italics. Real names have been preserved for ethical reasons. The Brazilian student's and Colombian students' responses were translated into English by the author.

that considers itself unfinished is an open school, which values freedom and which, therefore, recognizes the importance of considering the experiences and needs of students in the movement to be more. In a school like this, it is important to observe young people's expectations and hopes about the future and be concerned about adding new elements to their foregrounds. Giselle mentioned that this could be a characteristic of a school that gives more room for dreaming, which I agree with. In any case, she emphasized that her school is not yet open enough for this, reinforcing that this happens even more intensely in mathematics classes.

John and his group, in addition to stating that the school does not provide space for dreams, said that this happens because teachers “are not interested in knowing”. It is then evident that, for them, spaces for dreaming would be moments of dialogue and that, in the classroom, this would happen when the teacher showed interest in the student's life, in their future perspectives. According to Lévinas (1980), putting oneself in someone else's shoes, seeing infinite possibilities in them through a desire for kindness and with responsibility, characterizes alterity. I understand that the relationship between teacher and student that Jhon and his group aim for goes in the same direction as this Levinasian concept. When he explained that few teachers direct comments like “how is life?” or “think about the future”, or they advise “change some things” and “be a better person”, he concluded that this would create possibilities for dialogue about dreams. In my opinion, he may be looking for a relationship of alterity through this space of dialogue with the teacher. Reinforcing the same idea, Jeimy, from another group at the same school, said that when the teacher asks questions about how the student is doing, or what the student thinks about the future, it is important because “it is in these moments that we start thinking about our dreams”.

Educator Edson Carvalho Guedes (2007) studied the relationships between alterity and education based on Lévinas. Guedes called this process “other than being educational” (p. 153). For him, the school has a role in training for alterity based on strategies that foster relationships based on dialogue, care and trust in oneself and others. I agree with these ideas, since similar points were possible to be observed from the statements of the research participants.

The two groups of Bogotá students who brought up this topic believe that, generally, this space for dialogue happens between friends, and not with teachers. And much less would happen with the mathematics teacher. The only exception was student Jhonatan, who presented that he had already talked about this type of theme with his mathematics teacher.

In summary, in both schools, most students reported finding few spaces for dreaming at school, and even less during mathematics classes. However, when these spaces existed, they took place through teacher-student dialogues, at times when teachers raised concerns about the

lives and future of students. In other words, the students declared that a possible room for dreaming to be discussed and encouraged during mathematics classes would be through closer personal relationships between teacher and students, that is, through relationships of alterity.

I would also like to highlight one last point of view on this topic: some students identified that mathematics would help them to make their dreams come true from a technical point of view. For example, Martha, an IED student, pointed out that, despite not seeing room for dreaming in mathematics class, she sees that the classes help young people to make their dreams come true in another aspect:

Martha: Ah... this [teacher] doesn't talk about the future. But so, the person has to learn, because mathematics for the person is like oxygen, because if a person doesn't know how to add they are lost. Because for everything you need numbers...

The student therefore highlighted that the technical knowledge provided by mathematics classes is essential for life, after all “it is like oxygen for a person”. Brenda, a student at the São Paulo school, when talking about dreams, also reinforced the importance of mathematical knowledge for life:

Brenda: I think that mathematics influences a lot of things, because generally we are, for example, counting how many blouses we will wear in a day, how many calculations we will do today, etc. So mathematics is not just a class, we kind of use mathematics all the time.

In other words, although many students do not see opportunities to talk about the future during mathematics classes or to reflect explicitly on their dreams, some of them believe that it contributes to that future indirectly through the knowledge that is provided in the classroom. On the one hand, I understand that these young people are associating the mathematical knowledge learned at school with their foregrounds. Thus, given the vision of the future that they have about themselves, they realized that the mathematical knowledge obtained at school can help them in following that future, in designing dreams and achieving them. However, another interpretation is also possible: that these young people, due to their oppressed condition, of social disadvantage in society, have their dreams narrowed by obstructed foregrounds, which is why they only see the knowledge learned in mathematics in a utilitarian way, as Dunker mentions in the video (Rhoden, 2017).

A critique of mathematics classes and school

In addition to not identifying many room for dreaming during mathematics classes, students expressed the reasons why they believe this happens. Let's look at some of these arguments. Students from both schools surveyed highlighted that, precisely because of the

technical bias that the school has (especially mathematics classes), this space for dreams is minimized. This can be seen in Iara's speech, from IFSP:

Iara: So, school is the place where they are most thinking about passing on information to us, and we won't necessarily use this information. It will be more technical, scientific, exact information.

Therefore, the understanding that the (technical) knowledge provided by mathematics classes helps in realizing dreams, as highlighted by Brenda and Martha, is not a unanimous opinion. Iara and her groupmates walked in the opposite direction. The group delved deeper into this subject from a social point of view. Students Giselle, Iara and Isabela highlighted the following arguments, thinking about the school as a whole:

Giselle: They have to prepare us for an entrance exam, for the future, whereas... they don't provide support to help us decide what that future will be.

Iara: It's a vicious circle...

Isabela: It's the society we live in, actually. She's all like that. [...] in it, the dream is completely outside, but completely inside this society thing at the same time...

Giselle: That's right. People tell us to follow our dreams, but no one really [helps]...

In other words, the group stated that school is nothing more than a reflection of society and, therefore, is full of contradictions. Society expects young people to realize their dreams, however, it does not offer the necessary support to do so; and the school would follow the same path.

Freire already talked about this in one of his books, at the end of the 1990s, in which he mentioned the reality at the time, criticizing the technicist vision of education and relating this to the lack of space for dreams:

In the pragmatic-technicist view, contained in reactionary post-modern discourses, what counts is the transfer of technical, instrumental knowledge, with which good productivity is ensured in the production process [...] the education that is needed today has nothing what to do with dreams, utopias, awareness. It has nothing to do with ideologies, but with technical knowledge. [...] Never has there perhaps been as much done to depoliticize education as today. (Freire, 2000, pp. 94-95).

Later, in the discussion group, the same students deepened the debate about the relationships between dreams, society and mathematics and, for a moment, they did not see possibilities for change:

Iara: And how do you think it is possible to create more space for this? Hmm... End the numbers? (laughter). Joke.

Giselle: Take away mathematics (laughs), and take a class on “how to deal with your head?” (laughter).

Iara: Psychological education (laughs).

Giselle: Emotional education (laughs).

Isabela: That's it, guys! Take away this mathematics and Portuguese thing and...

Giselle: It's all an invention of capitalism. [...]

Iara: Society has a lot to do with competitiveness... and you can't end competitiveness and leave capitalism unpunished.

The students attributed the fact that mathematics classes do not have room for dreaming to capitalism. In fact, they believe that the subject of mathematics itself would make this space impossible, as it would be an 'invention of capitalism'. It is possible to understand that, for these young women, dreaming is beyond consuming, as they identified capitalism as the great inhibitor of dreams. According to Rodrigues (2008), we live in “a society that devalues and tries to belittle and not legitimize the right to dreams and creative imagination” (p. 68). This society transforms utopia into a naive dream, freedom into consumption. In other words, the way the young women, Rodrigues and I understand the dream, society – and school, through subjects such as mathematics – in the author’s words: “feeds a dream that is the denial of itself” (Rodrigues, 2008, p. 68). Therefore, for students, the only solution would be to give up mathematics and other subjects and use the space for other areas.

The IFSP groups deepened this discussion of the relationship between mathematics and society and how much this interferes with the space for dreams. Icarus, for example, justified why mathematical content is supposedly very difficult to relate to dreams:

Icarus: [...] because it is a matter in itself, a closed content, so it is not like, for example, the person lived it and can talk about it, from their point of view.

The student also highlighted two points: the first, that mathematics would be closed knowledge; and the second, in which it would not present subjectivity. In this student's speech, it is possible to see a determined, unique, ahistorical and self-sufficient mathematics. In my understanding, these characteristics are in line with what Lévinas calls totalization. Making an analogy with human totalization, mathematics, when seen as totalizing, would not open space for the new, for freedom, for transcendence, therefore it would not provide spaces for the construction of dreams. Another aspect that would reinforce the totalizing view of mathematics is the fact that it is not commonly presented as unfinished, inconclusive, but rather as a ready-made area of knowledge, which is beyond human and subjective influences.

Skovsmose (2007) names the tradition of mathematics classes with these characteristics as an exercise paradigm. According to the author, this paradigm would characterize the discipline's classes as composed of endless lists of technical exercises that are often disconnected from reality, generally formulated by an authority external to the classroom (most of the time they are taken from textbooks) and whose objective is would undoubtedly find the right answer. The exercise paradigm, as still the hegemonic way of practicing and understanding mathematics learning, seems to support the view that mathematics is a perfect discipline, based on reason, and indisputable. This paradigm, then, supports an absolutist view of mathematics, rather than a fallibilist one.¹³

At another point in the discussions, I asked the students to justify the lack of room for dreaming in mathematics compared to other subjects. The first dialogue was held in the Icarus group, and the second, in the general group:

Flávio: I think that humanities have space, because humanities subjects open our minds more to thinking about society, and mathematics only thinks about numbers...

Brenda: True, right?

Flávio: Yes. When you're feeling bad, you take philosophy or history. [...] History, for example, talking about the industrial revolution, made me think about other things...

Ícaro: Human materials really make it easier to produce [the dream]. They talk about our social life, our daily lives. I think there is this reflection, much better than mathematics...

Flávio: And we don't live in a world full of numbers, right? In reality, there are people [...].

Giselle: In humanities classes, we can do better, because we can reflect more, think more. About joining and forming groups, in the humanities, for example, history and philosophy, it is common to write a text and think about how people's minds worked at that time, or to criticize a subject... You have to reflect a lot about that, you have to reflect in a group, you have to debate about it. So, it's something that ends up giving more space [...].

Flávio: [...] humanities subjects move our thinking more with other people, and make it easier in our personal lives [...] to build our dreams.

The discussion, therefore, revolved around the comparison between the discipline of mathematics and disciplines in the humanities. The fact that mathematics represents strictly technical knowledge, or closed, as Ícaro described, would interfere with spaces for dreaming because it would not allow for a dialogue about society within classes.

¹³For more information about the absolutist and fallibilist views of mathematics, I suggest reading Ernest (1989).

In these excerpts, it was possible to observe that the lack of dialogue with society during classes, in the young people's view, would block the possibility of dialogue between the subject and the young people themselves and their social reality. In the humanities disciplines, this dialogue would be encouraged; This is possible to observe when Flávio said “when you are in a bad way, take the discipline of philosophy, or history”, or when Ícaro reported that the humanities disciplines “speak about social life, about our daily lives”, or even when Giselle argued that in humanities classes you can “think about how people's minds worked at that time, or make a critique about a subject”. Flávio summed it up well when he stated that “we don't live in a world full of numbers”, but of people. Humanities disciplines seem to be more connected to people, and mathematics is not. Furthermore, they seem to have more dialogues with the collective background of society, which is why they open paths for the construction of foregrounds.

Still based on these same dialogues, I also highlight Flávio's last statement: “Humanities subjects move our thinking more with other people and make it easier in our personal lives [...] in building our dreams”. When he referred to moving “thoughts with other people”, the Levinasian concept of alterity seems to be evident. In other words, it is possible to infer, from Flávio's words, that humanities disciplines are more focused on the other, on the beyond of being, on transcendence. They open more space for a more collective being, which is realized in relationships through alterity. Thus, when he emphasized that this happens more in humanities disciplines, it is understood that in mathematics this does not happen in the same way; in other words, alterity is not usually part of mathematics classes.

In addition to the mathematical content, some students highlighted another factor that would interfere with the space for dreams during mathematics classes: the environment. I mentioned previously that the students in one of the groups considered that mathematics classes would provide a very competitive environment due to the influence of capitalism. These same students spoke further about the subject, bringing new elements:

Isabela: I think there's something that comes from mathematics: this thing of “I know, so I'm going to say the right answer”. I think that's really bad, because... what if you make a mistake? You can make a mistake at any time, you are a human being, so you make mistakes. You can get that exercise right or you can get it wrong, and many people may have gotten it right and... this competition thing is really complicated, and I think that in mathematics this has a lot of influence.

Giselle: [...] I gave up on a lot of things myself: architecture, which I wanted to do, after my mother said “there's a lot of mathematics”, I said, “ok, forget it”. Because it's a very unpleasant environment, and you end up associating people's environment with matter.

The supposed competitiveness within the mathematics class made the students, especially Giselle, not only dislike this type of environment, but it also interfered with this student's dreams. She stopped thinking about careers that feature mathematics on their resume for fear of living in that environment. I decided to ask the students why they considered that the competition reflected negatively on the class environment. They responded to me:

Giselle: Yes, in the school environment, a certain amount of competition is actually healthy. But it just gets to a point where people sometimes feel a little embarrassed to talk, for fear of being judged, for fear of what other people will think about the relationship they have with mathematics. Of being judged for not knowing, for example, the eight and nine times tables... they are afraid of how people will deal with that. This will end up affecting the person's psychology, with this feeling of "I'm not capable", or "other people are succeeding and I'm not".

Iara: There's this pressure, because you have to answer what's right, and if everyone already knows, then I should already know...

I understand that the students wanted to say that the competition provided by mathematics classes interferes with the relationship between people and, especially, the relationship between the students in the class. Referring to the concepts presented, competition replaces alterity with individualism, since each being remains closed within itself and does not focus on a relationship of kindness and responsibility with the other.

Furthermore, work in mathematics classes as an exercise paradigm also operates in this competitive environment, since one of the objectives of the class in this paradigm is to find the right and unique answer to the exercises. Competition to get it right and be the first to find the answer is encouraged, reinforcing individuality; and the single answer model encourages a totalizing perspective. As a justification, this totalizing and individualistic perspective is linked to the values of neoliberal ideology, which goes hand in hand with the capitalist economic system. According to Pires (2022), the educational transformations at the end of the 20th century "only provided opportunities for the acceptance and interests of capital for human formation", having as its main characteristics, among others, "individual responsibility, individual protagonism, innovation, adaptation, modernization, competition, competition, and success on merit" (p. 17). As pointed out by the group of students, competition is an inherent characteristic of mathematics classes and, not by chance, it is possible to make an association with the current economic system and ideologies. According to Pinheiro (2014), the school community "uses competitiveness as a strategy to get schools to do what is expected of them, that is, to produce subjects who can learn to conduct themselves according to market principles" (p. 33).

Another aspect highlighted by students regarding competition in mathematics classes is that it can also negatively impact students' self-concept. Self-concept is understood as the set of beliefs that a person has about themselves, which is influenced by their relationships with themselves, with the people around them and with the world. ¹⁴The feelings presented by Giselle of “I'm not capable” or “other people are succeeding and I'm not” reflect well the negative impact that the competitive environment can bring. It is as if competition restricts the possibilities that are available to human beings, transforming a procedural world, naturally contextualized and historical, into a determined one. Phrases like Isabela's – “what if you make a mistake? You can make a mistake at any time, you are a human being, so you make mistakes” – demonstrate that, above competition, there is the need for humanization. In my opinion, the wear caused by competition, with regard to the self-concept of these students in relation to mathematics, can be understood as barriers to dreams that, in the words of Freire (1992), “have been prohibiting the majority from achieving humanization and the desire to be more” (p. 107).

The last topic, presented by some IED students, was related to the teacher's teaching strategies. According to them, the act of indiscriminately copying things from the book and the use of the computer by the teacher in the classroom to present the content would obstruct the space for dreams in mathematics classes. This is because, with the use of these methods, the understanding of the content would be impaired, and this would compromise the learning of mathematics. In this sense, in addition to reflecting on these students' conclusions, it also seemed to me that the use of the computer as a learning tool was not present in the students' foreground.

The next stage of the research was to investigate what suggestions these students would have so that more room for dreaming could be developed at school and in mathematics classes. Below, I present the proposals highlighted by them.

What room for dreaming can be thought of in mathematics classes, according to students?

A first suggestion from students at the Bogotá school, coming from the group made up of students Jhon, Andrea and Martha, are classes with less computer use and more practical content:

Jhon: Instead of so many computers, give us more to do... I don't know, teach us something.

Andrea: Something that works for us on a daily basis.

¹⁴For more information about self-concept, see Serra (1988) and Schiavoni & Martinelli (2012).

Andrea: [...] And how do you think it is possible to create more room for dreaming? Well, for example, playful activities...

Jhon: Recreational spaces.

Andrea: Yes. As you learn, you have fun.

Martha: Yes, because there are a lot of mathematics games. In other words, not giving the traditional class, leaving the usual context.

The students who were part of the other group, composed of Jhonatan, Jeimy, Claudia and Jennifer, added other ideas, but still related to the previous ones:

Jennifer: May he take more dynamic classes!

Jeimy: No... in dynamic classes, how will you learn?

Claudia: But by playing you can learn! [...]

Jhonatan: [...] Many mathematics teachers who taught me and made an impact on me are the teachers who gave exercises related to life... with dreams, with the future. Exercises that have relationships [with life], which are not just to copy but also to relate. It is because of this experience in these schools that I say “yes”, there are room for people’s dreams.

Jhonatan: [...] What we expect from a mathematics class is that it teaches us about life itself. What we have already seen is that mathematics is in everything; in everything you see she is. What happens is that, instead of learning mathematics, we are looking at the computer. The teacher is getting carried away by technology, believing that it will make everything easier. But when we have our dreams, wanting to be an architect, wanting to be this or that, you have to know how to do things by hand, mathematics is by hand, not on the computer.

It is possible to observe that the suggestions presented by these students revolve around making mathematics classes more interesting and closer to the students' everyday lives. I understand that they made these suggestions thinking that they would bring more meaning¹⁵ to learning mathematics. However, not all students agreed: student Jeimy, for example, disagreed with the possibility of dynamic classes, thinking that, in this way, one would not learn. I understand that this reveals that the way in which meanings are produced during mathematics classes is not a unanimous topic: different students carry different *backgrounds* and *foregrounds* and, therefore, produce meaning in different ways.

Lack of knowledge about careers¹⁶ can interfere with dreams. At other moments in the discussion groups, both at the São Paulo and Bogotá schools, students highlighted that a

¹⁵To learn more about this concept, see Skovsmose (2014, 2016).

¹⁶In general, students associated dreams with professional goals. In Soares (2022), I present a discussion on this topic.

possible space that could be created in mathematics classes and other subjects would involve activities to better understand the professions. When I asked one of the IFSP groups where they saw, for example, more space for dreams at school, student Brenda's immediate response was “library”. She and Ícaro continued their dialogue about this idea, revealing suggestions for mathematics classes:

Brenda: [...] [In the library] we find out a little more about the career, even if we don't have classes about it. [...]

Icarus: [...] According to the books, you know several things, and...

Brenda: I think we could ask the mathematics teacher a little about some careers that directly involve mathematics, such as administration, statistics, engineering.

This group's suggestion is associated with what one of the IED groups had already expressed: it is important to talk about professions at school and during mathematics classes. From a didactic point of view, in which talking about some professions could be part of an activity given in the classroom, there were also suggestions from some IED students:

Jennifer: Once a month, the mathematics teacher leaves us with our classmates so we can talk about our dreams, or with him.

Claudia: Let there be, for example, once or twice a year, a day when we don't come to school to study, but to talk about our dreams. Have each teacher or group leader stay in a room to talk about each other's dreams, share with teachers and friends.

In other words, talking about dreams, or creating activities in which these dreams are problematized, according to the students, can be a teaching strategy used by the teacher during mathematics classes. This could reflect new possibilities for the construction/re-elaboration of students' foreground. Also in these activities, new dreams could be fostered.

Another aspect that is related to these suggestions occurs in the context of relationships. With the intention of proposing more space for dreaming in mathematics classes, some IED students expressed good relationships with teachers, in which they envisioned room for dreaming:

Jhonatan: [...] Professor Fernando, because he is a person who is very concerned about us [...] as soon as class starts, he asks us “how are you?”. Not a day goes by that the teacher doesn't say to us “come here, how are you?” or give us advice.

Jeimy: Another time I think about is when we're socializing with someone, and sometimes they ask "what do you want to be?" or “what do you want to study?”. And then, in those moments, one starts talking, the other starts saying things, one talks about his dreams. In other subjects too... in practically all subjects, in fact. Because in each one we learn something, and in these small spaces we are asked something about the future. And in these moments we talk... expressing our dreams.

Jhon: [...] because the teacher can bring up this topic... and, also, there are some subjects that we can express ourselves, and he can ask us how we are or feel.

From these excerpts, it is possible to observe that the teacher-student relationship, in which students identify spaces for dreaming, is based on attention and care. When the teacher asks “how are you?” or “what you want to be”, or even when sharing personal experiences, the being – teacher – addresses the other – student – in a relationship of transcendence. This relationship is marked by dialogue, by concern for the other, by putting oneself in the other's shoes. The teacher-student relationship that creates room for dreaming is a relationship of alterity.

Finally, the last contribution that students made during the discussion groups concerns the topic raised in the previous section: competition during mathematics classes. At first, the students in the IFSP group did not see possibilities to change this situation, attributing this to a condition inherent to capitalism. However, later on, they continued the discussion on the subject, and new paths began to emerge:

Giselle: So I think the solution would be to prepare teachers to deal with this competitiveness, in a way that could alleviate it in classes.

Giselle: Create a healthier environment for students, but I don't know how to do that...

Isabela: I think that those who like mathematics like the competition...

Giselle: But I think there are people who like competition, but don't do well with mathematics; and there are people who like mathematics, but don't like competition...

Iara: So I think that would be it, teachers being psychologically prepared to deal with this competition, in a healthy way, in a way that interferes with the emotional part.

Giselle: I think it involves the somewhat... positivist model that happens in classes. Because if mathematics classes, especially, happened with people talking...

Isabela: I think if it were a more dynamic class, in a group... instead of you trying to do it alone. You try to help, try to teach what you know, all of this helps you a lot (to learn mathematics).

Giselle: It makes more sense in your head when you explain it, right? [...] We reflect more too, we keep thinking about it. Hmm... I think we discovered the solution!

Iara: Guys, we are very good (laughs) [...] you can see, everything is resolved through dialogue (laughs) [...]

Giselle: [...] this collective thing, of everyone making mistakes together, getting it right and helping, and doing it in a way that everyone can understand why, at this moment, everyone has the same mind there.

Isabela: That's right, trying to reach a result together and... if everyone did it together, it would be easier. I don't know, sometimes one knows how to divide, the other knows how to multiply, and the other knows how to add and...

Iara: I think that's it, we can resolve it through dialogue, and try to prepare teachers for this competition in a healthier way.

Giselle: So they don't accidentally say this during class: "who knows the answer?" [...] We discovered the path that will lead to world peace. I feel at peace.

Iara: We destroyed capitalism, is that it?

Initially, the students' suggestion was to prepare teachers, in terms of level and training, to better deal with competition in the classroom. However, as the conversation continued, they observed that there would be specific actions, linked to the attitude of teachers in the classroom, that could reduce competition, and concluded that this would happen through collective work. This type of work would allow the exchange of ideas, dialogue, communication with others, and the construction of group solutions. The proposal designed by the students seems to meet a more investigative and less expository way of working, more open to possibilities and multiple responses and less to unique and unquestionable solutions. In this way, the collective work proposed by the students meets the paradigm of the exercise. Furthermore, as it is work that would involve dialogue between people who, together, would share knowledge and seek a common denominator, it would be characterized by being work that would value the students' background *and* involve relationships of alterity.

The creation of room for dreaming in mathematics classes: developments

As it was possible to observe in the previous sections, the room for dreaming during mathematics classes encompass multiple aspects and amplitudes. They go from micro to macro, feed on each other and, therefore, can hardly be dissociated. Therefore, based on the arguments presented by the students and with the aim of extrapolating them, I will bring some developments of these aspects, starting with those at a micro level.

If we think of mathematics classes as a microcosm, at least three aspects can be considered and they all play a relevant role in the development of students' dreams. The first of these would be the teaching-learning method that the teacher uses. According to the students who dedicated themselves to exploring this topic, it is essential that young people can understand the contents, be able to solve them autonomously and, preferably, with more dynamic and thematic activities linked to real life. In other words, the students wanted to say that the production of meaning through mathematics classes is a fundamental factor in the

construction of dreams. And, in this case, the meaning would come from the methodological choices that the teacher makes during her classes: the type of activity she proposes, the dynamics of the activity and the context that is presented. It is not my intention to point out one or more specific methods that would account for this production of meaning for students: I believe that this would depend on the *background* of the teacher, the students, the school context and the desires of all these characters, their foregrounds. The production of meaning by students can come from countless possibilities: through clear objectives, such as passing Enem ¹⁷ or an entrance exam; the connection with everyday life; or even understanding their place in the world, in society. Many methodological possibilities could also be explored for this search for meaning, and the most important thing is that they consider the history and future perspectives of the actors in the classroom: students and teachers.

A second aspect within the microcosm of mathematics classes would be teacher-student, student-student relationships and their interaction dynamics. As the students well described, the movement of being interested in others through dialogue is fundamental to establishing relationships of mutual trust, which would open space for the construction of dreams. The way these relationships happen reveal a lot about the hierarchy that is established within the classes and about the role of each of the actors. If, for example, the teacher only answers students questions related to the content, or if she only addresses them to talk about this topic, it is unlikely that there will be an opening for matters considered personal, such as dreams, to be part of the environment. of the class. Likewise, if the teacher has the habit of asking the class as a whole what the right answer to exercises is, or only makes individual assessments, or works exclusively with single-answer activities, this professional is encouraging the meritocracy that , in the classroom, reverberates in individualism. If , instead, as the IFSP students suggested, the teacher encourages collaboration in the classroom, so that success in solving an activity represents the success of the entire group, and mistakes and successes are discussed collectively and also treated as possibilities, the mathematics classroom environment will be more humanized and students will have the possibility of being more and sharing and expanding their foregrounds . And, without a doubt, if everyone sees themselves as unfinished as they are, the teacher-student relationship can expand the boundaries of content to a mutual and genuine interest in the other, becoming a relationship of alterity.

¹⁷Enem: National High School Exam.

Still at the micro level of mathematics classes, but which is related to macro levels, a third aspect is the mathematical content itself, its epistemology. What can be understood from the fact that students reported that mathematics has 'more closed' content, with less openness to society? This is related both to the history of mathematical knowledge and to the way in which it materializes at school. As previously stated, mathematical absolutism is the prevailing conception: a mathematics that lays the foundations of reason, that inspires truth and correction and that is superior to other knowledge. When looking at the study of philosophies of mathematics that have been constructed throughout history, the absolutist principle is the majority: it translates into countless attempts to justify mathematics by itself and to create a single, logical language that represents it.¹⁸ In other words, under this epistemology, mathematics is really a content closed in itself. And this reverberates in the classroom, in the teacher's practices that are still strongly influenced by structuralist teaching concepts such as the Modern Mathematics Movement.¹⁹ On the other hand, the epistemology of mathematical knowledge has been called into question. Gutiérrez (2017), for example, through the concept of *Mathematx*, recognizes the Eurocentric and white predominance in the development of mathematical knowledge and proposes other forms of epistemology for the area, for example, based on indigenous thought. Ernest and Skovsmose, in their recent publications, have expressed concerns about the philosophies of mathematics and propose another, with a new dimension: ethics.²⁰ At school, in turn, other dimensions have been more explored in recent decades, at least in Brazil. There are many proposals for interdisciplinary and transdisciplinary projects that include mathematics. D'Ambrósio already stated that such an initiative was very important, as it allowed mathematics to leave the 'ivory tower' (D'Ambrósio, 2010), as well as it is possible to identify teaching proposals that enable dialogues between mathematics and reality, such as scenarios for investigation, mathematical modeling and work with the history of mathematics. These proposals question the perspective of mathematics closed in on itself, totalized, and bring to classes the bijective characteristic between this area of knowledge and society, so that students have the opportunity to see the influences that society, in its cultural, political and economic aspects represent the development of mathematics and vice versa. Thus, envisioning the great connections between society and mathematics would bring it closer to the real world, people, and their desires. Such an attitude would humanize mathematics, paving the

¹⁸For more information about the philosophies of mathematics, see Soares (2019) and Skovsmose (2023).

¹⁹For more information on the Modern Mathematics Movement, see, for example, Bermejo et al (2011).

²⁰Ernest (2018) and Skovsmose (2020).

way for more identification between the area and its students, and more dialogues could be established.

Finally, at a macro level, it is necessary to see mathematics and mathematics teaching in a broader scope in its relations with the world. History tells us that the origins of mathematics are linked to the human need to count and measure, and its path is closely linked to the development of the means of production. From the development of agriculture and livestock management, through the invention of currency, great navigation and the industrial revolution, until the arrival of the modern era, mathematical thinking was a driver of technologies and capital. The relationship that IFSP students make between mathematics and capitalism is accurate. This economic system, combined with neoliberal ideology, can be understood not only as a producer of wealth, but also of social inequalities and injustices. Social classes are a fact, and as Freire said, they materialize the relations of oppression that are established in society (Freire, 1983). This reverberates in the lives of students, at school, in their learning, in their future perspectives. The close connection between mathematics and the hegemonic ideology and economic system is a problem that needs to be faced: as it happens, it encourages meritocracy, enriches and privileges the few, oppressing and narrowing the dreams of many.

Final considerations

The theme of dream spaces in mathematics classes is complex and multifaceted. In this text, this theme was explored based on the perspective of young Brazilian and Colombian students. The context was the public school and the research instrument used in this work was discussion groups.

The teenagers highlighted that there are few spaces to talk about dreams at school, and even fewer during mathematics classes. They attributed to this fact, among other reasons, the characteristics linked to the relationships between teachers and students, the teaching strategies of their teachers and the very nature of mathematical knowledge.

The students' scores on mathematics classes motivated me to carry out some developments, with the aim of establishing parallels between their reflections and the methodological and epistemological knowledge that circulates in academia. They also motivated me to propose possibilities for mathematics that make more room for young people's dreams.

In summary, I conclude that it is possible to make advances in these spaces within the school, adjusting teaching-learning methods, in a way that produces meaning by being more in tune with the backgrounds *and* foregrounds *of* teachers and students. A more open school, which provides space for the new and diverse, can create, together with the school community, new ways of being more and expand the bureaucratic and content limits of its walls. In fact, there are initiatives from schools and education systems that have included disciplines or transversal themes that explore the theme of life projects in both Brazil and Colombia.²¹

Spaces can also be created by strengthening relationships between teachers and students, so that these can be based on alterity. Mathematical content can be covered at school with the aim of presenting connections between mathematics, history and society, giving the student the opportunity to come into contact with a more humanized mathematics that can be an instrument for reading the world and criticizing it. Still, there are limits to these actions, as the formation of foregrounds by students is also closely related to their place in the world as a historical and social being. And, therefore, it is necessary to recognize that the fight for more space for dreams in mathematics classes cannot be dissociated from the fight for a more just society, because, if it is dissociated, as Dunker stated, young people's dreams will continue to be shortened, and instead of unblocking and expanding its foregrounds, what we will have will be the erasure of its future.

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²¹In Brazil, for example, it is possible to highlight full-time schools that explore the topic in the form of experiences – see Fodra (2016). In Colombia, there are transdisciplinary projects that also address this topic – see Cardona (2015).

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