

Curriculum, Curricular Justice, and Mathematics Education: a political manifesto

Flavio Augusto Leite Taveira

Universidade Estadual Paulista

Bauru, SP — Brasil

✉ flavio.taveira@unesp.br

id 0000-0002-3980-4650

Abstract: This study aims to carry out a systematic literature review on curricular justice in mathematics education in databases that offer privileged spaces for disseminating knowledge about the curriculum-mathematics education binomial. Since this review offers no results, it discusses how some publications on the curricular debate in mathematics education approach Robert Connell's theorization on curricular justice. Thus, this review defends the need to think about curricular justice in mathematics education in our times and states that no production focuses on discussions about issues of curricular justice in privileged spaces for disseminating curricular knowledge in mathematics education, exemplifying the scarcity of this debate in Brazilian mathematics education.

Keywords: Curricular Justice. Social Justice. Curriculum. Mathematics Education.

Currículo, Justicia Curricular y Educación Matemática: un manifiesto político


Resumen: Este texto pretende realizar una revisión bibliográfica de las producciones sobre justicia curricular en Educación Matemática en las bases de datos que se privilegian como espacios de difusión de conocimiento mediante el binomio currículo-educación matemática. Aunque la revisión no presenta resultados, se discute cómo algunas producciones en el debate curricular en Educación Matemática se acercan a la teorización sobre justicia curricular elaborada por Robert Connell. Así, además de defender la necesidad de pensar la justicia curricular en Educación Matemática en los tiempos actuales, este estudio sostiene que el hecho de que no exista ninguna producción sobre la temática de justicia curricular en espacios privilegiados de difusión del conocimiento curricular en Educación Matemática apunta a la escasez de este debate en el ámbito de la Educación Matemática brasileña.


Palabras clave: Justicia Curricular. Justicia Social. Currículo. Educación Matemática.

Currículo, Justiça Curricular e Educação Matemática: um manifesto político

Resumo: Este texto nasce com a intenção de realizar uma revisão sistemática de literatura acerca das produções sobre Justiça Curricular em Educação Matemática em bancos de dados privilegiados como espaços de difusão de conhecimento sobre o binômio Currículo-Educação Matemática. A partir do momento em que a revisão não apresenta resultados, discutimos como algumas produções do debate curricular em Educação Matemática se aproximam da teorização sobre Justiça Curricular elaborada por Robert Connell. Assim, além de realizarmos a defesa da necessidade de pensar a Justiça Curricular em Educação Matemática dos nossos tempos, afirmamos que o fato de não haver produção que focalize o debate sobre esse assunto em espaços privilegiados de difusão de conhecimento curricular em Educação Matemática é sintomático para a escassez desse debate no interior da Educação Matemática brasileira.



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Palavras-chave: Justiça Curricular. Justiça Social. Currículo. Educação Matemática.

1 Introduction

As an area of knowledge production, Mathematics Education have been shedding light to the need to turn attention to the issue of Social Justice, as one of its commitments to a formative agenda that includes Mathematics. Nevertheless, it is possible to observe that various theoretical and practical exercises have been and are being developed by people participating in this community, aiming at offering possibilities of how to think about and/or practice the binomial Mathematics Education–Social Justice.

Among the specific literature, Eric Gutstein’s productions stand out. He believes in mathematical literacy by reading and writing the world with mathematics, and advocates that “a crucial aspect of teaching mathematics for social justice is what students do with the mathematics that they learn” (Gutstein, 2006, p. 15).

Especially in Brazil, under the nomenclature “*Educação Matemática para a Justiça Social* [Mathematical Education for Social Justice]”, some productions defend the need to think about the formative practices that are at the heart of Mathematical Education and to which this area is dedicated from various approaches, including Philosophy of Mathematical Education or branches of Critical Mathematical Education, for example.

Motivated by these theoretical and/or practical exercises and understanding that discussions on Curricular Justice are a way of thinking about Mathematics Education for Social Justice, we propose this systematic literature review, aimed to review spaces of curricular productions in Mathematics Education to find out if there are, in these spaces, productions that focus on discussions of/about/on Curricular Justice.

However, as we searched the literature according to the established criteria, we found no results, which shows us that theorizing about Curricular Justice has never been included as a focus of studies and investigations in the curricular debate in Mathematics Education. Therefore, we sought to offer approximations between Brazilian productions on Mathematics Education, and as one of the theorizations on Curricular Justice we present this political manifesto, which becomes political insofar as it assumes that discussing Curricular Justice in Mathematics Education is a necessity of our times.

2 On the concept of Curricular Justice in Robert William Connell

Discussions on Curricular Justice have some repertoire in the Brazilian academic and educational environment, especially in the field of Curriculum Studies (Ponce, 2018; Ponce & Leite, 2019; Ponce, Costa & Araújo, 2023). And it is no exaggeration to say that the productions under this name are largely based on the concept of Curricular Justice developed and presented by Jurjo Torres Santomé.

According to Santomé (2013, p. 9),

curricular justice is the result of analyzing the curriculum that is designed, put into action, evaluated and investigated, taking into account the degree to which everything that is decided and done in the classroom respects and meets the needs and urgencies of all social groups; it helps them to see, analyze, understand and judge themselves as ethical, supportive, collaborative people who are co-responsible for a broader sociopolitical intervention project aimed at building a more humane, just and democratic world.

However, we believe that this understanding of Curricular Justice is limited because it considers people who are authors and recipients of curricula to be organized only in social groups, not observing, for example, the intersectional process present in their individualities. However, this is not a conversation to be had at this time¹.

In addition to Santomé, in the early 1990s Robert William Connell also theorized about Curricular Justice in his book *Schools and Social Justice* (Connell, 1993), presenting a chapter on principles of Curricular Justice. In it, Connell (1993) asks on the basis of which principles we can try to understand a curriculum that is committed to Social Justice, and then suggests three principles: (1) The interests of the least advantaged; (2) Participation and common schooling; and (3) The historical production of equality.

Regarding the first principle — the interests of the least advantaged — Connell, based above all on the philosophical perspective of Justice developed by John Rawls, believes that “the nature of justice is caring for the worst-off first” (Connell, 1993, p. 43). The author also believes that this principle can be easily observed when we turn our attention to public policies, in which they give priority to people who, in some way, are in a situation of social vulnerability.

In this sense, from the perspective of the underprivileged, Connell (1993) understands that this principle has “strong implications for curriculum, which become clear when we think about the social history of curriculum and the way the current hegemonic curriculum embodies the interests of the most advantaged” (p. 44). Thus, he recognizes that social justice requires a “counter-hegemonic curriculum . . . designed to embody the interests and perspectives of the least advantaged” (p. 44).

As for the second principle — participation and common schooling — Connell (1993, p. 45) states that “school systems commonly claim, in statements of goals, to be preparing future citizens for participation in a democracy,” however, any notion of “democracy” implies “collective decision-making on major issues in which all citizens have, in principle, an equal voice” (p. 45).

But for these decisions to be made, it is important that people are active participants, because there can be no democracy in which some participants only receive the decisions made by others². Thus, Connell (1993, p. 46) advocates a common curriculum as a matter of social justice: “this criterion excludes all mechanisms of selection, competitive evaluation, distribution and classification in schooling as long as the common curriculum is in operation, since such mechanisms differentiate offers and therefore favor some citizens to the detriment of others”. Such a common curriculum, according to Connell (1993), would favor non-evaluated and cooperative learning practices, in which people benefit mutually from each other’s learning.

As for the third principle — the historical production of equality — Connell (1993, p. 47) recognizes that “There is a tension between the criterion of participant citizenship, requiring common curriculum, and the principle of pursuing the interests of specific groups, the least advantaged.” On this issue, Connell states that it could be considered a device of John Rawls’ theory of justice and applied a “lexical ordering” of the principles of curricular justice developed by him in which participation would have priority and the criterion of the least

¹ An exercise in criticism consistent with this can be seen in the debate between Nancy Fraser and Iria Young when Fraser, in contesting Young’s assertions about justice, points out that individuals are prior to social groups. Cf. Fraser (2009).

² “That is why feminists are right in pointing out that a society in which men routinely exert control over women is no democracy” (Connell, 1993, p. 46).

advantaged would be considered after the criterion of participation is satisfied.

However, this exercise would lead to an educational incoherence because it would assume that the curriculum could be divided into two parts: “participant citizenship” and “counter-hegemonic citizenship,” and obviously this separation would not be possible in the various spaces and phenomena in which the curriculum operates, such as teaching practice. In this sense, Connell points to the need and challenge for these criteria to be realized together, in a non-static way.

The outline of these principles characterizes Robert W. Connell’s proposal for Curricular Justice. In addition to characterizing the principles, Connell (1993) highlights the concepts of Unfair Curriculum and Curricular Logic, using each of the proposed principles of Curricular Justice to characterize them. However, for the purposes of this research, we will focus on the characteristics of the three principles of Curricular Justice developed by Robert Connell.

3 Methodological aspects

In methodological terms, this research will be based on a systematic literature review. We used the stages presented by Mendes and Pereira (2020), namely: Objective and question; search for studies; selection of studies; and analysis of productions.

As for the first stage — objective and question — we set ourselves the goal of searching for productions in Mathematics Education that articulate debates with the references on Curricular Justice. Furthermore, understanding that “a good systematic review requires a well-formulated question or issue” (Sampaio & Mancini, 2007, p. 6) and that “a review earns the adjective systematic if it is based on a clearly formulated question” (Khan, Kunz, Kleijnen, & Antes, 2003, p. 118), this systematic review has the following question: “What are the references that substantiate the debates on Curricular Justice in the productions on Curriculum and Mathematics Education?”

The second stage — searching for papers — is when we select the databases for searching publications, based on the definitions obtained in the previous stage. Thus, considering the need to look for productions on Curriculum and Mathematics Education, we chose two databases: thematic dossiers that include Curriculum and Mathematics Education as a theme, especially those that express the productions of Working Group 3 – Curriculum and Mathematics Education of the Brazilian Society of Mathematics Education (WG 3 – SBEM) and the annals of the National Forum on Mathematics Curricula, an event organized by WG 3 – SBEM.

In his work, Taveira (2022) identified the publication of three dossiers from 2017 to 2020, and since the publication of the author’s work, three more have been published, totaling six thematic dossiers. The dossiers can be found in the following journals, by year of publication, with an indication of Qualis³ after the title of the journal within braces: *Educação Matemática Pesquisa* [Qualis A1], published in 2017; *Revista Paranaense de Educação Matemática* [Qualis A3], published in 2019; *Revista Eletrônica de Educação Matemática* [Qualis A3], published in 2020; *Perspectivas da Educação Matemática* [Qualis A2], published in 2022; *Revista Internacional de Pesquisa em Educação Matemática* [Qualis A1], published in 2023; and *Paradigma* [Qualis A1], published in 2023.

³ The Qualis correspond to the evaluation of the 2017-2020 quadrennium and can be checked on the Sucupira Platform of the Coordination for the Improvement of Higher Education Personnel (CAPES). Retrieved from: <https://sucupira.capes.gov.br/sucupira/public/consultas/coleta/veiculoPublicacaoQualis/listaConsultaGeralPeriodicos.jsf>

As for the editions of the event, the Fórum Nacional sobre Currículos de Matemática took place at the Pontifícia Universidade Católica de São Paulo (PUC-SP) — Marquês de Paranaguá Campus, on June 4 and 5, 2004, under the name First National Forum of the Brazilian Society of Mathematics Education on Mathematics Curricula for Basic Education in Brazil [Fórum Nacional da Sociedade Brasileira de Educação Matemática sobre Currículos de Matemática para a Educação Básica, no Brasil]. The second edition of the event, which now has the first same cited in this paragraph, took place only nine years after the first, between December 2 and 4, 2013, also at PUC-SP.

Following its current name, the third edition of the event took place from April 22 to 24, 2015 at the São Paulo State University (UNESP), in the city of Ilha Solteira, SP. The fourth edition of the event took place at the Faculty of Education, University of São Paulo. (FEUSP), from August 3 to 5, 2017. Finally, the fifth edition of the event was held from May 31 to June 2, 2021 in remote format due to the COVID-19 pandemic and was hosted by the Universidade Luterana do Brasil, in Canoas, RS.

Therefore, having characterized our databases, we searched for “Curricular Justice” in the titles of the articles published in the thematic dossiers and in the annals of the five editions of the National Forum on Mathematics Curricula, but these searches did not produce any results. These searches were carried out only on the titles, as our intention was to look for papers that take assertions about Curricular Justice as the focus of discussions and analysis. As the searches did not generate any results, it was impossible to carry out an analysis of the productions.

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As we can see, no productions that focus on or privilege discussions about Curricular Justice were found in privileged publication spaces that articulate curricular discussions with the concerns of Mathematics Education.

We believe that issues of Curricular Justice could be a way of materializing discussions involving Social Justice in Mathematics Education curricular debates, especially in a curricular tone, accompanying other discussions taking place within Mathematics Education, such as from Philosophy or strands of Critical Mathematics Education.

Even though the search in these spaces did not yield any results, it is possible to observe discussions in the community who produce efforts in the intersection of Curriculum and Mathematics Education aligned with at least one of the Robert Connell’s principles of Curricular Justice. To this end, we will use some work by Vanessa Franco Neto, Marcio Antonio da Silva and Deise Aparecida Peralta to defend and illustrate this scenario.

Marcio Silva (2022), for example, defends four points in his discussions on Curriculum and Mathematics Education: the first defense states that “mathematics is a discipline that can serve as a codifying instrument, guiding the conduct of subjects” (p. 22), i.e., mathematical knowledge historically produced as a result of injustices and inequalities serves as an instrument of controlling subjects and especially the bodies of these subjects. The second defense states that “there are values, behaviors, in short, a morality that is constituted, embedded in the teaching of mathematics” (p. 22), i.e., the processes involving the teaching and learning of mathematics are not neutral and dictate/constitute moral norms to be followed. The third point states that

there is an alignment between school mathematics and the neoliberal logic, based on holding the individual responsible for their failure or success, promoting a spirit of competitiveness, making the management of one’s own life similar to the

management of a company, making everyone believe that governments are less and less responsible for taking care of populations and that people should take more and more responsibility for this, among other ideas (Silva, 2022, pp. 22-23).

In other words, the logic that permeates the curricular development embedded in school mathematics — in other words, the process of disciplinarization of mathematical knowledge at school — follows a logic aligned with neoliberal premises⁴, holding students responsible for their success or failure at school, for example, ascribing all responsibility to those who learn — or do not learn — mathematics, following evaluation criteria that are often questionable as they appeal specifically to assessments that are reduced to exams.

And finally, the fourth point reads

Mathematical knowledge is seen as an asset, a capital, which constitutes human capital for those who acquire it. Nations develop because they have valued human capital. In other words, a country whose population performs well in assessments, because this is seen as quality education, has a valued human capital status (Silva, 2022, p. 23).

In other words, the recognition that countries that achieve — easily questionable — goals in mathematics in large-scale assessments, often proposed and developed by international economic organizations, constitutes an almost marketable good, selling the idea that country or nation has a “qualified workforce” because they “know mathematics.”

Given these considerations, based on discussions about Mathematics and the social construction of women, Mathematics as the government of bodies, consumerist Financial Mathematics, Mathematics and human capital and large-scale assessments related to the school subject Mathematics, Silva (2022) proposes a counter-conduct for people concerned with the theorization, discussion and practice involving Mathematics Curricula. Counter-conduct is understood by the author in the Foucauldian sense⁵, which expresses it as a stance that “produces curricula that promote the appreciation of multiplicity. Multiplicity of values, of conduct, of ways of being and existing in this world. New curricula produced by teachers, by students, by indigenous people, by priests, by queers, by Black people, by women, by teenagers” (Silva, 2022, p. 23).

And, by postulating a counter-conduct, Silva (2022) seems to align himself with the first principle of Curricular Justice, which postulates a counter-hegemonic curriculum, produced by and for people in situations of economic, cultural, and representative disadvantage, in a political sense. In our view, the curriculum development proposed by Silva (2022) respects and meets Connell’s first principle of Curricular Justice.

In another text, Marcio Silva (2023) addresses intersectionality in Mathematics Education to make explicit the epistemic racism that permeates the Mathematics Curriculum(s). Based on excerpts from Mathematics textbooks assigned to secondary schools that deal specifically with the History of Mathematics, the author argues that the Mathematics expressed in these materials is European, male and White, i.e., that “characters are presented that form a discursive regularity, showing that mathematics was built [only] by [cisgender], European and

⁴ It is worth noting that, for the author, neoliberalism is not only understood as a form of economic organization, but also as “a moralizing technology that can lead to conduct.” (Silva, 2022, p. 12).

⁵ “Counter-conduct in the sense of “struggle against the processes implemented for conducting others” (Foucault, 2008, p. 266).

white men” (Silva, 2023, p. 242).

Notably, Silva (2023) understands epistemic racism as “the prioritization or standardization of knowledge that is considered universal, important and constructed by all of humanity, but in fact is constituted as epistemologies only of the North” (p. 243). In his arguments, Silva (2023) argues, understanding curriculum as cultural policy, that school mathematics, expressed as a discipline, “although considered harmless by many, can be an instrument of change, but also of maintenance and control” (p. 246), in other words, this knowledge, which has undergone a historical process of selection and organization in its journey of disciplinarization, is not neutralized in the teaching and learning processes, but that it carries at its core discursive forms of action and control and maintenance of a hegemonic social status quo.

As a response to a hegemonic scenario that continues to reproduce injustices and inequalities in people’s mathematical education, Silva (2023) believes that one way forward is epistemic disobedience, by understanding which epistemic hegemony is in force. The author recognizes that the path to be followed is neither short nor easy, but that we need to take more combative and less idealistic stances because he understands that “in order to change the structure of society, it is necessary to fight for an education (including mathematics) that serves to dismantle the exclusion processes and create new projects for the world, beyond capitalism, colonialism and patriarchy” (Silva, 2023, p. 252).

From our perspective, what Silva (2023) postulates as the possibility of confronting educational struggles through a curricular route is close to Connell’s first principle of Curricular Justice. By proposing direct struggles against exclusionary processes, the author recognizes an exclusionary capitalist, colonialist, and patriarchal hegemony that permeates the development of the Mathematics curriculum in general, and more specifically Mathematics textbooks, while by proposing combative stances, he aligns himself with the idea of a Mathematics curriculum proposal that could be properly characterized as counter-hegemonic.

In another production, Vanessa Neto and Marcio Silva (2021) observe and discuss the results of research that analyzes mathematics textbooks, discussing how the imagery content of these materials acts on the government of bodies, using mathematics activities to do so. The discussions of the results of the research are based on at least two theoretical assumptions: that “textbooks . . . [are] part of a device⁶ of power that moderates and organizes schooling processes” (Neto & Silva, 2021, p. 196), and that “images are interpreted as producing meanings that could not or would not reach the dimension of a text” (p. 199).

In carrying out this exercise of analyzing the results of the research, Vanessa Neto and Marcio Silva set out to create a practical handbook on how to be a cisgender girl/woman, revealing how mathematics teaching materials act in both the production and reproduction of subjects and social relations. Thus, it can be seen how they produce, reproduce, and reinforce stereotypes that assign certain binary genders social roles predetermined by a hegemonic culture that is sexist, misogynistic and patriarchal.

The manual produced by the authors follows six essential points: 1) Girls must be cared for and caregivers, above all; 2) Girls must be selfless; 3) Girls must be delicate; 4) Women must take care of time; 5) Girls must be organized and efficient; and 6) Girls must know how to cook. Thus, by highlighting these points, the authors understand that they are discursive

⁶ Device is understood by the authors as “device in its function of organizing and giving validity to the different discourses moved in order to govern living beings in the construction of a certain social order” (Neto & Silva, 2021, p. 196).

formations that emerged from the analysis of the empirical material of mathematics textbooks and that these discursive formations strengthen “a device that operates by guiding the conduct of girls and women, through relations of knowledge and power, effectively constituting a gender issue since it inscribes certain bodies in these discursive practices” (Neto & Silva, 2021, p. 215).

That said, Vanessa Neto and Marcio Silva state that “Mathematics and morality are joined and teach many things. The union of these two elements seems to enhance the teaching of values, because, socially, they are ignored in the face of overvalued mathematical content” (2021, p. 216), and, in affirming this, they move towards challenging the supposed neutrality of mathematics in the face of the social reality in which mathematical knowledge and the phenomena that permeate its teaching process(es) are placed.

By highlighting and illustrating how mathematics textbooks end up teaching and reinforcing stereotyped gender roles, Vanessa Neto and Marcio Silva (2021) seem to agree that there is a hegemonic current that makes mathematics teaching not a neutral process, but rather a reproducer of social patterns that contribute to a misogynistic and patriarchal social formation, which assigns characteristics and certain tasks — such as the unpaid care work discussed by feminists like Nancy Fraser (2016) and Silvia Federici (2019a, 2019b, 2021, 2023), among many others — to specific people. From our perspective, by denouncing and illustrating this, the authors align themselves with Connell’s first principle of Curricular Justice by recognizing that there is an exclusionary hegemony to be combated in the mathematics curriculum, which requires a counter-hegemonic curricular stance.

Vanessa Neto (2021), in her text, aims to present the results of two studies: the first analyzes mathematics textbooks, discussing how these materials reinforce the sexual division of labor and the gendered roles attributed to people who live in rural areas. The second sought to describe enunciations replicated in Mathematics Education research in Brazil that are linked to Gender Studies.

Based on the discussions about the results of these studies, Vanessa Neto argues that math classes are a privileged space where we learn to live binary gender roles that “instruct bodies to perform the feminine with practices that still refer to an economic rationality” in which some people are “confined to domestic and care activities, now the market seems to realize that women represent more than half of the world’s population and cannot be wasted as a productive economic force” (Neto, 2021, p. 60). 60), and argues that by prescribing binary gendered roles in the social world, this formative stance corroborates the need for social reproduction of an institutionalized social order called capitalism.

And this is also reflected in a discourse of valuing women in mathematics and the exact sciences in general, due to the need to train qualified labor to act in social and economic reproduction: “the absence of women’s participation in productive dynamics has consequences for the economic development of nations, as has been pointed out for some years by various investigations and reports” (Neto, 2021, p. 60).

The author believes that “Although the results obtained from the research in textbooks seem to go against a global trend, which we could call female empowerment, through access and inclusion in the discussion spaces of the exact sciences,” such a stance helps to “compose the list of possibilities on how to exercise their gendered function satisfactorily in a given society,” however, at the same time, “the clamor for the inclusion of women as a specialized contingent is supported by the narrative of economic development” (Neto, 2021, p. 61). One way or another, “we learn to experience gender in math classes” (p. 61).

By recognizing that there is a hegemony in the development of the mathematics curriculum and by pointing out that mathematics classes are a device that teaches us how to live the gender, the author seems to be instigating a counter-hegemonic stance in the mathematics curriculum debate, which brings Vanessa Neto's (2021) production very close to the first principle of Curricular Justice proposed by Connell.

Deise Peralta (2022a), in her article, discusses the dilemma experienced by Nísia Floresta due to the public attacks she suffered as a result of her curricular proposal for girls' and women's schooling in 19th century Brazil. From the case of Dionísia Gonçalves Pinto — the registered name of the educator who became known as Nísia Floresta Brasileira Augusta — the author illustrates how women suffer from androcentrism in social scenarios that are based on injustices and inequalities in the struggle to learn and teach mathematics.

For this task, Deise Peralta (2022a) analyzes excerpts from the newspaper *O Mercantil*, an important journalistic publication of the time, which reported on Nísia Floresta with a defamatory and aggressive content — hardly, at the time, in the public opinion propagated by publicized means such as a newspaper, one could observe tributes to women who wanted to learn and teach mathematics. These news items about Nísia Floresta were found in the archives of the National Library in Rio de Janeiro.

The author herself states that her purpose with the text is to “show how Nísia Floresta is a protagonist in the history of the mathematics education curriculum by fighting for the recognition of women, confronting and proposing to subvert the most striking and cruel characteristic of gender injustice: androcentrism” (Peralta, 2022a, p. 2), and thus give visibility to the struggle of women who have been systematically erased from the history of (mathematics) education on the Brazilian scene. Systematically, because our androcentric culture privileges, by definition, the achievements and contributions of people whose bodies perform a culturally valid and accepted standard of masculinity.

As an example, we present an excerpt from a news story about Nísia Floresta, to illustrate how women who defended the mathematical education of other women were treated by the media at the time: “We will only note that Mrs. Floresta forgets somewhat about the true purpose of education, which is to *acquire useful knowledge* and not to overcome difficulties that are of no real use. *Be wary of the mule that utters ‘him’ and the woman who knows Latin*” (Peralta, 2022a, p. 8). This shows how public opinion rejected women being endowed with knowledge that, at the time, was understood to be only for men.

Based on her analytical exercise, Peralta (2022a, p. 10) states that “As a history of the organization and development of curricula in mathematics education, this can be seen as significant liberatory gains that have materialized discursively and legislatively, thanks to the struggles for the recognition of marginalized identities,” materializing and registering how important the participation of marginalized identities are and have been in the struggles for the mathematical education of people historically prevented from participating as peers in social life (Fraser, 2007), including in the relations of learning and teaching mathematics.

In her considerations, Deise Peralta (2022a, p. 11) states that

the demand for recognition in curricular debates in mathematics education has been expressed through normative movements that, by reconfiguring places and identities in political clashes, revise thinking and propositions regarding the limits of democracy in the production of research, guidance for pedagogical practices, and educational policies related to the curriculum-mathematics binomial.

And with this, a scenario is set up that engages the struggles of historically excluded groups as a result of social injustices — which materialize, for example, in androcentric ways — in the processes that involve both the construction of mathematical knowledge and its teaching.

In carrying out the exercise of making Nísia Floresta's contribution to unequal curricular developments in the history of Brazilian mathematics education viable, Deise Peralta (2022a) seems to assume that there was clearly a hegemony that placed certain people in a situation of privilege regarding the process(es) that involve the phenomenon of learning and teaching mathematics. This is especially in line with the first principle of Curricular Justice developed by Connell, as Deise Peralta (2022a) seems to be calling for a counter-hegemonic curricular stance in Mathematics Education.

In another text, Deise Peralta (2022b) discusses the Mathematics Curriculum for boys and girls in the first Brazilian General Education Law – the Law of the Schools of First Letters. By analyzing the archives of the Brazilian Federal Senate during the debates on the enactment of this law, the author discusses the androcentric ideology that permeated the debates and established a specific Mathematics Curriculum for girls and another specific one for boys.

As an example, Deise Peralta (2022b) presents three articles from the First Language Schools Act that illustrate the difference in mathematics curriculum content for boys and girls:

Article 6. Teachers shall teach reading, writing, the four operations of arithmetic, the practice of fractions, decimals and proportions, the most general notions of practical geometry, the grammar of the national language, and the principles of Christian morality and the doctrine of the Roman Catholic and Apostolic religion, proportionate to the understanding of the boys; the Constitution of the Empire and the History of Brazil being preferred for readings.

Art. 11. There will be girls' schools in the most populous cities and villages where the Presidents in Council deem this establishment necessary.

Art. 12. Women teachers, in addition to what is stated in Art. 6, excluding notions of geometry and limiting the instruction of arithmetic only to its four operations, shall also teach the skills that serve the domestic economy; and those women who are Brazilian and of recognized honesty, who show themselves to have the most knowledge in the examinations carried out in the form of Art. 7, shall be appointed by the Presidents in Council (Peralta, 2022b, p. 9).

This example is a good illustration of how the mathematics curriculum content that had to be taught to boys and girls in the Primary Schools was considered. Boys were taught content that was considered highly refined at the time, thus offering them a privileged education, while girls received mathematical training to perform gender roles expected of a girl/woman at the time, such as knowing only the four operations to be able to mechanize the “domestic economy,” that is, care work, historically relegated to bodies that perform (Butler, 2003), the feminine and no pay.

This illustrates how mathematical knowledge and its teaching process(es) are not neutral in the socio-historical reality in which it is found (Taveira, 2023), and how this specific curricular organization corroborates and reverberates a discourse that, in addition to assigning demands to historically and culturally constructed gender roles, also strengthens an idea that bodies that perform the feminine cannot/should not have a mathematical education that is superior to bodies that perform the masculine.

With this research exercise, Deise Peralta (2022b) seems to align herself with Connell's

second principle of Curricular Justice, by denouncing different math curricula, differentiated from each other by factors associated with the gender of the people for whom these curricula are intended. In this scenario, by proposing common schooling, this problem would be partially resolved in terms of the problems presented by the differentiation of mathematics curricula based on factors associated with gender.

By carrying out a systematic exhibition of selected productions that articulate Curriculum and Mathematics Education from the point of view of Mathematics Education, we were able to see that the productions selected for this text are predominantly associated with Robert Connell's first principle of Curricular Justice.

Thinking in terms of references that theorize about Curricular Justice can be a way to strengthen the struggles around Mathematics Education for Social Justice, accompanying recent efforts by the community of people who are concerned about mathematics education in modern times.

In this sense, we defend reflections arising from theorizing on Curricular Justice as a necessity in the face of the inequalities and injustices of our social reality — which are expressed, for example, through androcentric, neoliberal, sexist and ableist discourses and actions, among other forms — that directly and/or indirectly produce/reproduce, organize and mechanize diverse processes of curricular development in Mathematics Education.

Reference points on Curricular Justice can denounce and think of ways to combat discourses and curricular actions that, for example, delegate neutrality to mathematical knowledge and its teaching processes in the historical reality in which we exist as social beings, and end up (con)forming the people who inhabit our reality in this historical and temporal period.

5 Specific (and final, only in this text) considerations

In our considerations on the exercise undertaken in this article, we reaffirm that Robert Connell's theoretical elaborations can support and underpin important and necessary reflections for the present day, especially for those in the Mathematics Education community who are willing to discuss curricular issues.

As we have seen, by making intelligible scenarios of exclusion and the production of social inequalities and injustices that operate and are operated via Mathematics Curricula — taking the works of Vanessa Neto, Marcio Silva and Deise Peralta as an example—we demonstrate how mathematical knowledge is not neutral “in our socio-historical-cultural reality” (Taveira, 2023, p. 90).

The fact that our systematic review uses privileged spaces for the production and dissemination of knowledge on Curriculum and Mathematics Education as a database is symptomatic of the fact that discussions and debates on curriculum in Mathematics Education have not focused on discussions of Curricular Justice. And this theoretical study, in addition to showing the usefulness of theorizing on Curricular Justice, also raises awareness among people concerned with thinking about the most diverse Mathematics Curriculum(s) as a necessity of our times.

Recognizing this absence, it seems important that the community of people who discuss Curriculum in the field of Mathematics Education pay attention to the need to debate issues that permeate Curricular Justice as a demand of today's times, in which curricular development in Mathematics—whether in the curricular content of Mathematics as a school subject, or in the initial training projects for teachers who teach Mathematics, or in the most diverse training

processes to which Mathematics lends itself and is directly related to the concerns of Mathematics Education—is marked by scenarios of production and reproduction of inequalities, injustices, inequities, partiality, arbitrariness, disrespect, among other similar factors.

We think it's a promising possibility to discuss Mathematics Education for/with/by Social Justice based on discussions about Curricular Justice.

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