

AFFIRMATIVE ACTION IN BASIC EDUCATION: SUBSIDIES FOR THE FUNDEB EQUITY MEASURE

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ABSTRACT: The limits of educational universalistic policies are discussed in the sphere of educational financing, for the reduction of racial inequalities, presenting subventions to think about the creation of an index for equitable allocation of financial resources according to the perspective of the concept VAAR/FUNDEB. A principle concerning difference and corrective justice is integrated into the premises, in order to highlight the pressure of the racial attribute in the measure of equity provided for by the Law n. 14113/2020. The approach of the interpretation adopted by the paper sustains that to overcome racial inequalities in education it is required that the State takes advancement in the presupposition of equal treatment while distributing financial resources to the schools.

Keywords: Educational policy. Fundeb. Inequalities. Race. Educational indicators.

AÇÃO AFIRMATIVA NA EDUCAÇÃO BÁSICA: SUBSÍDIOS À MEDIDA DE EQUIDADE DO FUNDEB

RESUMO: Discutem-se os limites das políticas educacionais universalistas, no âmbito do financiamento educacional, para a redução de desigualdades raciais, apresentando subsídios para se pensar a construção de um índice de alocação equitativa de recursos financeiros na perspectiva do VAAR/FUNDEB. Integra-se aos pressupostos selecionados um princípio de diferença e de justiça corretiva, de modo a evidenciar o peso do atributo racial na medida de equidade disposta pela Lei n. 14.113 de 2020. A postura interpretativa assumida pelo trabalho defende que a superação das desigualdades educacionais raciais exige que o Estado avance no pressuposto de igualdade de tratamento no aporte de recursos às escolas.

Palavras-chave: Política educacional. Fundeb. Desigualdades. Raça. Indicadores.

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ACCIÓN AFIRMATIVA EN EDUCACIÓN BÁSICA: SUBSIDIOS PARA LA MEDIDA DE EQUIDAD FUNDEB

RESUMEN: Se debaten aquí los límites de las políticas educativas universalistas en el contexto del financiamiento educativo, de la reducción de las desigualdades raciales, y aportes para pensar la construcción del índice de distribución equitativa de los aportes económicos teniendo en cuenta el VAAR/FUNDEB. Plantease aquí los supuestos, el principio de diferenciación y justicia correctiva a fin de esclarecer el valor de la condición racial en la medida de equidad puesta en la Ley n. 14.113 de 2020. El trabajo incorpora la postura interpretativa para sostener que la superación de las desigualdades raciales requiere que el Estado logre avanzar hacia la igualdad presupuestaria a la escuela.

Palabras-clave: Política educativa. Fundeb. Desigualdades. Raza. Indicadores.

Introduction

To the black movement, which fought for equity in the new Fundeb. To Brazilian-black students that are long-awaiting the Brazilian education to wake up.

Approved in the late penultimate decade of the 20th Century, the 1988 Brazilian Constitution can be considered, as a legal system, the one that advanced the most the guarantee of a set of social rights in Brazil and, especially concerning education, making it, for that very reason, the most well-polished model of a welfare state the country had ever tried.

The legal and political milestone ensured education rights not only to those of school age but also to those who did not have access to the schools considered ideal (art. 205), recognizing the precedence of the State in ensuring that right and indicating, moreover, the legal instruments to be triggered when violations are identified.

Was added to compulsory attendance from ages 4 to 17 the free-of-charge nature of the offer, thus structuring two intrinsic dimensions to the recognized public and subjective rights recognized, as provided by part IV of Article 206.

Although it is known that between the legal milestone and effective implementation of the policy there may be a substantial hiatus, it is important to acknowledge that the affirmation of a right in the body of law, in and of itself, is already an instrument in the political fight.

It is from this prism that one must understand, for example, § 3 of Article 212, of the Federal Constitution, which, when addressing the allocation of education resources, provides that the “distribution of public resources will ensure priority to meeting the needs of mandatory education, concerning universalization, assurance of the **quality and equity** standards, pursuant to the national education plan” (BRASIL, 1988). (our translation, no emphasis in the original).

It is imperative to underscore that although Brazilian education is historically marked by different overlapping dimensions of inequality, as abundantly documented by literature (CASTRO, 2009; OLIVEIRA e ARAUJO, 2005; SOARES E ALVES, 2003, BARCELOS, 1993), it was only after 2009, by the passing of Constitutional Amendment 59 that the equity principle passed to be included for the first time - in the scope of education - in a Federal Constitution.

Most recently, upon the end of the second generation of funding policy and the approval of the new Basic Education Maintenance Fund – Fundeb, implemented by Constitutional Amendment 108/2020, the equity theme regained space, now outlined in Article 211, § 4, which addresses educational federalism and the responsibilities of each state concerning the respective education systems.

This article is the result of extensive research on principles of social justice in basic education, revolves around this debate, and examines the potentiality of translating that principle from the standpoint of an index that takes racial inequality into account for substantiating one of the dimensions of the distribution of resources in the scope of the Fundeb complementation by the Federal Government, thus reassuring the constitutional principle of equity.

We understand that on this matter, it is necessary moving beyond the conception of universalistic policy and equality of treatment, which is innocuous, for failing to progress in reducing racial educational inequalities, to the extent that financial resources only respect enrollment criteria, and are “blind” to racial inequality. On that line, we affirm the theory that a corrective justice principle must be implemented (CRAHAY, 2000) in the financing of education, using, to that effect, indicators built with special attention to racial education inequalities.

In this sense, we sought to answer the following question: what assumptions should support the measure of equity, as provided by Law 14.113/2020 in order to consider educational inequalities on the racial interface, for substantiating the distribution of resources required by the Constitutional Amendment 108/2020, on a Value Student Year Result -VAAR dimension?

To answer this question, the article illustrates the debate around the translation of educational equity from a racial standpoint, proposing the design of an index that contemplates racial dimensions in terms of learning for expressing a more equitable allocation of resources from the new Fundeb/VAAR.

The article, beyond this introduction, presents next the institutionalization of the Brazilian education budget in the scope of a racial approach, as well as the State’s action or inaction on that level. Following that, we will move to a brief systematization of education inequalities relative to the racial component in Brazil, focused on basic education at the mandatory levels. The method used and the theoretical-analytical category prioritized are presented next. The subsequent section will discuss Constitutional Amendment 108/2020 and Federal Law 14.113/2020, focusing on aspects concerning equity and its translation into the body of law. The presentation and discussion of the index proposed for allocating the resources of the new Fundeb/VAAR for schools, from the standpoint of corrective justice, provide substantiation for the final considerations.

Theoretical-methodological notes

In methodological terms, this article is the result of a mixed method (SILVA, 2018), provided it has a qualitative dimension, expressed by the use of procedures such as a review of literature and document analysis. On the quantitative level, was used descriptive statistics described in the organization of education data from the *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* (Inep), linked to the Ministry of Education (MEC), and data from National Education Development Fund (FNDE in Portuguese) databases. Regarding the proposal for building the indicator and the index, was also used basic statistics in the methodology.

As for the theoretical-analytical basis used for interpreting data and substantiating the argument, the article used John Rawls’ difference principle (1999), Marcel Crahay’s corrective justice principle (2000), and, finally, the *colorblindness* ideology (BONILLA SILVA, 2006; OBASOGIE, 2014).

The racial attribute in the Brazilian “Education State”

In his book “Diploma de Brancura”, D’Avilla (2006) argues that public education policy was important in institutionalizing racism, since, according to the author, during the formulation of the model of Brazilian school education, intellectuals and scientists expected that the creation of a universal school would lead to the whitening of the nation, ridding it of what had been characterized as degeneration. This is because the school, by being universalized, would bring black and poor students into it, and thus “improve the race” by trying to get these individuals to assimilate European culture into their ways and behaviors, in addition to making this school population healthier, altering their habits, giving them a “good physical form” and instilling a nationalistic feeling, after all, “blackness was treated in Freudian terms as primitive, pre-logical and childish”. (D’AVILA, 2006, p. 25, translation by We the authors).

Influenced by the eugenics idea, added to the early 20th-century social hygiene movement, these groups believed the population of African descent was relegated to disease and failure and, consequently, it put the entire nation at risk. The universal school with Eurocentric principles would be, according to that conception, the savior of the sick.

Historically, this denial produced a lack of debate and a delay in the official recognition of the black race in national curriculum guidelines, the formation of educators, and the Brazilian education evaluation system as a whole. That “blindness” to color also permeated the financing of education, i.e., in its budget, allowing recognition of the contribution of the State to the institutionalization of racism.

All of these aspects of the education policy have strongly impacted Black children throughout time because the disregarding of the racial attribute in the formulation and implementation of programs were structured based on an abstract meritocracy, whereby “education opportunities” are reserved for the white population. It is not by chance that we see so much disparity between whites and blacks in practically all educational indicators of the country such as conclusion rates, age-grade distortion, and learning performance.

A set of normative-legal provisions passed after the 1988 Constitution, such as the Children and Adolescent’s Statute, the National Education Bases and Guidelines Act, and, more recently, the “Bolsa Família” Program contributed to overcoming that gap caused by the difference of access between white and black students, even if only for elementary school students. By expanding the mandatory schooling ages from 04 to 17 years old, according to Art. 208, I, of the Federal Constitution, and by instituting the Fundeb, the legislation induced also active policies for students’ inclusion in subnational entities. In addition, the educational conditionality of the Bolsa Família Program also played an important role in the frequency of students, especially in elementary school.

Data from the 3rd National Education Plan Monitoring Report point out that elementary school education coverage in 9 years reached, in 2019, 98.1% of children ages 06 to 14, and the estimated difference between blacks and whites in this stage is statistically null. (INEP/MEC, 2020).

However, the same cannot be said of the population ages 15 to 17, attending High School. The difference between blacks and whites in this stage is especially accentuated, with 68.5% and 80.9% in enrollments, respectively.

If legislation and public policy contributed to the relative equalizing of access inequality and, to a lower extent, the school flow problem, the same cannot be said for learning performance. On that dimension, racial inequality remains persistent and especially pronounced.

In a 2003 paper, Soares and Alves concluded, by examining SAEB/2001 data, that there was a big gap between white and black students and, to a lower extent, between white and mixed-race students

regarding school performance. Moreover, in that same article, factors such as school Infrastructure, teachers' wages, and socioeconomic level of the school and the students, contribute even further to expanding the difference between white and black students, and not minimizing it. (SOARES and ALVES, 2003).

The investigation by Soares and Delgado (2016) identified concerning results in terms of performance inequality. In that article, the authors characterize student groups through an international distribution reference for the distribution of learning performance. According to the authors, the group formed by black girls at a low socioeconomic level would require 78 years to reach the level considered "ideal" in reading, compared to the group of high socioeconomic level white students, for whom the number of years to reach the same reference drops to 14 years. (SOARES and DELGADO, 2016).

More recent research reaches the same conclusions relative to learning performance results. Alves and Ferrão (2019), for example, upon relating performance and flow data, highlighted that, in 2017, "for all subgroups examined that had not 'failed any grades', the rate of students that reached at least the adequate level exceeds 50%, except for the subgroup formed by black students with low socioeconomic levels. For them, the regular school trajectory (not failing any grades) does not seem sufficient for offsetting the disadvantages associated with poverty and racial discrimination". (ALVES and FERRÃO, 2019, p. 710).

In the paper that examined the data of "Prova Brasil" over one decade (2007-2017), articulating the same socioeconomic status, Alves (2020) concluded that:

[...] in situations of more severe poverty, there is a vicious cycle where education results are bad for all groups without distinction. When the socioeconomic scenario improves, we see a virtuous cycle that is favorable to white students (boys or girls) [...]. I.e., for black students, improving life conditions does not suffice for school performance to match those of white students (ALVES, 2020, p. 201).

The results of the research conducted by Érnica and Rodrigues (2020) are not different, when analyzing the learning inequalities in the Capital of São Paulo, on the socioeconomic status interface (NSE), gender and race, they found that black girls only benefit from:

[...] better education opportunities in more equitable districts, whatever their learning levels. [...] The attenuation of the restriction of education opportunities due to race discrimination did not happen for black boys [...], if that disadvantage is particularly acute and tragic for black boys in lower NSE [...] it is strong to the point of being relentless even in face of [positive] attributes associated to the NSE, which are powerful trump cards in the school environment – but for other groups. (ÉRNICA and RODRIGUES, 2020, p. 15).

The brief inventory of research results presented above allows us to argue, on one side, that there was progress in racial educational equality, such as in access and flow. On the other hand, the permanence of black students puts the Brazilian State model into question and, especially, its lack of action or supposed indifference to race, which Bonilla-Silva (2006) characterizes as *colorblindness*.

Therefore, there is a systematic denial of the existence of a society that allocates financial and symbolic resources by race and skin color, and which determines, in the case of education, the school trajectories, to a large extent, and which adopts a meritocracy stripped of the factual conditions in which individuals live to legitimize existing education inequalities.

Using the debate initially proposed by Bonilla-Silva (2006), Obasogie (2013) defines colorblindness as:

[...] a normative ideology of racial nonrecognition; individuals, organizations, and government bodies should give no special attention to individuals' race; decisions should not be made because of race, even to level the playing field; and resources should not be distributed along racial lines, even for remedial purposes. (OBASOGIE, 2013, p. 115).

In the “*Colorblind State*”, everyone is equal under the law, i.e., the State is therefore indifferent to the color of individuals and the real consequences on their lives.

School Financing as a Universalistic Policy

Financing of Brazilian education, if examined from a historic perspective, presents, without a doubt, considerable progress, from the increased rate of constitutional apportionment and transfers conditioned to education, to the funding policy.

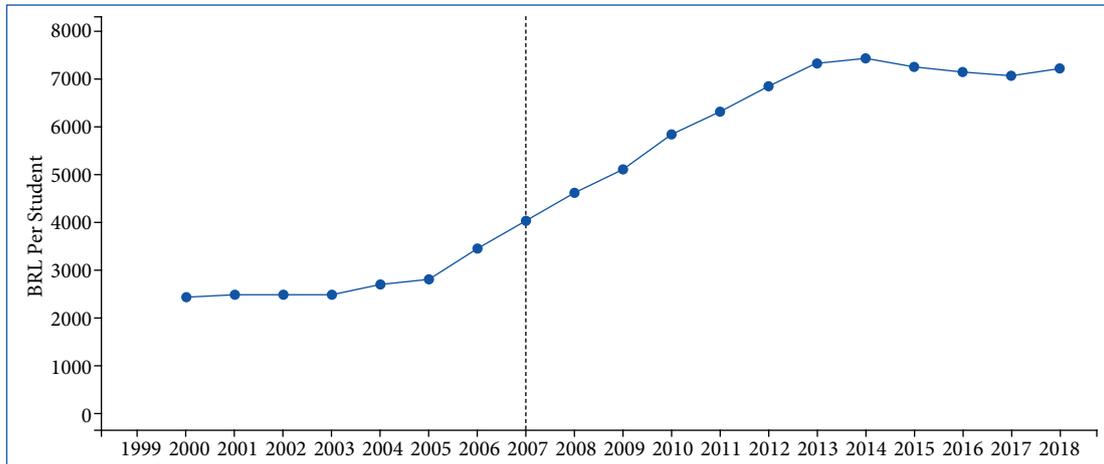
However, from the perspective of a principle of justice as equity (RAWLS, 1999) which aims at distributing assets (financial or symbolic) on a non-equal basis, giving more to those who have less, especially working with the less favored, financing of education still has a long path ahead. This aspect is even worse when considering that in the expansion of enrollments, there was no implementation of an equity measure, to “level the playing field”, (OBASOGIE, 2014) working for the popular layers that pass to attend school.

When analyzing education laws, Silva (2010) highlights that the new holders of rights that should be reached by legislation still lack a practical translation, after all, as the author questions: “Who are these new holders of rights?” and “how to finance educational policy in order to produce an effective inclusion of new demographic groups?”

As of the second half of the 1990s, upon the creation of the Elementary School Education Maintenance Fund (Fundef), followed by the Basic Education Maintenance Fund, Fundeb, of 2007, the allocation of resources destined for education presented an improvement. Although it cannot be considered a new source of resources, to the extent that the largest part of the contribution to the funds comes from the States and Municipalities themselves, complemented by the Federal Government at the rate of 10%, but only for a group of nine Brazilian states, those states whose value obtained from the fund does not reach the national floor.

As can be seen from Fig. 1, there has been a significant improvement in public investment per student in basic education, but still, this additional source of resources, which is the Union's complementation to Fundeb, was not able to be materialized into programs and instruments of public action capable to stop the persistence of racial inequality in education. We cannot forget that the most impoverished schools in terms of infrastructure and basic supplies are located in the outskirts of towns, and those are the ones that serve the highest number of black students (GOMES and MELO, 2021).

That is the context in which this article is inserted. What is built here is an interpretation that universalistic policies, despite their massive contribution to education, are not sufficient for handling racial educational inequality, thus demanding, in Brazilian basic education an insertion of a difference principle, in the classic definition of Rawls (1999), and to overcome the universalist premise that marks the educational policy of the Brazilian state (*the colorblind State*). Therefore, this article contributes to a political conception of justice, proposing the conceptual base for an index that contemplates racial inequality and which may contribute to improving public education policy concerning the allocation of resources.



Source: Indicadores de Financiamento Educacional, Inep.

Figure 1. Direct Public Investment in Education by Student - Basic Education – Brazil, 1999-2017.

Although the Rawlsian difference principle can be thought of for several dimensions of education, both in intra-school factors, as a broader education policy, within the limits of this article, we wish to discuss the need for that different principle on the level of distribution of public resources for education, in other words, for its funding/financing.

According to Rawls (1999), the difference principle “argues that undeserved inequalities require offsetting and, so long as birth inequalities and natural gifts are undeserved, they must be somehow offset” (pp. 86-87).

To the author, through the difference principle:

[...] society must give more attention to those with fewer native assets and to those born into the less favorable social positions. [...] Now the difference principle is not of course the principle of redress. It does not require society to try to even out handicaps as if all were expected to compete on a fair basis in the same race. But the difference principle would allocate resources in education, say, so as to improve the long-term expectation of the least favored (RAWLS, 1999, pp. 86-87).

Therefore, the difference principle allows reviewing the analytical equation according to which the distribution of financial resources to education networks and schools must follow an egalitarian procedure, applying the “isonomy” rule to the number of enrollments without taking an interpretative stance and considering racial inequality in learning performance for allocating education resources. Well, previously released data require efforts for thinking of corrective strategies for addressing a real search for racial equality.

We must underscore that schools, in their social function, play an important role beyond the mere production of knowledge. For more popular demographic layers, living on the outskirts, these are institutions that offer culture and leisure activities, which are imperative for cognitive development.

In that sense, the body of evidence mobilized in this article concerning deficiency in education policies relative to black students, summed to the assumptions set by Rawls (1999), and the identification of the existence of a *colorblindness* ideology characterizes the argument that we must consider racial inequality in education and for the allocation of financial resources, introducing a difference principle, for building the necessary and ethical levels of equity in the system.

From a legal standpoint, both § 3 of art. 212 of the Federal Constitution, amended by Constitutional Amendment [EC] 59/2009, and more recently, the text of § 4 of art. 211, implemented by Constitutional Amendment [EC] 108/2020, set the legal basis for the implementation of corrective action or affirmative action instruments in elementary education, to the precise extent it introduces the equity principle to the country's highest law. The next step, consequently, would be understanding a possible translation of that constitutional principle in terms of education policy, which was announced through the newly-implemented Fundeb, more specifically, through the Federal Government's complementation in the Student-Year Value Result – VAAR, enforced by Federal Law 14.113/2020.

The VAAR as the Difference Principle and Affirmative Action

The year 2020 was an important moment for the financing of Brazilian education since Fundeb would expire after being running since 2006. Although processed in Congress in 2015 by the Proposal for Constitutional Amendment 15/2015, it was only in mid-2020 that there was any progress in building consensus around the new design for the fund, which was wished to be permanent. A defense coalition was built within and it consolidated the understanding around the need to advance the financial models of the fund, as in the previous drawings. (NASCIMENTO and CARA, 2022).

Although at the end of the negotiations the Federal Government had gone back on its initial stance and committed to complementing 23% to the new Fundeb, approval of Constitutional Amendment [EC] 108/2020 resulted, to a large extent, of Congress' efforts in light of the stance of the Central Executive Branch.

The final design of the new Fundeb passed to count on three complementation methods: i) the student-year value Fundeb - VAAF, with 10% of the fund; ii) the total student-year value – VAAT, with 10.5%; and iii) the student-year value result - VAAR, with 2.5%.

The Black movement, in all its various formats and fighting proposals, managed to articulate a strong claim for the VAAR acronym to be translated as Student-Year Value “Race”, instead of “Results”. Although the congress committee chair - Representative Felipe Rigoni (PSB) prevailed, in the sense that keeping the acronym was important due to the need for demanding consideration of the results for improving education. The black movement had an expressive victory by ensuring that Federal Law 14.113/2020, which regulates Fundeb, recognized the existence of racial inequality in education. That recognition was literally consolidated in Article 14, § 3, which addressed the conditions that must be met when distributing VAAR resources:

Art. 14. The complementation - VAAR will be distributed to public teaching networks that meet the conditions and present improvements in the indicators mentioned in part III of the header of Article 5 of this Law.

[...]

III - reduction of socioeconomic and racial **education inequalities** measured in the national tests of the national elementary education evaluation system, respecting the specificities of indigenous school education and its realities; (BRASIL, 2020). (our translation, no emphasis in the original).

Moreover, when addressing the methodology that will substantiate the design of an indicator to be used for distributing resources, § 3 of that same Article 14, provides that the “equity measure” considers racial inequalities, namely:

§ 3 The **learning equity measurement**, provided by part I of § 2 of this article, based on a scale of learning levels defined by Inep, relative to the results of students in the national tests mentioned

therein, will consider in its calculation the proportion of students whose learning results are in levels below the adequate, with a higher weight for students with results farthest from that level, and **inequalities of results** in groups of different socioeconomic status **and race** and students with disabilities in each public network. (BRASIL, 2020). (our translation, no emphasis in the original).

We highlight the importance of the body of the law to contain the recognition of the existence of racial inequalities, especially apart from class matters, as observed in many defenses, in and out of academia. These defenses also move toward the sense that class and race are the same and that equalization of the former leads to overcoming the latter.

It does not seem to be any doubt that the existence of such a provision in the law, in and of itself, becomes a fighting instrument. However, some measures of equity must be produced, that effectively translate the legal principle of racial education inequality.

On that note, it is especially important to recognize that the end of the evaluation cycle of the basic education development index (Ideb) which will be in 2022, is the same year when a new indicator will have to be designed and which will certainly substantiate the distribution of VAAR resources, which will start being made available by the Federal Government as of 2023.

Article 14 of Law 13.114/2020 itself, makes it clear that will be incumbent on INEP to build the equity measurement that will be used for the VAAR. It seems to be in this scope that the Federal Government issued Ordinance 445, of June 2021, which established the Work Group for debating the Basic Education Evaluation System (Saeb) and Ideb.

Considering these questions as a whole, in the next section, we present a proposal for an indicator that considers racial learning inequality for subsequently presenting the Racial Inequality Index (Ider), which, by combining these inequality dimensions, would allow for a more egalitarian distribution of VAAR resources.

The design of an indicator that takes into account the inequities within the system may contribute to a more robust translation of equity, as provided by the Federal Constitution. Furthermore, disregarding the racial attribute in the indicator may produce even more expressive inequality, since the allocation of financial resources will be attached to it, and it may cause schools themselves to create strategies for “avoiding” certain groups, such as blacks, fearful that these groups may render impossible receiving VAAR resources due to the results of student performance expressed by indicators.

Ider: Elements to Propose an Index

Considering the new Fundeb law, regarding the construction of the equity measure, this article proposes to present elements for the production of an index that considers educational inequalities in the racial interface. That index must be easy to understand and also should have the necessary characteristics for the decision-making process. It is not intended here to develop a work of statistical inference, determining whether black and white students are at significant levels of difference, but rather to provide theoretical and methodological elements that incorporate the dimensions of racial inequality and learning in the debate and indicators, as determined by Law No. 14,113/2020.

The measure of equity to be produced will link part of the resources resulting from the distribution of the Federal Government resources to educational results. The measure should thus recognize the most vulnerable students in the Brazilian educational system to avoid the intensification of inequalities. Moreover, the linking of financial incentives and counterparts should consider the possible effects of the *Campbell (1976) Law*, which says that the more a quantitative indicator is used for social decision-making, the more subject it will be to pressures of corruption and the greater the tendency to distort social processes that were intended to be monitored.

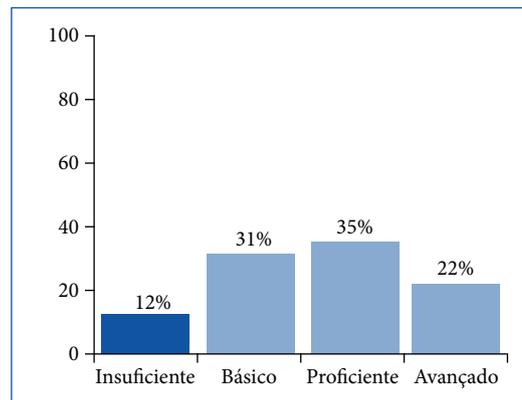
As we can see by reviewing the literature proposed in the scope of this work, race is one of the most important items for characterizing learning inequality for students and, in certain situations, only the average performance obtained through the central trend measurements, such as used in the average measurements of Prova Brasil and SAEB and with the Ideb indicator – Basic Education Development Index, ultimately hide a great inequality.

In short, the education system seems not to commit to promoting the growth of those left behind. Part of that difficulty may arise from the lack of an indicator focused on the most vulnerable students, highlighting measures that may expand the visibility of the problem and correcting courses, and which may, especially, operate as a north for resources and public investment in education and for minimizing inequality, especially race-based inequality.

The categorization of performance of scores in Prova Brasil that distributes the results of students in large-scale evaluations in four levels of education has been broadly spread, as we can see, for example, on the QEdu website: Insufficient, Basic, Proficient, and Advanced.

In this article, these four distributions will be used for having the potential for producing a simpler indicator, but with the necessary characteristics.

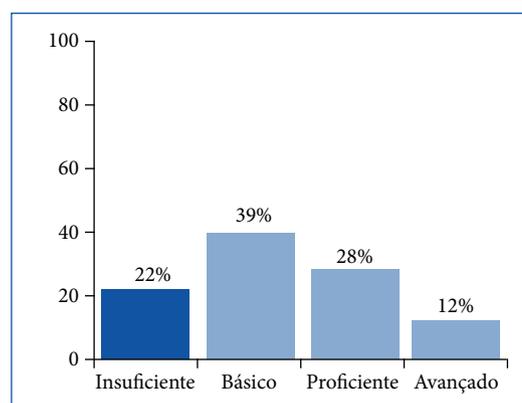
A way of accounting for the performance of each school relative to learning performance is the proportion of students in each of these groups. In Fig. 2 there is a division for reading results in 5th grade for the 2017 Prova Brasil.



Source: Prepared by the authors based on microdata from the Prova Brasil 2017, MEC/INEP.

Figure 2. Reading Performance 5th Grade 2017 Prova Brasil.

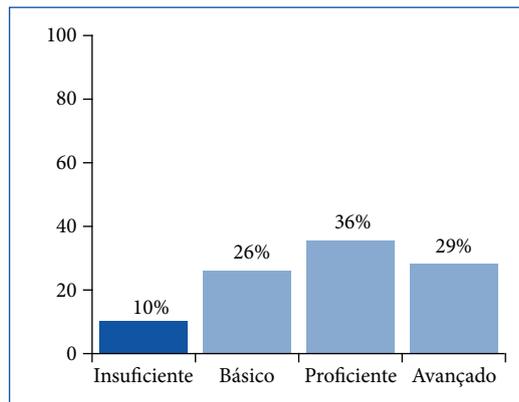
However, by sub-dividing these same groups between students who identify differently (black or white), we see that the distribution between these students is different. In Fig. 3, we point out the distribution of learning levels only for students who identified as black.



Source: Prepared by the authors based on microdata from the Prova Brasil 2017, MEC/INEP.

Figure 3. Reading Performance in 5th Grade of Prova Brasil 2017 for students identifying as black.

As we see, 21% of students who self-identified as black all over Brazil are in insufficient levels of 5th Grade Reading proficiency. When considering black students (black and mixed-race) the distribution between the Insufficient, Basic, Proficient, and Advanced levels passes to be 12%, 32%, 35%, and 21%, closer to the overall Brazilian distribution. That reveals how different the skin color categories that distinguish mixed-race and blacks can be in terms of learning performance. In the case of students who self-identify as white, the results are detailed in Fig. 4.



Source: Prepared by the authors based on microdata from the Prova Brasil 2017, MEC/INEP.

Figure 4. Reading Performance in 5th Grade of Prova Brasil 2017 for students identifying as white.

Note that for white students, the distribution of proficiency levels is much more favorable, with the largest proportion of students scoring as proficient and advanced. Brazil, in a certain way, “determines” the condition that more than one-fifth of its students who self-identify as black is at the insufficient level, whereas for whites, the proportion drops to one-tenth, thus characterizing a blatant denial of the right to education in Brazil.

Provided that basic education is a public and subjective right, the ideal case scenario would be that Brazil had no 5th graders with insufficient performance levels. And even if there was a small percentage of students for that level (something around 1% and 3%), there should be no difference in performance linked to the skin color of students or their socioeconomic status. Behind this normative affirmation (“should not”) lies the constitutional conviction that everyone is able to learn the skills taught by the school. Therefore, it is unacceptable that there is a difference above 10 percentage points (p.p.) between black and white students for this learning level.

Based on the presented data, it is possible proposing a racial education inequality indicator. The indicator, proposed as presented by the equation (1) below, captures the difference in performance between white and black students, or between white and black/mixed race students:

$$\{D = p_{Black} - p_{White}, \text{ se } p_{Black} \geq p_{White} \quad D = 0, \text{ otherwise} \tag{1}$$

The p is the proportion of students with insufficient learning levels and is divided according to the skin color declared for each group (it may be done by dividing it only for black students, and for African descent students, a group that encompasses both blacks and mixed-race students).

For the example of 5th Grade Reading in the 2017 Prova Brasil, we see that D will be 11 p.p. since $p_{Blacks} = 21\%$ and $p_{Whites} = 10\%$, since the indicator is the difference between both these proportions, the inequality of the group of black students relative to the group of white students is 11 p.p.

Considering the theoretical argument of *corrective justice* presented herein, we recommend that the difference in D is only obtained for identifying inequality to detriment of black students or especially for

students who identify as black, hence the condition $p_{\text{Black}} \geq p_{\text{White}}$. For the opposite situation, we recommend $D = 0$, since there is no need for an offset in this scenario.

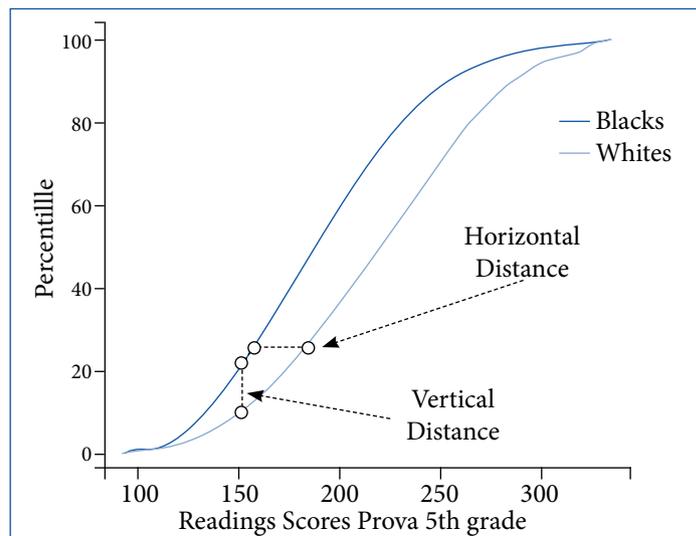
It is possible obtaining the aforementioned indicator for any other desired spacial subdivision, schools, municipalities, states, and regions of the country, so long as they have two or more students in each group (black or white). However, for obtaining statistical representation relevance, the more students in each group, the more representatively relevant the indicator will be.

It is possible to consider these above fundamentals for the construction of an index, given any other desired spatial subdivision: schools, municipalities, states, and regions of the country, provided that there are two or more students in each group (black or white). However, in order to obtain statistical significance, the more students there are in each group, the more representative the indicator will be.

The indicator can also be obtained for mathematics and different education stages: 9th Grade of Elementary School and 3rd Grade of High School. When the index equals 0% there is no inequality for a given school or region. The higher the index, the higher the inequality.

Note that the index may present low inequality in schools where the overall performance is low. In an educational unit where 41% of black students are in the insufficient level and 40% of white students are in the same level, the D will only be 1 p.p., but the school's overall performance is very low. What we mean by that, is that allow inequality is low, there is a “lowering of the bar” in the criterion since equality or equity is at insufficient levels.

In American education literature, the difference presented by indicator D is called a “gap”. Holland (2002) points out that statistics as presented in equation (1) is called “vertical distance”, and Fig. 5 presents the idea of that distance.



Source: Prepared by the authors based on the Prova Brasil 2017 data.

Figure 5. Accumulated distribution of 2017 5th Grade Reading scores and the difference between black and white students.

Another way of measuring the so-called “horizontal distance” is presented in equation (2) and also in Chart 5, for which we obtain differences in the quartiles:

$$H = q_{\text{white}} - q_{\text{black}} \quad (2)$$

Where q can be a quartile, a quintile, or a percentile of students' scores. For example, using the first quartile (25% or less) for 5th-grade reading, the difference between whites and blacks is $183 - 155 = 28$.

Considering the math test, the difference is $193 - 169 = 24$. These values are approximately half the standard deviation in each of these tests, or, seen in another way: these are 3 to 4 years' worth of difference in learning between the student groups. It is as if, on average, students who self-identify as white were 3 to 4 years ahead of those who identify as black in learning terms. I.e., if the white student is on 5th grade in learning terms, the black student will be, in learning terms, at the level of a first or second-grader.

It is important to highlight that the proposal for the Education and Racial Inequality Index emphasizes inequality between student groups by self-identified race. For capturing the general performance level, there are other known indices, such as Ideb, or even the proficiency average, which are sufficient.

Finally, it is important to assess the indicator as to its evolution, i.e., relative to the improvement of the indicator in the sense of decreasing existing inequality.

In particular, for composing an educational inequality index it is imperative to show the situation “before” and compare it to the “after”, given that the goal is reducing inequality, this indicator will be positive whenever inequalities are dropping. Therefore, upon obtaining the indicator D for two years, 2013 and 2015, for example, the difference in results is defined by the following equation:

$$\Delta D_{13e15} = D_{2013} - D_{2015} \quad (3)$$

Since we expect an evolution of the indicator in the sense of reducing inequality, whenever ΔD is positive ($\Delta D > 0$), inequality will be reduced; i.e., the situation in the previous year was more unequal than that of the year under review. For Brazil as a whole, in fifth grade, Reading, the variation was 3.3 p.p.; i.e., inequality between whites and blacks for students within the insufficient levels, was 3 percentage points higher in 2013 compared to 2015. For 2015 compared to 2017, that percentage was -4p.p., indicating that between these two years, inequality in learning between whites and blacks in this subject increased.

Racial Education Inequality Index – Ider – Assumptions

As previously underscored, pursuant to the discussions on VAAR, the inequality indicator, D , contributes to building a Racial Education Inequality Index (Ider), proposed by equation (4) below:

$$I_{der} = w_1 \Delta D + w_2 \Delta A \quad (4)$$

Where w_1 and w_2 are weights for inequality and performance components, respectively. ΔD is the variation of the indicator discussed in the preceding section and ΔA is a percentile variation of the overall result, which may be, for example, the variation of the Ideb. Ideb stands for Índice de Desenvolvimento da Educação Básica proposed by Fernandes (2007) and now one of most important governmental index and educational measurings. Also, another improved result indicator may be used, as discussed by Soares and Xavier (2013), or as it has been debated by more recent literature, Soares et al. (2019). For the sake of saving in this article and being very present in the literature, the discussion about ΔA is presented in greater detail only in this section.

Irrespective of the results indicator to be proposed, the emphasis applied in this article is that weights w_1 must be necessarily higher than weight w_2 ($w_1 > w_2$), for two main reasons (assumptions): (1) it

is imperative to prioritize “*corrective justice*” (CRAHAY, 2000), and to recognize the “*difference principle*” (RAWLS, 1999); (2) and moving away from a *colorblindness* stance, already present in the VAAF and VAAT criteria. Therefore, Ider would be the only one addressing this necessary correction.

Note that this proposed index follows the added value method. Therefore, for 2015 in Reading, compared to the previous 2013 test, we have $\Delta D = 3$ p.p.. According to BRASIL/INEP (2019) Technical Note, for Ideb, considering the initial years of Elementary School all across Brazil, the variation moved from 5.2 to 5.5, therefore, the growth of this index was 6%, $\Delta R = 6\%$ (or $\Delta R = 0.06$).

Proposing $w_1 = 0.9$ and $w_2 = 0.1$, Ider between 2013 and 2015 will be obtained by:

$$I_{der} = 0.9 \cdot 3 + 0.01 \cdot 6 = 3.3 \quad (5)$$

Which is a weighting of performance improvement. Note that the Ider may be negative if the inequality situation worsens. Recent data from Prova Brasil indicate that inequality between white and black students worsened between 2017 and 2019 and must have been aggravated by the pandemic. Therefore, for cases such as this, the Ider will be negative.

Especially, it is important to underscore that the weights treated here seek only to explain the assumptions that should sustain the index, that is, there should be a much more significant weighting for w_1 than for w_2 . The higher this weight is, the stronger will be the social indication that this is an important problem that needs to be addressed by the country.

Different from what was proposed here, which was to present the assumptions of the construction of an index that meets the new law and that is easy to interpret. Note that the interpretation of the Ider, the delimitation of its range, other related properties, the distribution test of hypotheses, and other statistics are being further developed in other works by the authors.

Final Considerations

After more than 15 years after the creation of Fundeb and almost three decades since the implementation of Fundef, we do not see equity between learning levels of white and black students in the country, but we identify a persisting racial inequality scenario that the allocation of resources implemented by the fund policies was not able to reverse.

This scenario allows us to state that more assertive policies are required, policies that encourage qualified racial inclusion, so the equity principle set forth in the Federal Constitution becomes a reality.

The creation and institutionalization of the new Fundeb through Constitutional Amendment 108/2020 is a historic milestone, provided that for the first time, the Constitution states that it is necessary to eliminate every form of inequality in Brazilian education, especially (and textually) racial inequality, whose overcoming is intrinsically bound to the very quality of democracy and sustainability of the economy.

For the law to be enforced, in this specific case, a definition is necessary as to how the resources of the new Fundeb will be apportioned. Therefore, in light of the analysis of data presented in this article, and in light of the assumption that overcoming the colorblind state is an imperative, we proposed the Racial Education Inequality Index – Ider, which follows the logic of corrective justice and may thus direct the distribution of 2.5% of the resources of the new Fundeb to those who need the most, namely, education networks and schools that present more pronounced racial inequality in learning.

Authors' Contributions

Problematization and Conceptualization: Tripodi ZF; Delgado VMS; Januário E; **Methodology:** Tripodi ZF; Delgado VMS; Januário E; **Analysis:** Tripodi ZF; Delgado VMS; Januário E.; **Writing:** Tripodi ZF; Delgado VMS; Januário E.

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