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ANALYSIS OF INFRASTRUCTURE IN SCHOOLS LOCATED ON REMAINING QUILOMBO LANDS FROM 2014 TO 2024

ANÁLISE DA INFRAESTRUTURA EM ESCOLAS
LOCALIZADAS EM TERRAS REMANESCENTES DE
QUILOMBOS NO PERÍODO DE 2014 A 2024

ANÁLISIS DE LA INFRAESTRUCTURA EN LAS ESCUELAS
SITUADAS EN LOS TERRENOS REMANENTES DEL QUILOMBO
DE 2014 A 2024

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ABSTRACT: This study aims to analyze, in light of legal and educational regulatory frameworks, the infrastructure profile of schools that provide Quilombola School Education (EEQ), based on data from the School Census from 2014 to 2024. The quantitative analysis was based on the methodology that take about School Infrastructure Scale. The results obtained allowed us to identify that the level of infrastructure in Quilombola schools is, for the most part, basic. It was found that there is no compliance between the appropriation of infrastructure resources and the legal requirements that aim to determine and guarantee the quality of EEQ. In 10 years of School Census and public measures, EEQ has remained vulnerable and tied to political decisions that maintain this reality. This finding justifies that this modality should be conceived as a state policy.

KEYWORDS: Educational Assessment. Basic Education. Quilombola School Education. School Infrastructure.

RESUMO: O presente trabalho tem a finalidade de analisar, à luz dos marcos regulatórios legais e educacionais, o perfil de infraestrutura das escolas que atendem a Educação Escolar Quilombola (EEQ), a partir dos dados do Censo Escolar de 2014 a 2024. A análise quantitativa foi embasada na metodologia que versa sobre a Escala de Infraestrutura Escolar. Os resultados obtidos permitiram identificar que o nível de infraestrutura das escolas quilombolas, majoritariamente, é elementar. Verificou-se que não há conformidade entre a apropriação de recursos de infraestrutura e os pressupostos legais que visam determinar e garantir a qualidade da EEQ, sendo que esta manteve-se, em 10 anos de Censo Escolar e de medidas públicas, vulnerável e atrelada a decisões políticas de manutenção dessa realidade. Tal constatação é uma justificativa para que esta modalidade passe a ser concebida como uma política de Estado.

PALAVRAS-CHAVE: Avaliação Educacional. Educação Básica. Educação Escolar Quilombola. Infraestrutura Escolar.

RESUMEN: El presente trabajo tiene como objetivo analizar, a la luz de los marcos normativos legales y educativos, el perfil de la infraestructura de las escuelas que imparten Educación Escolar Quilombola (EEQ), a partir de los datos del Censo Escolar de 2014 a 2024. El análisis cuantitativo se basó en la metodología que habla sobre la Escala de Infraestructura Escolar. Los resultados obtenidos permitieron identificar que el nivel de infraestructura de las escuelas quilombolas es, en su mayoría, elemental. Se verificó que no existe conformidad entre la apropiación de recursos de infraestructura y los supuestos legales que visan determinar y garantizar la calidad de la EEQ. Esta se mantuvo, en 10 años de Censo Escolar y de medidas públicas, vulnerable y vinculada a decisiones políticas de mantenimiento de esta realidad. Esta constatación justifica que esta modalidad pase a concebirse como una política de Estado.

PALABRAS CLAVE: Evaluación Educativa. Educación Básica. Educación Escolar Quilombola. Infraestructura Escolar.

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INTRODUCTION

The “bad citizens”: Black, mixed-race, and quilombola peoples (Moura, 2021); the “Others” (Nascimento, 2019). This is how the descendants of enslaved people—rendered invisible after abolition in 1888—were classified and perceived. Although they formally acquired “full” citizenship, they remained exposed to other forms of violence—veiled under the guise of freedom and peaceful, horizontal coexistence—through the dissemination of the myth of racial democracy coined by Freyre (2005) and upheld by the Brazilian State throughout the twentieth century.

According to Moura (2020), historically—as a counterpoint to the condition of enslavement—those who resisted slavery and class conditions emerged. In Brazil, wherever slavery existed, there was a quilombo: organized, resistant, and a “dynamic element eroding enslaving relations” (Moura, 2020, p. 42), including social, political, and economic relations. This resistance led to the organization of free people who, within their territories, embodied racial democracy and destabilized white slaveholders.

Within this brief historical overview, quilombos were established in hard-to-reach locations. As a result, even today it is possible to observe—in lands demarcated as Territories—the absence of electricity, treated water, and access to basic public policies such as education, health, and transportation.

If we address school infrastructure—considering the absences thus far documented regarding public policies in remaining quilombola territories—what would be revealed? By associating school architecture with the material dimension of schools—referred to in this study as school infrastructure (SI)—how can this attribute be monitored?

From Viñao’s (2005) perspective, school buildings encompass three qualities: the school as Space, composed of what is designed and can be materialized; the school as Place, constructed through use—the objective notion of SI; and the school as Territory, which produces intra- and extra-school relationships—the subjective notion.

This study draws on educational statistical data from the School Census—a tool that exposes the material attributes of schools as Space—and on the indicator proposed by Soares Neto et al. (2013) to analyze SI and the rights associated with Quilombola School Education (QSE).

Alves and Xavier (2018) argue that School Census items were not designed to describe the specificities of rural schools—especially those in differentiated localities—and that educational indicators associated with QSE are modest due to the marginality of public services provided, which Gonzaga et al. (2019) characterize as the statistical invisibility of these communities.

In academia, the relevance of school infrastructure to teaching–learning processes and student performance within QSE has been problematized, particularly regarding the reinforcement of a meritocratic, unequal, and racist educational model (Garcia et al., 2021; Gomes, 2022; Panta & Silva, 2024; Pinheiro, 2023).

However, studies that relate Census data applied to QSE—so as to contribute to the monitoring of public policies—remain scarce. Notably, academic discussions have addressed access and the number of institutions serving QSE around 2013 (Silva, 2015), as well as service provision for special education (Mantovani, 2017).

Although the National Education Guidelines and Framework Law (LDB), Law No. 9,394/96, and the currently valid National Education Plan (PNE) (Brazil, 2014) refer to ensuring a standard of School Infrastructure, this field is marked by a lack of effective monitoring processes for public policies related to SI and their implementation (Rocha, 2025; Soares, 2024; Santos, 2024). Accordingly, Santos (2024, pp. 20–21) emphasizes the relevance of incorporating “continuous evaluation and flexible adaptation” so that policies can be shaped to the dynamics of these communities, promoting “sustainable transformation.” From this perspective, analyzing educational indicators and legislation applied to QSE contributes to academic debate and to the evaluation of associated public policies.

The macro-level state commitment shaping the next decade is currently under consideration in the National Congress in the form of Bill (PL) No. 2,614/2024, which will establish the National Education Plan (2025–2035). The document forwarded to the Presidency of the Republic evidences concern for QSE.

The modality of Quilombola School Education, officially recognized since 2012, continues to face insufficient implementation of its guidelines. Quilombola schools contend with precarious infrastructure, a shortage of quilombola teachers, and limited provision of upper secondary and technical–vocational education. Moreover, they face significant barriers related to racism, discrimination, and insufficient resources to meet the specific needs of quilombola communities¹.

An analysis of the bill indicates that PL 2,614/2024 highlights QSE across several areas, articulated as “Objectives and Strategies,” including teacher education; curriculum; instructional materials; the pedagogical–political project; access and retention across educational levels; nutrition; and school infrastructure. Regarding the latter, the following provision is underscored:

1 Forwarding letter to the Presidency of the Republic EMI No. 000040/2024 MEC MF MPO, item 3.5.4, p. 6. Available at: https://www.planalto.gov.br/CCIVIL_03/Projetos/Ato_2023_2026/2024/PL/Exm/Exm-0040-24-MEC-MF-MPO.doc. Accessed on: October 31, 2025.

Ensure resources to strengthen and expand affirmative action and student assistance policies, and selection processes and infrastructure appropriate to different publics, so as to effectively promote access, participation, retention, and completion of undergraduate education for students in situations of socio-economic vulnerability, Black, Indigenous, quilombola, rural, riverine, and forest communities, those within the socio-educational and prison systems, and persons with disabilities. (Brasil, 2024, p. 33)

At this stage of legislative review, the text elevates QSE and other minorities to a new level of configuration, aiming to establish them as State policy. This represents progress relative to the PNE 2014–2024, which largely centered actions within the field of diversity.

In light of the above, the objective of this study was to analyze the profile of school infrastructure in schools serving QSE, using the School Infrastructure Scale (Soares Neto et al., 2013) in a longitudinal analysis from 2014 to 2024, in light of educational legislation. To achieve this objective, the following actions were undertaken: (a) analysis of normative acts related to SI in QSE; (b) determination of SI proficiencies for QSE over the specified period; and (c) interpretation of SI data in light of regulations aimed at serving students from remaining quilombola communities.

HISTORICAL FRAMEWORKS AND CONTEMPORARY PERSPECTIVES ON QUILOMBOLA SCHOOL EDUCATION

Currently, Brazilian institutional data report the existence of 1,327,802 people from remaining quilombola communities, representing 0.65% of the Brazilian population (Brazilian Institute of Geography and Statistics [IBGE], 2022). According to the School Census (2024), there are 2,569 schools located in remaining quilombola territories (Figure 1), with 272,018 enrollments across the following stages and modalities: basic education, youth and adult education, and vocational education. These figures indicate that 20.48% of the quilombola population is enrolled in regular basic education.

Figure 1

Distribution of schools providing Quilombola School Education



Note. Authors (2025). Adapted from the School Census (2024).

Technically, Quilombola School Education constitutes an expanding field of educational regulation. A set of regulatory legislations is highlighted: Law No. 10,639/2003; Resolution CNE/CEB No. 04/2010 and its amendments; Decree No. 6,040/2007; Law No. 12,288/2010; Opinions CNE/CEB Nos. 16/2012, 8/2020, and 03/2021; Law No. 14,723/2023; Decree No. 11,786/2023; and Resolution No. 17/2024, FNDE/MEC.

Particular attention is given to Opinion CNE/CEB No. 16/2012—which establishes the National Curricular Guidelines for Quilombola School Education (DCNEEQ)—as it addresses issues related to territoriality, identity, ethnicity, and the socio-environmental dimensions of quilombola communities. Accordingly, the Opinion emphasizes—regarding school infrastructure (SI)—that school buildings must be aligned with the set of rights required for formal education; that is, a specific school architecture is necessary to foster cultural and pedagogical spaces. The absence of such conditions leads students to seek less precarious physical structures, even when these are geographically and socially distant and disconnected from quilombola reality and tradition. The displacement of students from their territories generates the “justification” for the State to implement school consolidation (nucleation) policies².

In the DCNEEQ, Article 8 guarantees the principles of Quilombola School Education through several actions, including:

2 Nucleation is a process of deactivating schools for a period of five years and subsequently closing rural schools located in communities with low enrollment numbers, characterized as isolated or with poor infrastructure compared to neighboring schools. It centralizes education in a single hub, mostly in urban areas (Rodrigues et al, 2017).

- I. the construction of public schools in quilombola territories by public authorities, without prejudice to the actions of NGOs and other community institutions;
- II. the adaptation of school physical infrastructure to the quilombola context, considering the environmental, economic, and socio-educational aspects of each quilombo;
- III. the guarantee of accessibility conditions in schools. (Brasil, 2012, p. 64)

As complementary actions, the Direct Money to Schools Program (PDDE) stands out, focusing on physical improvements (MEC Resolution No. 05/2021), water supply and sanitation (MEC Resolution No. 02/2021), and equity (MEC Resolution No. 17/2024). These initiatives aim to improve physical and pedagogical infrastructure conditions, promote the reduction of educational inequalities, recognize diversity, and ensure inclusion within the school environment.

Indeed, a recent normative framework concerning quilombola communities—particularly in the field of education—can be observed, moving toward the construction of guidelines and legislation that promote and respect ethno-racial identity. In this sense, although still insufficient, it is impossible to deny advances and the growing normative protection of Quilombola School Education, with public policies of social and historical recognition stemming from the activism of the Black Movement (Gomes, 2022).

In this construction, it is important to highlight the III National Human Rights Plan (PNDH). Regarding this document, Rêses and Rocha (2019) point out that the State faces serious issues related to elitism and resistance to quilombola rights, concluding that combating discrimination is necessary but insufficient when carried out in isolation. In this regard, even when compensatory policies accelerate the construction of equality to foster the inclusion of groups considered vulnerable, “there is no longer room for a discussion that establishes a divide between economic conditions and racism, as both are interconnected” (Rêses & Rocha, 2019, p. 92).

Pinheiro (2023, p. 43) argues that merely drafting laws without the purpose of expanding rights is insufficient. For such laws to be valid, it is necessary “that their practice be observed in the daily life of society and Brazilian education.” Therefore, mechanisms must be created so that actions undertaken through public policies and legislation find material support and subjective consistency within social contexts.

It is essential to emphasize that, according to Rêses and Rocha (2019, p. 101), “understanding racism in a purely theoretical sense does not carry the same weight as that of those who live and comprehend racism in its concreteness,” and that the solution to this stance “can only be effective in praxis, through public policies and a change in mindset” (Rêses & Rocha,

2019, p. 101). Discussing racism in pursuit of fairer and more egalitarian societies is a necessary path; however, when detached from practice, solutions remain abstract.

The current challenge is to overcome the construction of a Brazil that, for more than a century, was shaped by the absence of public policies, imposed silence on denunciations, and ignored demands for rights. The tireless work of Black Movements throughout the twentieth century, and of activists such as Abdias Nascimento, triggered—albeit slowly on the part of public authorities—a process of recognition and implementation of rights.

In this context, although the 1988 Constitution addressed quilombola land rights (Brazil, 1988, art. 68) and the Third World Conference Against Racism, Racial Discrimination, Xenophobia, and Related Intolerance addressed the effective resolution of ancestral land territoriality (United Nations [UN], 2001, p. 41), a significant proportion of “land titling processes still underway” remains without concrete resolution for quilombola communities (Brazil, 2022, p. 19).

The absence of territory operates as a negative factor for quilombola communities. In this regard, Munanga’s (2020, p. 91) assertion is underscored: “either Brazilian society is democratic for all races and confers economic, social, and cultural equality upon them, or there is no democratic multiracial society.”

SCHOOL INFRASTRUCTURE

The concept of educational infrastructure is polysemic (Alves et al., 2018; Garcia, 2014; Garcia et al., 2017). The term encompasses the architectural design of schools, their educational and administrative environments, equipment and educational resources, as well as practices, curriculum, teaching and learning processes, and teacher training for the effective use of available resources.

Garcia (2014, p. 139) defines the concept as “a system of interrelated structural elements, including the school building, facilities, equipment, and services necessary to ensure the functioning of the school and to foster student learning.” Garcia et al. (2017) further argue that school infrastructure enables the creation and organization of learning environments and determines the extent to which the development of innovative capacity in activities can be influenced by teachers, according to how spaces and equipment are organized.

In this regard, we draw on the contribution of Soares Neto et al. (2013), who developed the School Infrastructure Scale, an indicator constructed from School Census data to interpret the educational environment of Brazilian schools. The categorization of school infrastructure proposed by the authors is methodologically grounded in Item Response Theory

and establishes four levels of infrastructure: elementary, basic, adequate, and advanced, with proficiency measured on a scale with a mean of 50 and a standard deviation of 10, as shown in Chart 1.

In the field of public policy, indicators can be understood as tools that provide transparency regarding the reality of a specific population, enabling monitoring by both public authorities and civil society with respect to social demands. From an academic perspective, they function as links “between the explanatory models of social theory and the empirical evidence of social phenomena” (Jannuzzi, 2017, p. 21). Other authors support Jannuzzi’s conception by associating indicators with concepts, contexts, and constructs (Neufville, 1979).

In this domain, it is essential to pay close attention to the “selection of indicators,” since “there is no formal theory that allows this process to be guided with strict objectivity” (Jannuzzi, 2002, p. 57). Nevertheless, it would be reductionist to assume that the formulation of an indicator alone is sufficient to ensure management aligned with societal needs. Such a view implies that indicators, by themselves, guarantee the quality of public management planning in Brazil, disregarding the fact that this management is complex, bureaucratic, and politicized.

Chart 1

School Infrastructure Scale

Level Proficiency	Elementary 0 – 50	Basic 50 – 60	Adequate 60 – 70	Advanced > 70
Concept	Schools that have only elementary infrastructure aspects necessary for basic school operation.	Schools that already have basic infrastructure typical of educational units.	Schools with more comprehensive infrastructure aimed at learning, including spaces that allow social interaction and motor activities, as well as equipment.	Schools at this level, in addition to the items present at previous levels, have more robust school infrastructure, closer to the ideal.
Examples of items anchored to the level	Water supply, toilets, electricity, sewage system, and kitchen.	Principal’s office, pantry, cafeteria, bathroom with shower, storeroom, administrative office, and equipment such as TV, DVD, multimedia resources, photographic equipment, computers, and printer.	Teachers’ room, library, computer lab, toilets for early childhood education, green areas, playground, covered and uncovered courtyard, sports court, sound system, auditorium, photocopier, and internet access.	Science laboratory and facilities suitable to meet the needs of students with special educational needs (classroom and toilet).

Note. Soares Neto et al. (2013).

METHODOLOGY

Initially, an analysis of the educational regulations related to Quilombola School Education (QSE) was conducted in order to identify evidence that reflects the specific infrastructure characteristics of schools serving students from remaining quilombola territories.

Additionally, data from the School Census spanning 2014 to 2024 were used—existing, consolidated, and publicly available national-level data—collected annually by the National Institute for Educational Studies and Research Anísio Teixeira (INEP). The School Census gathers statistical and educational information on Brazilian basic education with the aim of outlining the profile of schools. In this study, Census information referring to schools that serve students from quilombola communities was considered, identified by the value 3 (three) in the “Differentiated Location” variable of the School Census microdata. The sample comprised 2,569 educational units considered “active.” Regarding the items used in the analysis, a total of 32 school infrastructure items were selected.

To perform the analyses, the BILOG-MG and R software (mirt package) were used to calibrate the items through Item Response Theory (IRT), employing the two-parameter logistic model. Furthermore, for estimating the IRT parameters, three groups of schools were considered. Group 1—covering variables related to early childhood education and the early years of elementary education—included bathroom and playground variables and excluded the science laboratory and auditorium. Group 2 comprised schools offering the final years of elementary education and upper secondary education, excluding bathroom and playground variables and including the science laboratory and auditorium. Schools serving students from early childhood education through upper secondary education were classified as Group 3, in which all variables were used to identify the parameters.

The Statistical Package for the Social Sciences (SPSS 28.0) was also used to calculate descriptive statistics and to conduct a longitudinal analysis of the percentages of schools at each level of school infrastructure. It was further employed to relate the proficiencies obtained to the categorization of schools serving QSE into the elementary, basic, adequate, and advanced levels, according to the methodology adopted for the development of the School Infrastructure Scale (Soares Neto et al., 2013).

Finally, a comparative study of the percentages of QSE schools by level was conducted year by year, covering the years of the National Education Plan (PNE) 2014–2024, grounded in the regulatory frameworks applicable to Quilombola School Education.

RESULTS AND DISCUSSION

Considering the School Infrastructure Scale proposed by Soares Neto et al. (2013), an analysis was conducted using Item Response Theory (IRT) on the infrastructure items included in the School Census questionnaire for the period from 2014 to 2024, replicating the methods presented in the aforementioned study with the same level of rigor. However, when analyzing the proficiencies of the school infrastructure items present in the responses for the years 2023 and 2024, a different pattern of item grouping on the scale was observed. When the item scaling was recalculated according to the previously established cutoff points, the items exhibited proficiency levels different from those presented in Chart 1. Consequently, the items were repositioned in the updated School Infrastructure Scale (Chart 2).

It is important to emphasize that the method used for the analysis remained the same, with the consideration of some specific details: (i) the variables water, electricity, and sewage were analyzed in relation to supply provided by the public network; (ii) the DVD variable was excluded due to obsolescence and the excessive number of missing responses provided by the agents responsible for the information; (iii) photographic equipment and facilities for students with special educational needs, which had previously been considered, were not included in the 2023 questionnaire; (iv) the printer variable resulted from the merger of the printer and multifunction printer variables, based on observed response patterns; and (v) the kitchen variable, in both analyses, presented a low discrimination parameter (0.26358) and was therefore excluded from the analysis. Accordingly, the analysis was carried out by observing the behavior of the items described by the variables across three groups, and the parameters were generated jointly.

During the research process, the need to update the School Infrastructure Scale emerged as a key issue. Soares Neto and Castro had already pointed to the need to revisit this scale when noting that the variables were considered to have the “same adequacy for all segments” (Soares Neto & Castro, 2020, p. 1163). Furthermore, Jannuzzi (2017) highlights the need for periodic updating of social indicators and recommends that they be refined in relation to specific sociodemographic groups or groups in situations of vulnerability. Based on these arguments, we consider it pertinent to conduct studies that measure the formal and common dimension shared by all educational institutions, while also seeking to understand and assess other issues and structures necessary for the preservation and dignity of minority groups—among them, quilombola communities.

Chart 2*Updated School Infrastructure Scale*

Level Proficiency	Elementary 0 – 50	Basic 50 – 60	Adequate 60 – 70	Advanced > 70
Examples of items anchored at the level	Electricity Restroom Printer Internet	Water Pantry Principal's Office Sound System TV Computer	Sewage System Storage Room Accessible Restroom (PWD) Children's Restroom Covered Courtyard Playground Cafeteria Teachers' Room Multimedia	Green Area Library Restroom with Shower Science Laboratory Specialized Support Room Computer Laboratory Uncovered Courtyard Sports Court Photocopier and Auditorium

Note. Prepared by the authors.

Attention must be paid to the updates presented in Chart 1, which simultaneously highlight a new infrastructure scenario and the recent standardization of educational guidelines for Quilombola School Education (EEQ). In this sense, the infrastructure scale established by Soares Neto et al. (2013) and presented in Table 1 reveals that EEQ schools largely share a common characteristic: they are predominantly at the elementary level, with an average value of approximately 80% of all samples and a standard deviation of 2.24%, thus indicating only marginal changes in school infrastructure over the decade. With slightly positive data in the same period, the basic level increased by 7.2 points. However, increases at the adequate and advanced levels were minimal.

Table 1*Percentage distribution of Quilombola schools, 2014–2024 – Infrastructure Scale*

Year	Elementary 0 – 50	Basic 50 – 60	Adequate 60 – 70	Advanced > 70	Missing Data
2014	79,9	13,9	1,8	0,1	4,4
2015	77,3	16,4	1,8	0	4,5
2016	78,5	15,5	1,9	0,1	4
2017	78,9	16	1,9	0	3,2
2018	80,3	15	1,8	0	2,9
2019	81,3	14,7	1,6	0,1	2,3
2020	81,5	14,9	1,7	0,1	1,9
2021	82,1	14,8	2,1	0,1	1
2022	82,8	15	2,1	0,1	0
2023	80,6	16,2	3,1	0,2	0

2024	75,2	21,1	3,6	0,1	0
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Note. Prepared by the authors. Percentages reported as missing data refer to schools considered in operation that did not submit Census data in the respective year.

The percentages presented for each level and year—considered alongside the political, regulatory, and social contexts of each period—allow for an assessment of advances and potential setbacks in the physical conditions of Quilombola schools. In 2014—the starting point of the analysis—regulatory actions for EEQ established by the National Council of Education (CNE) in 2012 were still relatively recent.

First, it must be emphasized that over an entire decade the elementary condition of EEQ schools was scarcely dismantled. Despite the normative guidelines implemented during the Lula (2003–2011) and Dilma (2011–2016) administrations regarding Basic Education, the data indicate that material recognition did not reach Quilombola communities.

Key periods to highlight are 2014–2015 and 2018–2022. In the first interval, the data indicate variation between the elementary and basic levels—respectively, –2.5% and +2.6%—demonstrating an increase in infrastructure at the basic level in approximately 2.5% of schools. At the adequate level, stability is observed (1.8%), while the advanced level shows no presence (0%).

Between 2018 and 2022, the group of schools with missing data decreased from 4.4% to complete data coverage by 2022, resulting in variation at the elementary level due to the integration of information; however, there was no increase in the number of schools at the adequate level. Consistent with this pattern, the basic and advanced levels remained at 15% and 0.1%, respectively. Thus, access to information improved during this period, but there was no investment that translated into infrastructure improvements for these communities.

Conversely, the period from 2017 to 2022 shows a setback in the indices for the elementary and basic levels. In parallel, there was an increase in the proportion of elementary schools and a decrease in schools previously classified at the basic level, by 3.9 and 1.0 points, respectively. During the same period, stability can be observed at the adequate and advanced levels.

The data for 2022–2024 collectively indicate an improvement in EEQ infrastructure conditions. This scenario can be interpreted as reflecting the National Guidelines for Ensuring the Quality of Quilombola Schools (DCNEM) (Brasil, 2021), which state in particular that “Quilombola schools are guaranteed the right to operate in adequate buildings, with compatible physical infrastructure and continuous maintenance [...]” aiming at the “guarantee of the right to quality schooling” (Brasil, 2021, p. 54).

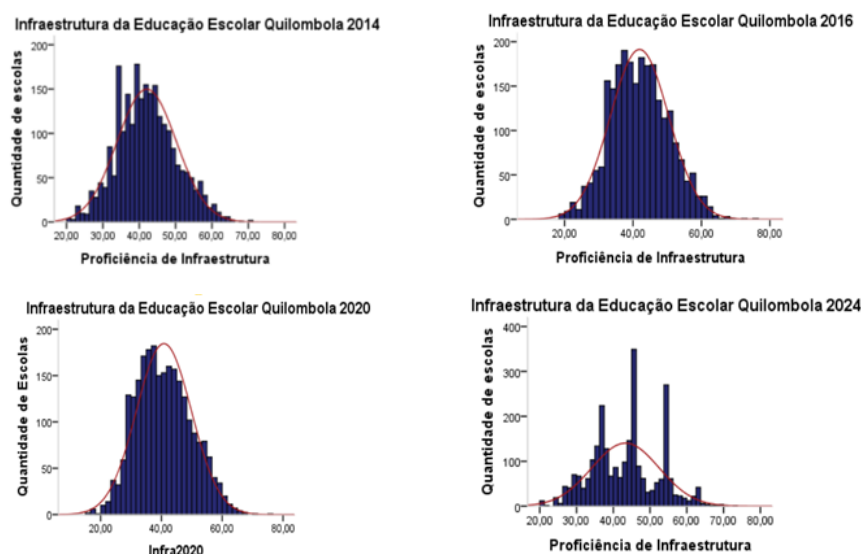
Focusing on the 2024 data, the elementary level remains predominant. However, at the basic and adequate levels, proportional increases of two to three times are observed when compared to the initial indicators of the decade, signaling a positive assessment of EEQ conditions in this respect.

It is important to note that the implementation in 2024 of the PDDE Water, Sanitation, and Infrastructure program and the PDDE Equity program may lead to an upward shift in metrics and scale levels for this educational modality, as water supply and sanitation are classified—under the updated scale—as structures present from the basic to the adequate levels. This hypothesis can be tested in the next Census analysis, as resource allocation and implementation are still ongoing.

From another perspective, the graphs shown in Figure 2 follow the same analytical scope as Table 1 and present the frequency distribution of infrastructure proficiency for schools located in Quilombola territories in the years 2014, 2016, 2020, and 2024, supported by a normal distribution curve. Notably, the peak proficiency across the first three years—2014, 2016, and 2020—was located along a continuum of approximately 38, 37, and 36, respectively, and increased to 46 in 2024. Although this peak still falls within the elementary level, it approaches the cutoff point for the basic level, and the second peak in 2024 is already within the basic level. These findings suggest indications of improved proficiency in the coming decade, provided that the attention reflected in the 2024 EEQ infrastructure data is sustained.

The results of the quantitative analysis based on Census data and the theoretical framework of Soares Neto et al. (2013) proved to be central to this study. First, they statistically confirm what qualitative studies have long indicated regarding the precarious physical conditions of Quilombola school education (Carril, 2017; Paré et al., 2007). Second, they allow for the recognition of changes—albeit modest—and encourage reflection. Over ten years of analysis, only in 2024 did the basic level achieve a minimally relevant configuration within EEQ.

Figure 2
Distribution of Proficiency in Quilombola Education, 2014–2024



Note. Prepared by the authors (2025).

Quilombola School Education (EEQ) remains within the nearly invisible boundaries of essential basic sanitation services—water supply, sewage, and electricity—that is, at the “elementary” level. Even so, it should be noted that several Brazilian schools may not fit this scenario, in which the provision of public services is the most viable alternative (Soares Neto, 2020). Depending on their location, these conditions may be limited and precarious. Measuring additional information beyond what is captured by the scale contributes to a diagnosis that, until now, has had little relevance for public policy. In this regard, we argue that other analytical lenses must also be considered, taking into account the distance between communities and schools, the urban context in which they are situated, as well as the location and access to resources of rural schools; such information can no longer be disregarded.

In parallel, we understand that the items presented in the Updated School Infrastructure Scale (Chart 2) must be examined and contrasted in light of public policies aimed at this educational modality. To what extent are current programs capable of providing internet access when institutions lack electricity or do not have computers?

One way to address this issue is to critically examine the items included in the Updated School Infrastructure Scale (USIS) (Chart 2). Such information requires confrontation with public policies directed at this modality of education. It is necessary to understand that the references analyzed in the USIS may approximate what is established as the standard of infrastructure quality already set forth in the National Education Plan (PNE) 2014–2024, with the aim of elevating EEQ to the “adequate” level. In other words, is it reasonable to assume that a

school can operate with a minimum level of quality and physical infrastructure without electricity; restrooms; printers and internet; water; pantry; principal's office; administrative office; sound system; television and computer; sewage; storage room; accessible restroom (PwD); children's restroom; covered courtyard; playground; cafeteria; teachers' room and multimedia resources; green areas; library; restroom with shower; science laboratory; specialized support room; computer laboratory; uncovered courtyard; sports court; photocopier; and auditorium?

In a simplistic analysis, perhaps the last two items could be considered dispensable; however, the remaining elements cannot be regarded as luxuries, as they represent fundamental dimensions for ensuring a smooth teaching-learning process and for meeting the mandatory technological requirements for inclusion in a capitalist and liberal society. Put differently, the set of items materialized in the Updated Scale corresponds to the minimum standards established by constitutional provisions. The items classified at the "advanced" level, for example, fulfill the constitutional mandate by ensuring "conditions of access to and permanence in school" and the "guarantee of a standard of quality," as well as "specialized educational support for students with disabilities, preferably within the regular school system," and the conditions necessary to promote "student support at all stages of basic education through supplementary programs of instructional materials, transportation, food, and health assistance" (Brasil, 1988).

This discussion also highlights the relevance of the immaterial dimension of EEQ—an often invisibilized aspect, yet one that is explicitly recognized in legal frameworks, as it underpins "the sense of belonging and group bonds built by quilombos" (Brasil, 2012, p. 14). While the Updated Scale includes items capable of enabling access to constitutional principles, a gap remains regarding how to address "respect for the ethno-cultural specificity of each community" and the "cultural diversity" that each Quilombola school requires to ensure that its pedagogical practices and forms of knowledge are respected and valued (Brasil, 2012, pp. 1–2).

Thus, a concern emerges indicating that, although physical and material data are relevant and essential for formal access to education, they are insufficient for EEQ. There is a need for a model that considers the interconnection between the school and the voices and leadership of the Quilombola community, and that integrates formal pedagogical and academic knowledge with traditional knowledge, ancestry, culture, food practices, aspirations, and historical struggles that affirm and construct Quilombola identity. We argue that this set—material, formal, and immaterial—can serve as an initial framework for preserving and strengthening EEQ. This triad materializes the subjective dimensions discussed by Viñao (2005) and represents an ideal to be pursued.

The high percentage of institutions lacking the minimum material resources necessary for meaningful learning is indefensible. The interpretation of these data further reveals that, in

2024, there remains a significant fragility in EEQ school structures—at the elementary level—demonstrating that legislation has not altered the concrete reality of these institutions and that school infrastructure has remained stagnant. This finding exposes the contradiction between legislative debate and the effective implementation of normative frameworks. According to Balibar (2021, p. 147), the use of “ethnicization, or the concept of the people, resolves one of the fundamental contradictions of historical capitalism—its drive for theoretical equality alongside practical inequality,” emphasizing that capitalism, as a historical system, crystallizes unequal educational opportunities within EEQ.

FINAL CONSIDERATIONS

The delayed recognition of EEQ—formalized only in 2012 through the National Curriculum Guidelines for Quilombola Education in Basic Education—articulated rights and protections that had been historically denied, including the rights to life, housing (territory), and social fields (food security, culture, environment, ethno-development, religion, and education). This milestone also opened space for reflection on the current conditions of school infrastructure within EEQ.

It is impossible not to interpret the results of this analysis as a continuation of structural racism, within a context in which the Brazilian State still operates largely as a bystander, given the minimal structural change observed over ten years of School Census data. The new “civilizational pacts” discussed by Bento (2022, p. 25) continue to be debated by the Black Movement, as they remain materially distant from the reality of Brazilian school institutions. In this regard, we align with Nascimento’s assertion that “the racial issue is fundamentally a national issue” and that there is a need for “a proposal for social organization in Brazil” grounded in the protection and preservation of historical and ancestral knowledge, culture, and ways of existence (Nascimento, 2019, p. 27).

Despite significant advances in legislation, academic debate, and the actions of social movements, the data presented in this study demonstrate that, during the period analyzed, there was no substantial progression in the EEQ infrastructure scale. This finding must be taken seriously, particularly in light of the forthcoming National Education Plan (PNE).

It is worth noting that the study by Soares Neto et al. (2013) captures formal and traditional dimensions that are established as the minimum standards within the school environment. However, in line with Alves et al. (2018), we argue that the assessment of infrastructure appropriate for Quilombola schools is not fully encompassed by the items included in the Census infrastructure scale. This constitutes a limitation of the present study, as the measurement of adequate infrastructure for Quilombola schools may not be reflected

in the scale's indicators. There is a set of immaterial guidelines rooted in history, values, and culture that define a differentiated conception of education, articulated in schools' Political–Pedagogical Projects and influencing their physical structures. From this perspective, questions for future research emerge: Can the infrastructure scale be considered valid for schools located in distinct contexts? Is it sufficient to merely update the scale to obtain IRT parameters that are more faithful to the EEQ context?

Consequently, pedagogical dimensions materialized through the “implementation of a Political–Pedagogical Project that considers the historical, cultural, social, political, economic, and identity-specific characteristics of Quilombola communities” (Brasil, 2012, n. 6), as well as teacher education and the access to and permanence of students with special needs, are neither perceived nor captured within assessments limited to basic and elementary infrastructure.

In this sense, it becomes necessary to investigate the specificities of the social organization of remaining Quilombo communities, which, if examined, may help construct the link identified by Jannuzzi (2017) between indicators and the concepts they represent. As a continuation of this study, we suggest combining quantitative dimensions with active listening to the EEQ educational community, as this approach may provide a formal and identity-based diagnosis that more closely reflects the needs and particularities of these populations. Such an approach would also enable ongoing monitoring of school institutions, facilitating new actions aimed at improving the quality of State intervention in EEQ education.

This may represent one of the paths for the Brazilian State toward “collective awareness” and effective “accountability” (Kilomba, 2019, p. 11). In this context, it is important to emphasize that such a scenario is not achieved solely through changes in the moral framework of society—however important these may be—but rather “when power structures are reconfigured,” determining which types of knowledge are considered valid and accepted, who produces them, and who is deemed entitled to access them (Kilomba, 2019, p. 13).

Finally, the evidence presented in this study should contribute to overcoming the normalization of discriminatory processes by making explicit that “racial conflicts are also part of institutions” and that they persist and materialize racism, as it is “an organic component” of society. This dynamic enables the invisibility, denial, and (sub)hierarchization of knowledge, existences, and presences through the structural role it plays (Almeida, 2021, pp. 39–47).

It is therefore necessary to debate the scope of each infrastructure level within the technological reality of the twenty-first century: What kind of quality do the elementary and basic levels represent in this context? What is effectively ensured through processes of minimal and formal permanence? What can be expected from a “neutral” and material scale when the objective is to guarantee physical and immaterial conditions intrinsically linked

to ethno-racial identity? These reflections must be approached from a dynamic framework that accounts for vulnerability and the denial of educational rights, while also recognizing the rich and vibrant existence of Quilombola communities—grounded in a unique sociocultural perspective and, above all, deeply rooted in resistance. This calls for complementary concepts, materialities, and symbolisms capable of recognizing the needs and modes of schooling specific to EEQ. Within this perspective, such dynamics go far beyond what is merely elementary or basic.

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