

## **Full-Time Education Program (PEI) and SDG 4.a: Challenges and Potential in São Paulo's School Infrastructure**

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## Programa de Ensino Integral (PEI) e o ODS 4.a: desafios e potencialidades na infraestrutura escolar paulista

### RESUMO

**Objetivo** – Analisar se as escolas do Programa de Ensino Integral (PEI) do Estado de São Paulo estão alinhadas à meta 4 dos Objetivos de Desenvolvimento Sustentável (ODS), especificamente à meta 4.a, que visa garantir infraestrutura escolar adequada, acessível, sensível ao gênero e promotora de ambientes seguros e inclusivos.

**Metodologia** – Adota-se uma abordagem qualiquantitativa, combinando análise documental das diretrizes do PEI e parâmetros arquitetônicos da Fundação para o Desenvolvimento da Educação (FDE) com dados estatísticos de órgãos como SEDUC, INEP e IBGE.

**Originalidade/relevância** – O estudo insere-se no debate sobre infraestrutura educacional e desenvolvimento sustentável, abordando a lacuna entre as diretrizes do PEI e os desafios práticos, especialmente em laboratórios, banheiros acessíveis e rotas inclusivas, contribuindo para a discussão sobre políticas públicas alinhadas à Agenda 2030.

**Resultados** – Os resultados indicam que, embora o PEI promova avanços na qualidade educacional, persistem deficiências na infraestrutura física, comprometendo a conformidade plena com a meta 4.a dos ODS.

**Contribuições teóricas/metodológicas** – O estudo reforça a importância de integrar análises documentais e dados quantitativos para avaliar políticas educacionais, destacando a necessidade de maior coerência entre planejamento e execução.

**Contribuições sociais e ambientais** – Evidencia a urgência de investimentos em infraestrutura escolar para garantir educação equitativa, inclusiva e sustentável, alinhando as políticas públicas locais às metas globais da ONU.

**PALAVRAS-CHAVE:** Ensino integral. Infraestrutura escolar. ODS 4. Inclusão escolar.

## Full-Time Education Program (PEI) and SDG 4.a: Challenges and Potential in São Paulo's School Infrastructure

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### ABSTRACT

**Objective** – To analyze whether schools in the Full-Time Education Program (PEI) in the state of São Paulo are aligned with goal 4 of the Sustainable Development Goals (SDGs), specifically target 4.a, which aims to ensure adequate, accessible, gender-sensitive school infrastructure that promotes safe and inclusive environments.

**Methodology** – A qualitative-quantitative approach is adopted, combining documentary analysis of the PEI guidelines and architectural parameters of the Foundation for the Development of Education (FDE) with statistical data from agencies such as SEDUC, INEP, and IBGE.

**Originality/Relevance** – The study is part of the debate on educational infrastructure and sustainable development, addressing the gap between PEI guidelines and practical challenges, especially in laboratories, accessible bathrooms, and inclusive routes, contributing to the discussion on public policies aligned with the 2030 Agenda.

**Results** – The results indicate that, although the PEI promotes advances in educational quality, deficiencies in physical infrastructure persist, compromising full compliance with SDG target 4.a.

**Theoretical/Methodological Contributions** – The study reinforces the importance of integrating documentary analysis and quantitative data to evaluate educational policies, highlighting the need for greater consistency between planning and execution.

**Social and Environmental Contributions** – It highlights the urgency of investing in school infrastructure to ensure equitable, inclusive, and sustainable education, aligning local public policies with the UN's global goals.

**KEYWORDS:** Full-time education. School infrastructure. SDG 4. School inclusion.

## Programa de Educación en Tiempo Completo (PEI) y el ODS 4.a: Desafíos y potencialidades en la infraestructura escolar de São Paulo

## RESUMEN

**Objetivo** – Analizar si las escuelas del Programa de Educación en Tiempo Completo (PEI)<sup>1</sup> del estado de São Paulo están alineadas con la meta 4 de los Objetivos de Desarrollo Sostenible (ODS), concretamente con la meta 4.a, que tiene por objeto garantizar una infraestructura escolar adecuada, accesible, sensible al género y que promueva entornos seguros e inclusivos.

**Metodología** – Se adopta un enfoque cualitativo y cuantitativo, combinando el análisis documental de las directrices del PEI y los parámetros arquitectónicos de la Fundación para el Desarrollo de la Educación (FDE) con datos estadísticos de organismos como SEDUC, INEP e IBGE.

**Originalidad/Relevancia** – El estudio se inscribe en el debate sobre la infraestructura educativa y el desarrollo sostenible, abordando la brecha entre las directrices del PEI y los retos prácticos, especialmente en laboratorios, baños accesibles y rutas inclusivas, contribuyendo al debate sobre políticas públicas alineadas con la Agenda 2030.

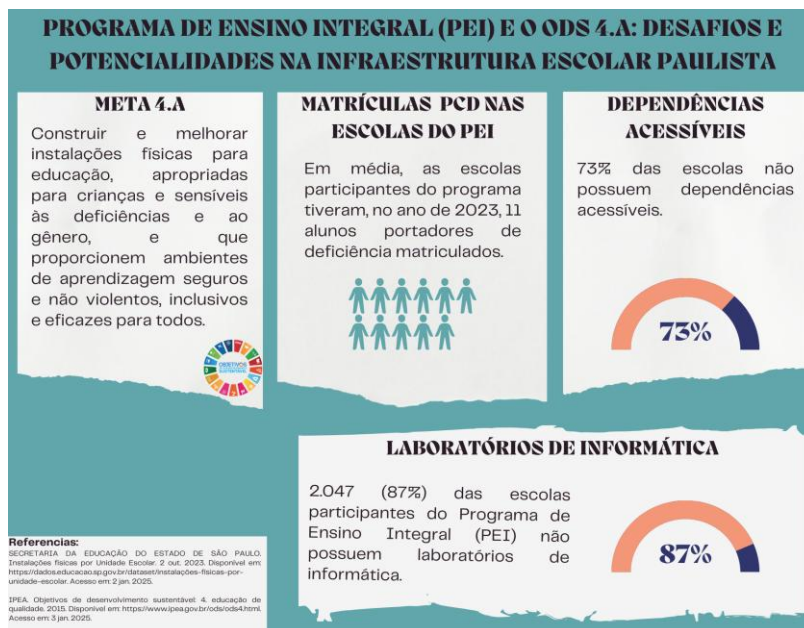
**Resultados** – Los resultados indican que, aunque el PEI promueve avances en la calidad educativa, persisten deficiencias en la infraestructura física, lo que compromete el pleno cumplimiento de la meta 4.a de los ODS.

**Contribuciones Teóricas/Metodológicas** – El estudio refuerza la importancia de integrar análisis documentales y datos cuantitativos para evaluar las políticas educativas, destacando la necesidad de una mayor coherencia entre la planificación y la ejecución.

**Contribuciones Sociales y Ambientales** – Pone de manifiesto la urgencia de invertir en infraestructura escolar para garantizar una educación equitativa, inclusiva y sostenible, alineando las políticas públicas locales con los objetivos globales de la ONU.

**PALABRAS CLAVE:** Educación integral. Infraestructura escolar. ODS 4. Inclusión escolar.

## GRAPHICAL SUMMARY



<sup>1</sup> Nota de tradução: Aquí hemos decidido utilizar “Educación a tiempo completo” porque priorizamos la alineación con las políticas globales. Algunos autores utilizan “Educación integral” para analizar específicamente el modelo pedagógico.

## 1 INTRODUCTION

This article discusses the Full-Time Education Program (PEI) of the State of São Paulo, included in Goal 6 of the National Education Plan (PNE) and the State Education Plan of São Paulo (PEE), relating it to Goal 4.a of the UN's 2030 Agenda, which highlights the importance of school infrastructure in ensuring inclusive, equitable, and quality education. Although the PEI is presented as a program of excellence and with growing participation by schools, there are gaps in school infrastructure, such as a lack of accessible bathrooms, adequate circulation routes, and computer labs, which compromise the program's alignment with Goal 4.a.

The PEI was implemented in the state of São Paulo in 2012, with the publication of Complementary Law No. 1,164, dated January 4, 2012, later amended by Complementary Law No. 1,191, dated December 28, 2012. The program guidelines emphasize civic education and student autonomy, with an emphasis on offering thematic laboratories, reading rooms, and spaces designed to promote interaction and learning (Government of the State of São Paulo, 2012; São Paulo State Department of Education, 2024). However, regular schools that adhere to this model lack adequate infrastructure, as verified in this research.

The program has the following aspects:

- 1) Full-time student program, with a comprehensive curriculum and a flexible and diversified structure; 2) a school aligned with the reality of young people, preparing students to achieve their Life Project and be protagonists of their own education; **3) infrastructure with themed classrooms, a reading room, science and computer labs;** and 4) teachers and other educators working full-time at the school. (Government of the State of São Paulo, 2012, p. 13, emphasis added, free translation)

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Physical infrastructure is an essential element in the teaching-learning process, especially in the context of a full-time school, whose minimum workload is 7 hours per day, and can reach up to 9 hours. In this scenario, the quality of physical spaces directly impacts the well-being and performance of students and teachers, one of the goals established by the 2030 Agenda.

In 2015, during the United Nations Summit on Sustainable Development, leaders from 193 countries approved Agenda 2030, a global commitment aimed at promoting balanced and sustainable development. This agenda sets comprehensive goals organized around five main pillars: people, planet, prosperity, peace, and partnerships (UN, 2015).

In addition, it defines 17 Sustainable Development Goals (SDGs), which address issues crucial to humanity and the planet:

1. End poverty in all its forms everywhere.
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
3. Ensure healthy lives and promote well-being for all at all ages.
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Achieve gender equality and empower all women and girls.
6. Ensure availability and sustainable management of water and sanitation for all.
7. Ensure access to affordable, reliable, sustainable, and modern energy for all.
8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
10. Reduce inequality within and among countries.
11. Make cities and human settlements inclusive, safe, resilient, and sustainable.
12. Ensure sustainable consumption and production patterns.
13. Take urgent action to combat climate change and its impacts.
14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt biodiversity loss.
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.(ONU, 2015)

In this article, we will address objective number 4, specifically item 4.a:

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. (ONU, 2015)

This objective can be broken down into four main aspects with regard to school facilities, which should be: adequate, accessible, promoting gender equality, and safe. In the context of physical facilities, IPEA (2015) provides a more detailed definition:

School infrastructure can be subdivided into two categories: i) physical: water supply, electricity, maintenance and cleaning of environments, classrooms, furniture, bathrooms, kitchen, common areas such as courtyards, parks and playrooms, libraries, laboratories, sports courts, teachers' rooms, coordinators' and principals' offices, secretariats, storerooms, etc.; and ii) teaching and learning equipment and materials: computers, televisions, overhead projectors, internet access, and other technological inputs. (IPEA, 2015, free translation)

The objective of this article is to analyze whether the physical facilities of schools participating in the PEI are aligned with goal 4.a of the 2030 Agenda. PEI schools were chosen as the subject of this study because, according to the program guidelines, they are presented as models of educational excellence and innovation, offering spaces that are suited to the demands of comprehensive education and citizenship training. (Government of the State of São Paulo, 2012)

[...] the Full-Time Education Program has defined a school model that provides its students, in addition to the classes included in the school curriculum, with opportunities to learn and develop practices that will support them in planning and executing their Life Project. Not only is the curriculum design of these schools different, but so are their methodology, pedagogical model, and school management model, as instruments for planning, managing, and evaluating the activities of the entire school community. (Government of the State of São Paulo, 2012, free translation)

To achieve this objective, the study was structured into five sections: introduction, presenting the context and relevance of the topic; theoretical framework exploring the relationship between goal 4.a and the school infrastructure of PEI schools; the methodology adopted, detailing the criteria and sources used; results and discussions on the topic, presenting

the data collected and challenges encountered; finally, the conclusion that summarizes the data found, aiming to broaden the discussion about the PEI and its relationship with goal 4.a established by the 2030 Agenda.

## **2 THEORETICAL REFERENCE**

Before delving into the topic of comprehensive education, it is worth briefly distinguishing between terms that are often confused: full-time schools that operate in a single shift covering the morning and afternoon, and comprehensive education, which focuses on the complete formation of the individual, encompassing the total development of their physical, moral, intellectual, and artistic abilities, as highlighted by Azevedo et al. (2010) in the Manifesto of the Pioneers of New Education in 1932.

The Law of Guidelines and Bases for Education in 1996 consolidates that a progressive extension of the school day is necessary for the comprehensive development of students and establishes a National Education Plan for the following ten years. The first PNE was enacted through Law No. 10,172, dated January 9, 2001, and set out priority objectives and goals for education, in particular the “priority of full-time education for children from the most disadvantaged social strata,” which aimed to “raise the overall level of education of the population” (Brazil, 1996; Brazil, 2001).

The PNE, sanctioned by Law No. 16,279 of July 8, 2016, has 21 goals for state education, ranging from basic education (elementary and secondary education) to higher education. The sixth goal concerns Full-Time Education (ETI) in the state:

Ensure comprehensive education at all levels and in all types of education and ensure full-time education in at least 50% (fifty percent) of public schools, in order to serve at least 25% (twenty-five percent) of students in basic education. (Legislative Assembly of the State of São Paulo, 2016)

The advances described, in particular the enactment of the 1996 Law on Guidelines and Bases, culminated in the creation of the PEI, whose main objective is to “develop autonomous, supportive, and competent young people, offering them spaces in which they can realize their personal and social potential.” However, despite its ambitions, the PEI faces significant challenges in terms of infrastructure adequacy, which will be analyzed in this study in light of goal 4.a of the 2030 Agenda. (Government of the State of São Paulo, 2012)

## **3 METHODOLOGY**

The research comes at a crucial moment: as we approach the deadline set by the 2030 Agenda, changes implemented in current educational policies make it essential to analyze PEI schools from the perspective of the 2030 Agenda. One of the changes that has taken place was the LDB, which has undergone significant changes in recent years, particularly through Law No. 14,945 of 2024, which increased the number of hours for secondary education from 800 to



1,000, divided into 200 school days per year, totaling 3,000 hours for this stage of education. (Brazil, 2024)

For this research, a qualitative-quantitative approach was adopted, combining a qualitative analysis of school infrastructure in terms of its adaptation to the 2030 Agenda with a quantitative analysis of school data and characteristics, such as the number of students and environments. The scope of the research is limited to the state of São Paulo and schools that have joined the PEI.

The research uses data provided by the São Paulo State Department of Education (SEDUC) through the Open Education Data platform, the Brazilian Institute of Geography and Statistics (IBGE), the National Institute for Space Research (INPE), the Anísio Teixeira National Institute for Educational Studies and Research (INEP), and the project parameters proposed by the Foundation for the Development of Education (FDE) as the basis for this analysis.

The parameters used for the infrastructure analysis were defined based on target 4.a, considering two items:

1. Adequate facilities: such as computer and science labs, library, and reading room;
2. Accessibility: accessible bathrooms and routes.

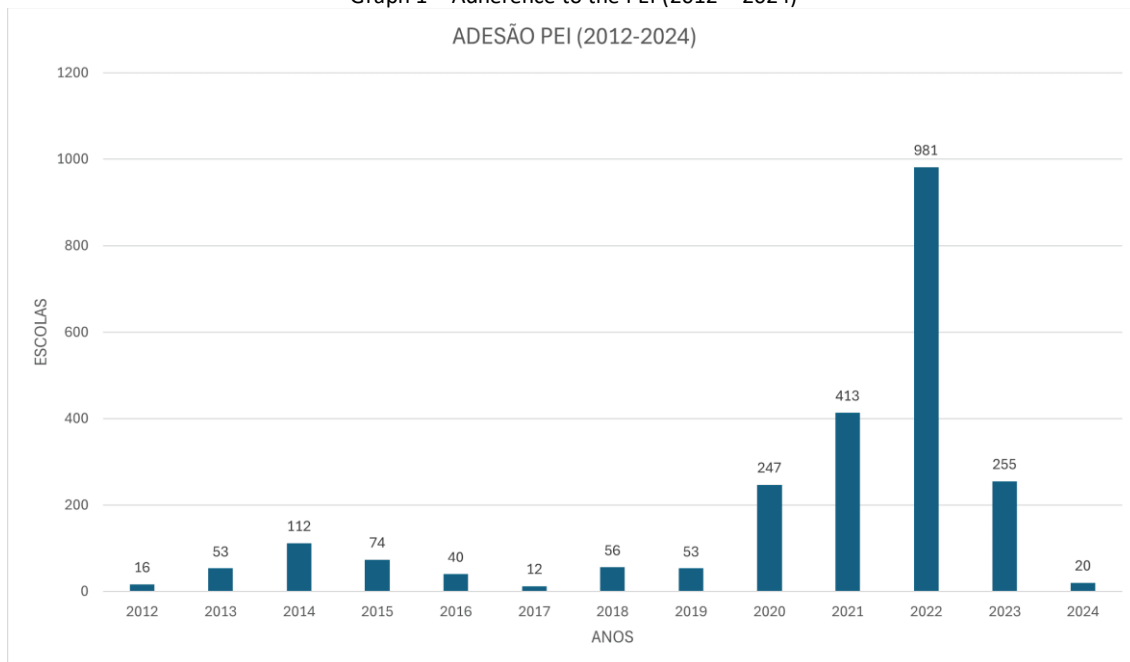
Documentary analysis will be used to interpret these data, in view of the program guidelines and architectural program proposed by the FDE. These aspects will be analyzed in light of the construction parameters defined by the FDE in conjunction with the goal of “building and improving physical facilities for education that are child-friendly and disability-sensitive.” (UN, 2015)

## **4 RESULTS AND DISCUSSION**

### **4.1 Overview of PEI Schools**

The PEI proposes a comprehensive school model that includes extended hours, a diversified curriculum, and optimized infrastructure. It began with 16 high schools in 2012. By the end of 2013, that number had jumped to 53, comprising 29 high schools, 22 elementary schools (final years), and two schools that served both elementary and high school students. In 2022, the program took a leap forward, with 981 state schools joining it, as shown in Graph 1 below:

Graph 1 – Adherence to the PEI (2012 – 2024)

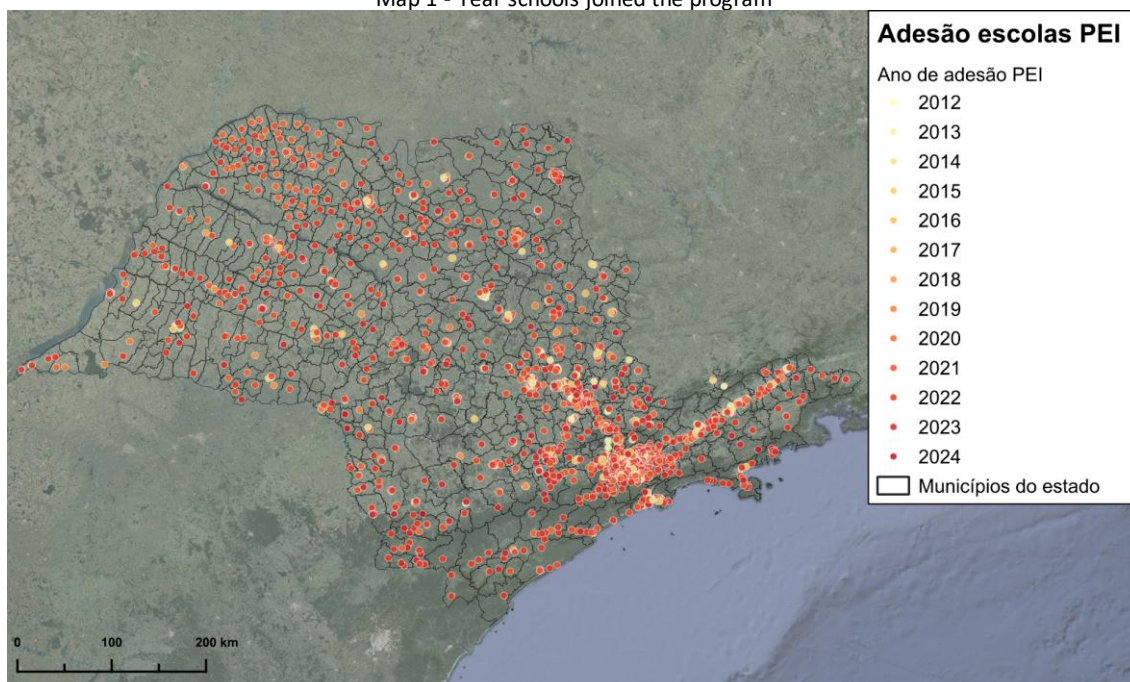


Source: São Paulo State Department of Education (2024).

Until 2024, there were a total of 2,332 schools participating in the program, spread across 496 cities in the state. Below, Map 1 shows the period of participation by schools, complementing Graph 1:

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Map 1 - Year schools joined the program

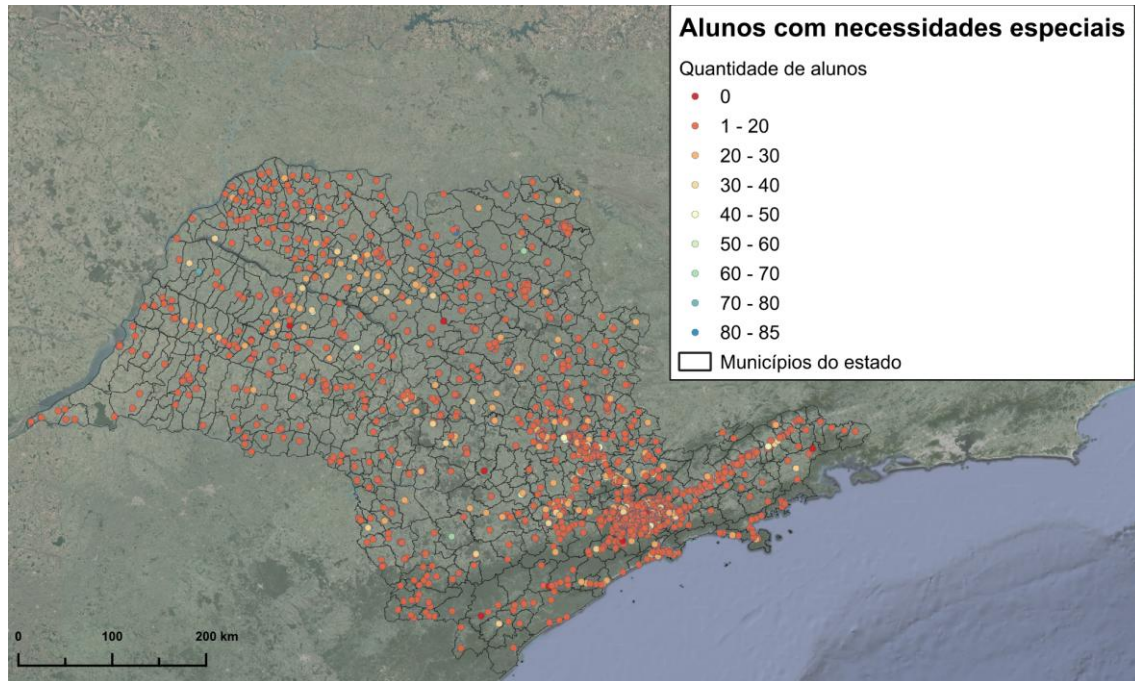


Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).



On average, schools participating in the program have 534 students. Regarding the enrollment of students with special needs, the average number corresponds to 14 students per school (São Paulo State Department of Education, 2024). The following map correlates the data obtained:

Map 2 - Year of school enrollment



Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).

As can be seen in the image above, most schools have at least one student with special needs. Given this, it is necessary to analyze the infrastructure of these schools.

#### 4.2 School infrastructure: accessible facilities

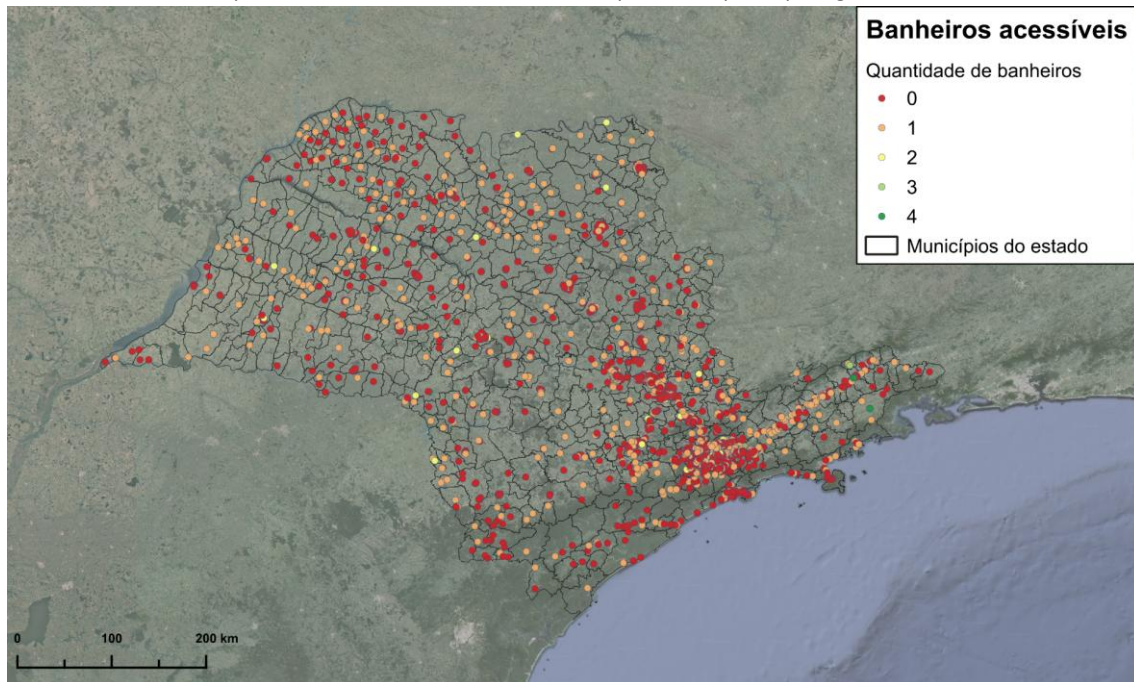
For there to be equity in access to education, school infrastructure must be adequate for all needs. As demonstrated by Vasconcelos et al. (2021),

It is up to the government to provide schools with the basic resources they need to carry out their activities with quality and to ensure that all students have access to an environment conducive to learning, thereby reducing inequalities in education. However, school infrastructure has a greater impact on school performance than public investment in education. (Vasconcelos et al., 2021, p. 892, free translation)

Given that school infrastructure is so important to the teaching-learning process, it is necessary to verify whether PEI schools have all the environments mentioned in the program guidelines. (Vasconcelos et al., 2021; Government of the State of São Paulo, 2012)

One factor that stands out is accessibility. A total of 1,342 schools participating in the PEI were identified as not having bathrooms accessible to people with disabilities, as shown in the map below. (São Paulo State Department of Education, 2023)

Map 3 – Number of accessible bathrooms per school participating in the PEI

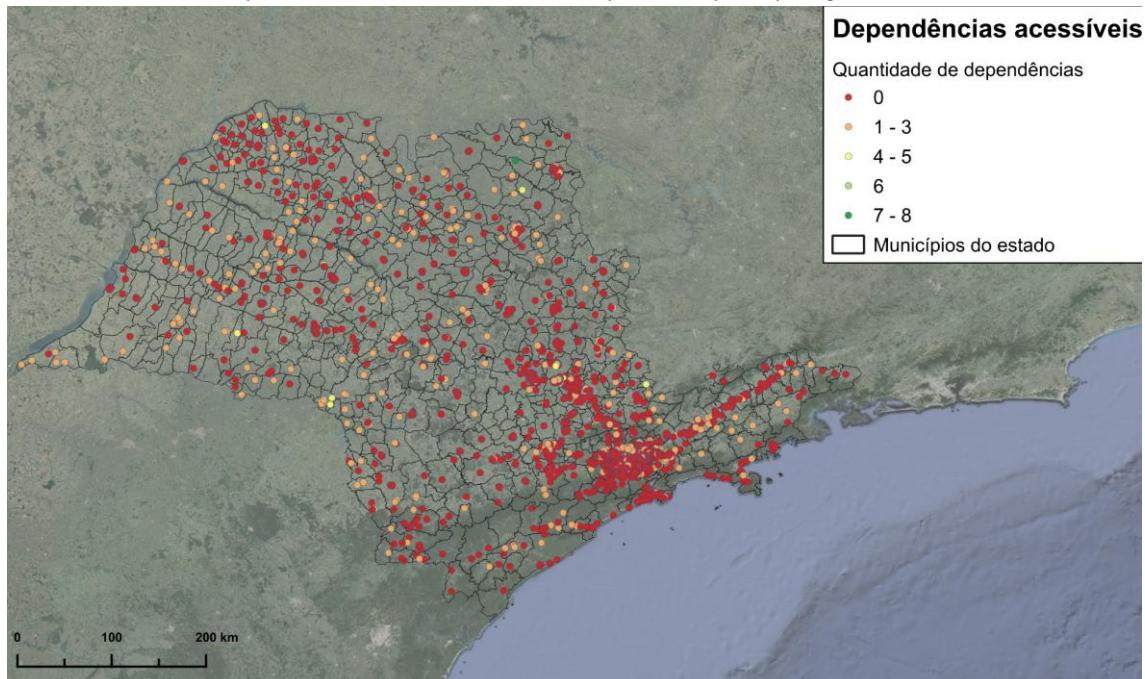


Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).

In addition to the issue of bathrooms, the São Paulo State Department of Education (2023) released data on the number of accessible facilities in schools, as shown in Map 4. It is important to note that the data does not specify whether these facilities refer to accessible classrooms, accessible routes, or a combination of these elements.

Analysis of the map reveals that 1,725 schools (73% of the institutions participating in the PEI) do not have any accessible facilities, showing that most of the schools in the program are not adequate for accessibility needs. (São Paulo State Department of Education, 2023)

Map 4 – Number of accessible facilities per school participating in the PEI



Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).

The lack of accessible environments in schools is concerning, considering that the workload can vary, reaching up to 9 hours per day, hindering the teaching-learning process and contradicting NBR 9050/2020, which establishes design criteria for adapting buildings to accessibility standards (Brazil, 2020). Furthermore, according to Martins and Pieczkowski (2024),

The impediment to circulating in collective spaces is based on ableist ideas, spread by power relations, in the view of disability as incapacity. Such views subjectivize people with disabilities to occupy the place of those who are in school as a result of the kindness of those who allow them to be there. (Martins and Pieczkowski, 2024, p. 14, free translation)

### 4.3 School infrastructure: learning environments

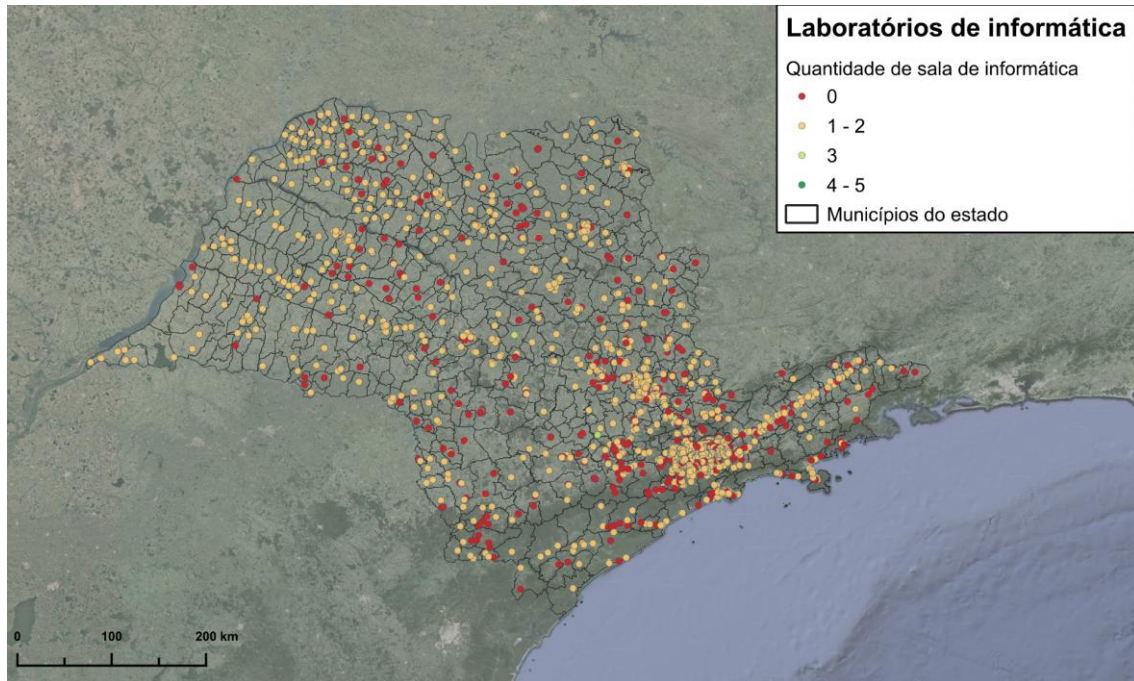
The teaching-learning process depends on many factors, including the teaching staff and teaching materials, among others. In addition to these factors, school infrastructure plays a fundamental role in this process. (Sabia and Sordi, 2021; Dias and Magagnin, 2015; Duran et al., 2016). According to Pezzetti (2020, p.227), “it is about integrally transforming improper buildings or banal containers that are the fruit of prefabrication logic”, converting it into genuine knowledge architecture. The argument traces a path from spaces that control people to ones that foster engagement and belonging (Blackwell and Yaneva, 2024). Additionally, it suggests that school buildings should open themselves to social interactions and spacial assemblage. (Dovey and Fisher, 2014)

With this in mind, the next step will be to assess whether the schools participating in the program have adequate environments for teaching, especially in the digital age in which we live. In absolute numbers, 586 schools participating in the program do not have computer labs, 1,667 have one computer lab, and another 68 and 11 schools have two and three computer labs,



respectively. The following map visually depicts the layout of the schools. (São Paulo State Department of Education, 2023)

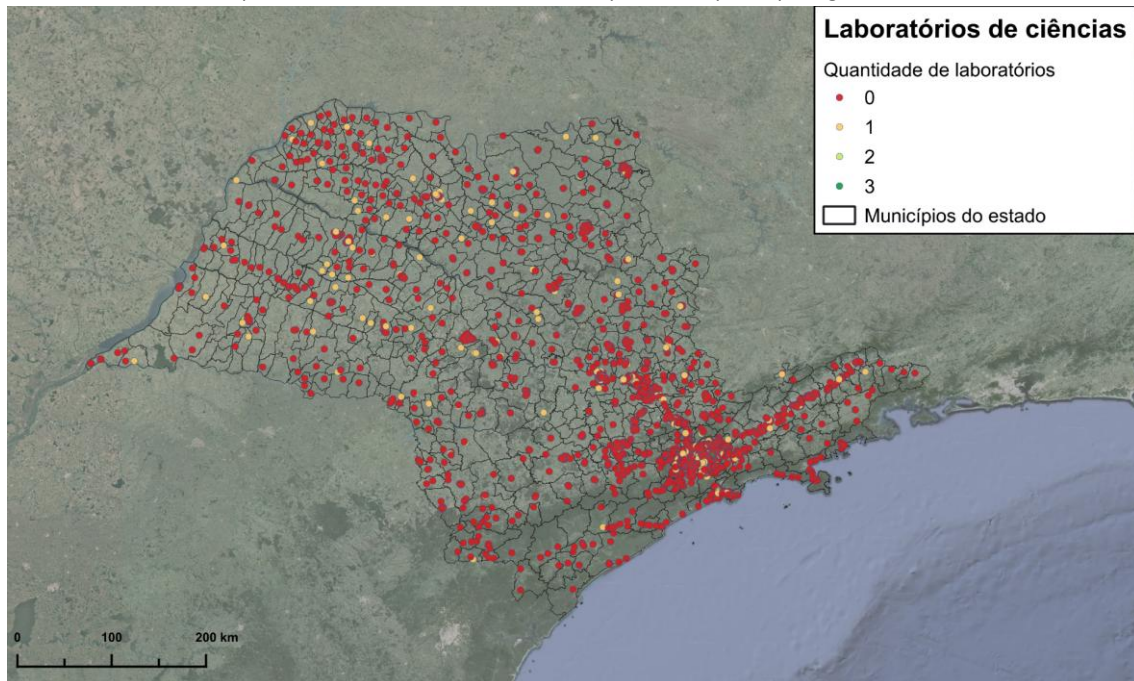
Map 5 – Number of computer labs per school participating in the PEI



Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).

The same phenomenon is repeated for science, physics, chemistry, and biology laboratories. Just over 87% of schools (2,047) do not have science laboratories, and 12% (280) of schools have only one laboratory, as shown in Map 6. (São Paulo State Department of Education, 2023)

Map 6 – Number of science laboratories per school participating in the PEI



Source: São Paulo State Department of Education (2023); Google (2025); IBGE (2023).

This situation extends to other laboratories, as shown in the following table: 96% (2,240) of PEI schools do not have biology laboratories.

Table 1 – Total number of laboratories per school

Laboratories	Schools without laboratories	Schools with 1 laboratory	Schools with 2 laboratory	Schools with 3 laboratory
Science	2047	280	4	1
Physics	2203	125	4	0
Chemistry	2176	154	2	0
Biology	2240	92	0	0

Source: São Paulo State Department of Education (2023).

The same phenomenon is repeated for science, physics, chemistry, and biology laboratories. Slightly more than 87% of schools (2,047) do not have science laboratories, and 12% (280) of schools have only one laboratory, according to Map 6. (São Paulo State Department of Education, 2023)

### 4.3 Considerations, challenges, and opportunities

The data presented show a worrying scenario regarding school infrastructure, especially in terms of accessibility, according to the guidelines established by NBR 9050/2020, as well as SDG target 4.a, which aims to “improve physical facilities for education [...] that are sensitive to disabilities.” (Brazil, 2020; UN, 2015). Although the goal was considered achieved, according to an assessment carried out by IPEA (2024), the reality observed in PEI schools, according to the data presented above, suggests challenges in fully meeting the goal in the present and for the future.



Among the main challenges identified in this chapter are critical issues of accessibility and infrastructure. The data reveal that 73% of schools do not offer adequate accessibility conditions, with 1,342 units that do not even have bathrooms accessible to students, thus hindering their full enjoyment of the school environment (São Paulo State Department of Education, 2023). In terms of infrastructure, there is a discrepancy between the requirements of the full-time education program and the reality of schools. Full-time education presupposes, in addition to extended hours, a diverse and well-equipped educational environment, in accordance with the guidelines established by the program. However, more than half of the schools analyzed do not even have science and/or computer labs.

Given this scenario, although there have been significant advances in meeting the established goals, the reality of PEI school buildings shows that educational equity has not yet been fully achieved. Despite the significant gap identified, there are concrete opportunities for improvement, particularly with the enactment of the National Education Plan (PNE) for the next decade. This process will prove fundamental for the consolidation of effective public policies to guarantee the right to education.

#### 4 CONCLUSION

The present study analyzed the relationship between the infrastructure of PEI schools and Target 4.a of SDG 4, which seeks to ensure adequate, accessible, and inclusive school facilities (IPEA, 2015). The research revealed that, despite the significant growth of PEI and its innovative pedagogical proposal, there are significant challenges in adapting its infrastructure, particularly regarding accessibility and the availability of adequate spaces for the teaching-learning process.

The data showed that 73% of PEI schools do not have accessible facilities, 57% lack adapted restrooms, which compromises equity and the inclusion of students with disabilities. Furthermore, 87% of schools do not even have one science laboratory, highlighting a misalignment between the program's guidelines and the structural conditions of the schools (Secretariat of Education of the State of São Paulo, 2023). These factors directly impact the quality of education and demonstrate the inadequacy of school infrastructure. However, the enactment of the PNE (National Education Plan) for the next decade represents an opportunity to address this issue on the required scale and implement the necessary infrastructure.

It is concluded, therefore, that for PEI to effectively fulfill its role as a model of educational excellence, it is essential that public policies be improved to ensure equity in access to quality education. To be considered achieved by 2030, the implementation of Target 4.a must be fully met, providing dignified and inclusive conditions for its students.

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**DECLARAÇÕES**

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**CONTRIBUIÇÃO DE CADA AUTOR**

- **Concepção e Design do Estudo:** Autores, conforme desenvolvimento (Vitor Luciano Pereira) e orientação (Maria Isabel Imbrunito) de pesquisa de mestrado.
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**DECLARAÇÃO DE CONFLITOS DE INTERESSE**

Nós, Vitor Luciano Pereira e Maria Isabel Imbrunito, declaramos que o manuscrito intitulado "**Programa de Ensino Integral (PEI) e o ODS 4.a: desafios e potencialidades na infraestrutura escolar paulista**":

1. **Vínculos Financeiros:** Não possui vínculos financeiros que possam influenciar os resultados ou interpretação do trabalho.
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