

Google for Education

# Future of the Classroom

Emerging Trends in K-12 Education  
Brazil Edition





## Our approach

This report is part of a series on the evolution of K-12 education and maps out current and emerging trends in classroom education. In collaboration with our research partner **Canvas8**, we conducted a global analysis spanning:

- Fourteen expert interviews with global and country-specific thought leaders in education
- Academic literature review focusing on the last two years of peer-reviewed publications
- Desk research and media narrative analysis across the education sector, including policy research and teacher surveys, as well as input from Google for Education representatives across the globe

We acknowledge that some of the areas discussed in this report are ones that overlap with Google-led products and programs. In order to maintain a focus on the research and studies presented, we've intentionally excluded them.

# Brazil is building educational foundations

Brazil's education system has faced difficult challenges. For example, although it invests 5.5% of its GDP on primary to tertiary education, the country's comparatively lower GDP-per-capita among OECD countries means that expenditure per student is one of the lowest.<sup>1</sup> And literacy and math scores are low, with over three quarters of students reaching the age of 15 unable to perform at the lowest competence level on PISA tests.<sup>2</sup>

But students are feeling positive about their futures. 72% of people aged 15-24 think their standard of living will be better than their parents', and the share of students who report being very satisfied with life is one of the highest among countries and economies participating in PISA.<sup>9 10</sup> After all, the country is focusing on increasing access to education for all – so everyone is able to build basic skills, such as reading and writing.

# 11.5 million

Brazilians over the age of 15 cannot read or write.

Brazilian Institute of Geography and Statistics (2017)<sup>3</sup>

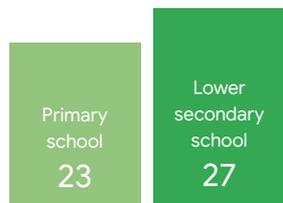


# Two thirds

of Brazilian public school teachers cite poor equipment as a reason for not using technological resources in the classroom.

All for Education (2017)<sup>5</sup>

# The Brazilian classroom at a glance



**23**

students is the average class size for primary schools, compared to the OECD average of 21. In lower secondary schools, it's 27, compared to the OECD average of 23.

OECD (2018)<sup>1</sup>



**69%**

of 15-19-year-olds in Brazil are enrolled in education, compared to the OECD average of 85%.

OECD (2018)<sup>1</sup>



**55%**

of Brazilian public school teachers use digital technology regularly in the classroom.

All for Education (2017)<sup>5</sup>

# Key Trends

From our [Global Report](#), we've analyzed three of the most prominent trends in Brazil's K-12 classrooms

## 01 Computational Thinking

Parents and teachers want students to develop problem solving alongside digital skills so they will be better prepared for future jobs.

## 02 Life Skills & Workforce Preparation

People want children to have a more holistic education that goes beyond standardized testing to include social and vocational skills.

## 03 Innovating Pedagogy

Motivated teachers have more engaged classes, and they want to streamline administrative tasks to focus on teaching.

**“Until 2017, Brazil didn’t officially have a document outlining learning outcomes for students. Basically, each school could teach whatever they wanted to. But we are now at the beginning of the process of making this document a reality in schools.”**

César Wedemann, Former CEO at QEdU, Brazil's largest educational data platform



# Computational Thinking

The OECD has highlighted that students entering schools in 2018 will face future challenges that can't even be predicted today.<sup>6</sup> And students are showing interest in these subjects – 85% of Brazilians aged 16-23 want to work in the tech sector, with 79% wanting to work at its 'bleeding edge.' Moreover, when looking for work, 94% of respondents report that a prospective employer's technological advancement would play a key factor in deciding where to apply.<sup>7</sup>

To give students the best start possible, schools are looking to help them develop a toolkit of computational skills, such as problem-solving, coding and a good understanding of STEM subjects. The idea is that these will prepare them for future technologies and challenges.



85%

of Brazilians aged 16-23 want to work in the tech sector.

Dell (2018)<sup>7</sup>

“STEM skills are utterly vital, even more than coding because it’s virtually impossible to teach yourself maths, but you can teach yourself coding, if you have good math and logic skills.”

Rachel Wolf, founding partner of Public First

One strategy that has been found to be effective by STEM Brasil, a science-and-math teacher training program, is using project-based learning. In this situation, students will collaborate on STEM based projects and work together to solve problems, while the teacher plays the role of facilitator. The practical session aims to promote the understanding of concepts and theory - which can be difficult to grasp.<sup>14</sup>

It has been training teachers in how to effectively teach STEM subjects in 17 Brazilian states since 2009, covering teacher training, kits of relevant materials, and online training and resources. It’s paying off. And it has a lasting effect while 84% of schools participating saw an increase of 20% in their students’ math grades, 88% of schools were still using STEM Brasil activities after the 2-year program period.<sup>8</sup>



**“We have tech start-ups aggressively seeking talent to work for them. So I think that, due to the market, people are starting to change their minds about STEM; they’re like, ‘Oh, this is important. Coding is relevant. You better learn it soon or you’ll be out of the market’.”**

– César Wedemann, Former CEO at QEdu, Brazil’s largest educational data platform



# Life Skills & Workforce Preparation

Brazil is focusing on preparing students for the future of work – by placing more importance on skills that will be important throughout their lives. This includes areas such as basic literacy and numeracy – though it is relatively low compared to other countries, the reading and math skills of Brazilian 15-year-olds have improved in recent years.<sup>2</sup>

To tackle this, the Base Nacional Comum Curricular (BNCC) was approved in 2017 – the first Brazilian public policy which states that every student from preschool to elementary school has the right to learn.<sup>11</sup> It establishes the knowledge, skills and abilities every student is expected to develop throughout basic schooling – helping to ensure that no one gets left behind.

# 3x

Brazil's national education plan has set a goal to triple the enrolment numbers in vocational education between 2014 and 2024.

OECD (2018)<sup>1</sup>

“I think globally, such as within communities, the UN, NGOs and governments, there is an openness to and greater understanding for the need for Global Citizenship Education, peace education and life skills.”

Nastaran Jafari, Independent International Education Consultant

The focus on future-proof skills is also why the government has set a goal of tripling the enrolment numbers in vocational education between 2014 and 2024.<sup>1</sup> Furthermore, the country is ensuring that student-teacher ratio in these programs is 13:1, compared with 26:1 in general programs. It has also introduced new guidelines for curriculum strategies that aim to shift the focus to active methodologies or a ‘learn-by-doing’ model’, rather than only passive pedagogies.<sup>12</sup>

And with attainment rates for secondary education soaring – the share of young adults (25-34 year-olds) who had gained least upper secondary education rose from 47% in 2007 to 64% in 2015, schools will continue to better prepare students for the world of work.<sup>15</sup>



**“People are starting to understand that education in social and emotional skills is important. While Brazilians acknowledge that schools have to focus on these skills, students today are still finishing school without being able to speak Portuguese properly. So how can they leave school prepared to more complex social challenges without even knowing how to speak the language?”**

– César Wedemann, Former CEO at QEdU, Brazil’s largest educational data platform



# Innovating Pedagogy

Motivation and support is key for teachers to thrive, so schools in Brazil are looking for ways to achieve this. With the top ways teachers get satisfaction from their is their contribution to student learning (72%) and social responsibilities (65%), highlighting the impact they can have on students lives is key.<sup>13</sup>

There is also an opportunity to listen to teachers' experiences to improve education. Brazilians teachers believe that if their opinion is heard, education in the country can improve. For example, 67% believe it will improve the working conditions of teachers, 65% think it would benefit the school performance of students and 59% think it will benefit the value of teachers by the school community.<sup>13</sup>



**55%**

of public school teachers in Brazil  
regularly use digital technology  
in the classroom.

All for Education (2017)<sup>5</sup>

“Lesson planning or marking are tasks that take a disproportionate amount of time. This is where I think tech can be leveraged to free-up time and allow teachers to do what they’re meant to be doing, which is teaching.”

Vikas Pota, Group CEO of Tmrw Digital and Chairman of the Board of Trustees of the Varkey Foundation

Technology can be harnessed as a tool to streamline the day to day, so teachers can focus on their classrooms and teaching methods. Yet while 55% of public school teachers in Brazil regularly use digital technology in the classroom, 54% report that they would use tech more if it would not increase their workload. Brazilian teachers cite inadequate infrastructure as the most common reason for limited technology use in the classroom; 66% citing poor equipment and 64% insufficient Internet speed.<sup>5</sup>

There is also room for more training – approximately 40% of Brazilian teachers have never taken general computer courses or digital technologies in education, and a mere 18% have had training for application development.<sup>5</sup>



“Teachers in the public sector have what they call pedagogical time. So once a week, or a maximum of every two weeks, they have to have this collective time during which they discuss what’s working, what’s not working, what they have to do, how they have to improve and so on.”

– César Wedemann, Former CEO at QEdU, Brazil’s largest educational data platform

**“Even though we still have really big issues to solve, if you take a look at the trends, you’ll see that we are getting better in education. My main concern is that we are not getting better as fast as we should. But I think it’s important for us to recognize that we are making advancements, even though they’re much slower and shallower than they should be.”**

César Wedemann, Former CEO at QEdU, Brazil’s largest educational data platform



Read the [Future of the Classroom: Global Edition](#) for insights across all 8 emerging trends



Digital  
Responsibility



Computational  
Thinking



Collaborative  
Classrooms



Innovating  
Pedagogy



Life Skills & Workforce  
Preparation



Student-led  
Learning



Connecting  
Guardians & Schools



Emerging  
Technologies

# Works Cited

- <sup>1</sup> OECD. (2018). Education at a Glance 2018. Retrieved from [https://www.oecd-ilibrary.org/education/education-at-a-glance-2018\\_eag-2018-en](https://www.oecd-ilibrary.org/education/education-at-a-glance-2018_eag-2018-en)
- <sup>2</sup> World Bank. (2018). World Development Report 2018: Learning to realise education's promise. Retrieved from <http://www.worldbank.org/en/publication/wdr2018>
- <sup>3</sup> Telefonica. (2018). Four alarming data on Brazilian education. Retrieved from <http://fundacaotelefonica.org.br/noticias/quatro-dados-alarmanes-sobre-a-educacao-brasileira/>
- <sup>4</sup> De Oliveira, V. (2017). Google, Lemann Foundation Invest \$6.4M to Deliver Lessons to Brazilian Teachers' Phones – EdSurge News. Retrieved from <https://www.edsurge.com/news/2017-04-03-google-lemann-foundation-invest-6-4m-to-deliver-lessons-to-brazilian-teachers-phones>
- <sup>5</sup> All for Education. (2017). What do Brazilian teachers think about digital technology in the classroom? Retrieved from <https://www.todospelaeducacao.org.br/conteudo/O-que-pensam-os-professores-brasileiros-sobre-a-tecnologia-digital-em-sala-de-aula/?pag=2>
- <sup>6</sup> OECD. (2018). The future of education and skills: Education 2030. Retrieved from [https://www.oecd.org/education/2030/E2030 Position Paper \(05.04.2018\).pdf](https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf)
- <sup>7</sup> (2018). Brazil's Generation Z aims for technology careers. Retrieved from <https://www.zdnet.com/article/brazils-generation-z-aims-for-technology-careers/>
- <sup>8</sup> STEM Brasil – Educando. Retrieved from <https://worldfund.org/site/stem-brazil/>
- <sup>9</sup> Full report | The Global Youth Wellbeing Index. (2017). Retrieved from <https://www.youthindex.org/full-report>
- <sup>10</sup> Education GPS – Brazil – Student performance (PISA 2015). (2015). Retrieved from <http://gpseducation.oecd.org/CountryProfile?primaryCountry=BRA&treshold=10&topic=PI>
- <sup>11</sup> Annual Report 2017 – Material – Fundação Lemann. (2017). Retrieved from <https://fundacaolemann.org.br/public/materiais/annual-report-2017>
- <sup>12</sup> Predictions for Edtech in 2019. (2019). Retrieved from <https://news.elearninginside.com/edtech-in-2019-experts-and-founders-around-the-world-share-predictions/>
- <sup>13</sup> Conselho de Classe – 1ª edição – Material – Fundação Lemann. Retrieved from <https://fundacaolemann.org.br/public/materiais/conselho-de-classe-1a-edicao>
- <sup>14</sup> STEM Brasil – Educando. Retrieved from <https://worldfund.org/site/stem-brazil/>
- <sup>15</sup> Education At A Glance 2018: Brazil. (2018). Retrieved from <http://gpseducation.oecd.org/Content/EAGCountryNotes/BRA.pdf>