



STUDENT  
CENTERED  
LEARNING



**Lemann**  
FOUNDATION

# STUDENT CENTERED LEARNING

**2020**

Collaborated in the elaboration of this report

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# INDEX

<b>INTRODUCTION</b> .....	4
<b>WHAT IS STUDENT-CENTERED LEARNING?</b> .....	4
<b>HOW DOES ONE IMPLEMENT STUDENT-CENTERED LEARNING?</b> .....	4
<b>REFERENCE PROGRAMS AND OUTCOMES</b> .....	13
1. New Classroom - Teach to One: Math (Tto) .....	13
2. Mindspark - Technology-Led Instructional Program .....	14
3. BARR (Building Assets Reducing Risks) Schools .....	15
4. Education Elements .....	16
5. Intervenção Data Teams .....	17
6. To & Through   On Track .....	19
7. PLACE - A Project Approach to Literacy and Civic Engagement .....	20
8. Schoolwide Enrichment Model - Reading (Sem-R) .....	21
<b>SUCCESS REQUIREMENTS</b> .....	22
<b>THE JOURNEY HAS JUST BEGUN</b> .....	24
<b>REFERENCES</b> .....	25

# STUDENT CENTERED LEARNING



## INTRODUCTION

In early 2019, the Lemann Foundation embarked on an investigative journey across the landscape of Brazilian public education system to understand how to scale a completely student-centric learning process.

As we pored over 200 projects and reference studies, we set out to answer questions such as: What does it mean for a teacher to personalize learning? What does a student-centered school look like? Does it make sense to use these approaches in Brazilian public schools? What is the role of digital technology in bringing student-centric learning to life?

This report presents an overview of student-centered learning, a proposal to define this term, an outline of guidelines for its implementation in the Brazilian public educational system, ten student-centric programs selected for their positive outcomes, and the conditions required for successful initiatives in Brazil.

The educational model of personalized learning—in which the learning process is focused on the student—may help solve some of Brazil's most daunting educational challenges, such as low levels of learning, high dropout rates, and the lack of enjoyment in teaching and learning. In addition, it may breathe new life in the discussion about using digital technologies combined with clear pedagogical objectives.

# STUDENT CENTERED LEARNING

## WHAT IS STUDENT-CENTERED LEARNING?

Student-centered learning or personalized learning<sup>1</sup> are terms used to describe different initiatives that foster learning experiences tailored to the specific needs, interests, and profiles of students and student groups. In this experience, the teacher's role is to structure and mediate the learning process to empower students with more autonomy and agency (at different levels, based on context), thus developing cognitive, social and emotional skills.

## HOW DOES ONE IMPLEMENT STUDENT-CENTERED LEARNING?

Even though there are numerous initiatives in line with this approach, one can identify them through the implementation guidelines (Image 1), which consist of seven elements that define **successful personalized learning programs**. These seven elements take learning beyond classroom walls and allow educators to focus on teaching students how to learn. What varies significantly across the reference programs selected is how much depth and importance is given to each element in each program.

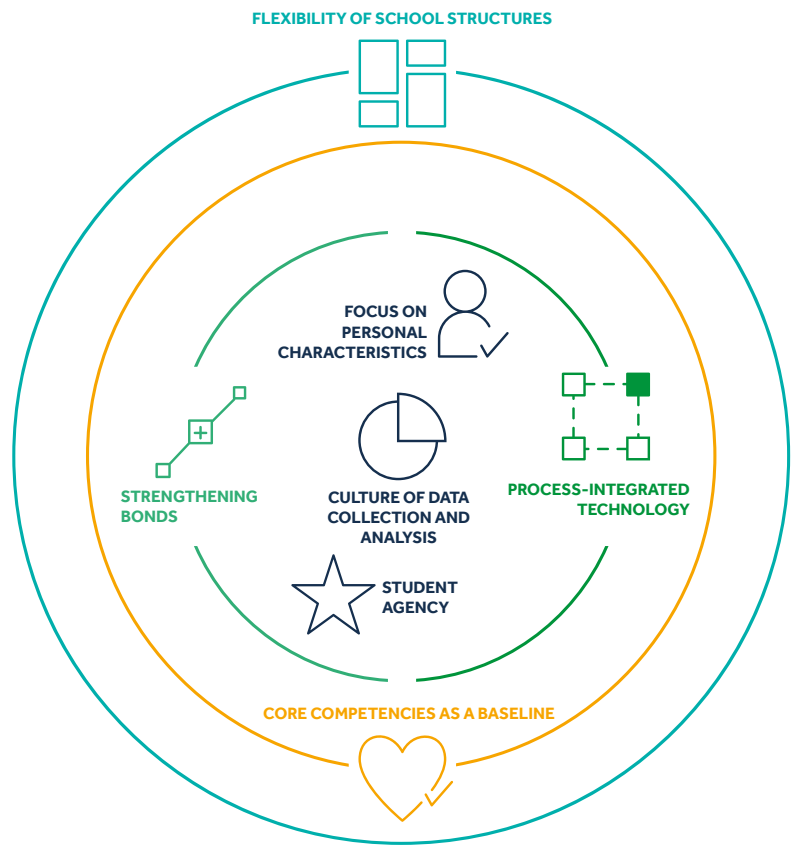


Image 1: The seven implementation guidelines

1 There is no consensus on the definition for either student-centered learning or personalized learning; the terms have been employed alternately as both synonyms and complementary opposites. We consider them as synonyms and make it a point of always following the term with an explanation.



1

## Focus on personal characteristics

Schools and educators establish learning paths according to students' learning needs, educational history, interests and/or socioeconomic context. Differentiated instruction<sup>2</sup> strategies are implemented, usually supported by digital data collection, processing tools and flexible teaching-learning structures that enable diverse groupings.

2

## Culture of data collection and analysis

Educators use data<sup>3</sup> (from assessments, school records and classroom observation) to determine students' learning needs and adapt teaching strategies accordingly. The goal is to support decision-making and generate improvement for schools to advance learning and student achievement.

3

## Student agency

Students lead and monitor their own learning process and teachers act as facilitators and mediators. From a methodology perspective, student agency is expressed through active learning methodologies—from the simplest, such as activities in pairs or group discussions, to the most complex, such as case studies, flipped classroom, project-based learning and democratic education. From this point of view, attributing relevance and meaning is one of the key factors to boost student engagement.

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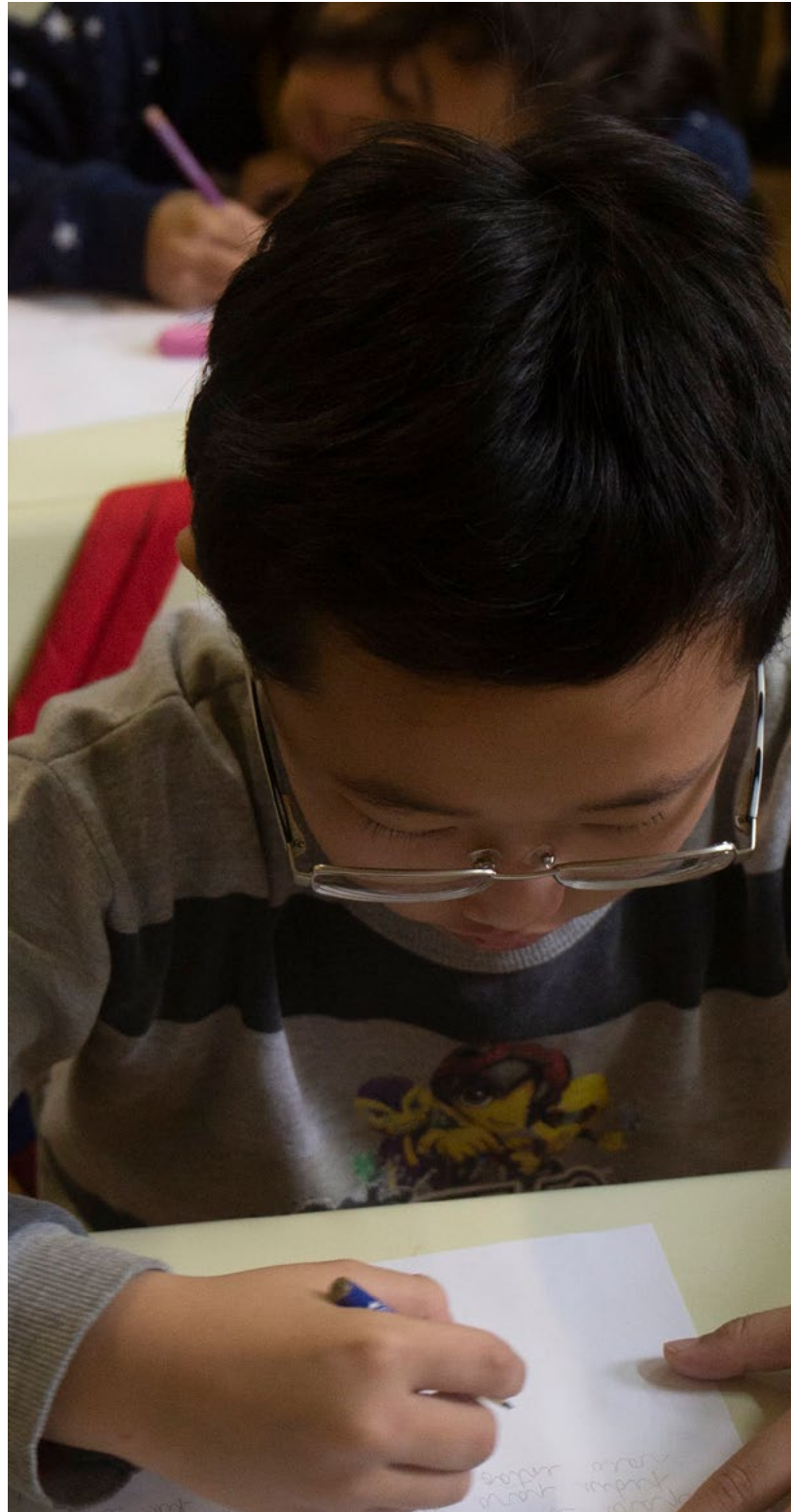
2 Differentiated instruction is a continuous decision-making process through which teachers diagnose the diversity among students and adapt instructional methods to ensure clarity, access, rigor and relevance at appropriate levels for each individual student. The main objective is to leverage individual strengths and surmount challenges that can hinder students' learning processes. By differentiating instructions, teachers create a classroom culture that bolsters feelings of autonomy, belonging, competence and meaning throughout the learning process. Source: BONDIE, R., ZUSHO, A. Differentiated Instruction Made Practical: Engaging the Extremes Through Classroom Routines. 2016. Available at: <https://www.amazon.com.br/Differentiated-Instruction-Made-Practical-Classroom/dp/0815370814>. Accessed on April 5th. 2019.

3 Educational data is the information collected and organized systematically to represent some school aspect. Source: POORTMAN \*, CL, SCHILDKAMP, K. Solving Student Achievement Problems with a Data Use Intervention for Teachers. 2016. Available at: <https://drive.google.com/a/fundacaolemann.org.br/file/d/1F415yMmENORGB-ZrnsUNY9KUEzivNYdB/view?usp=sharing>. Accessed on October 19, 2019.

# STUDENT CENTERED LEARNING

**NOTE 1:** Since there is a scarcity of studies explaining the extent to which autonomy can have a positive impact on learning, one has to tread carefully when proposing approaches encouraging student choice. Although the benefits of offering different options can increase motivation, research shows that negative effects can also arise from the possibility of choosing. Having too many alternatives from which to choose can lead to 'decision regret,' making the chosen option feel less satisfactory, as it requires one to pass up all the others.<sup>4</sup>

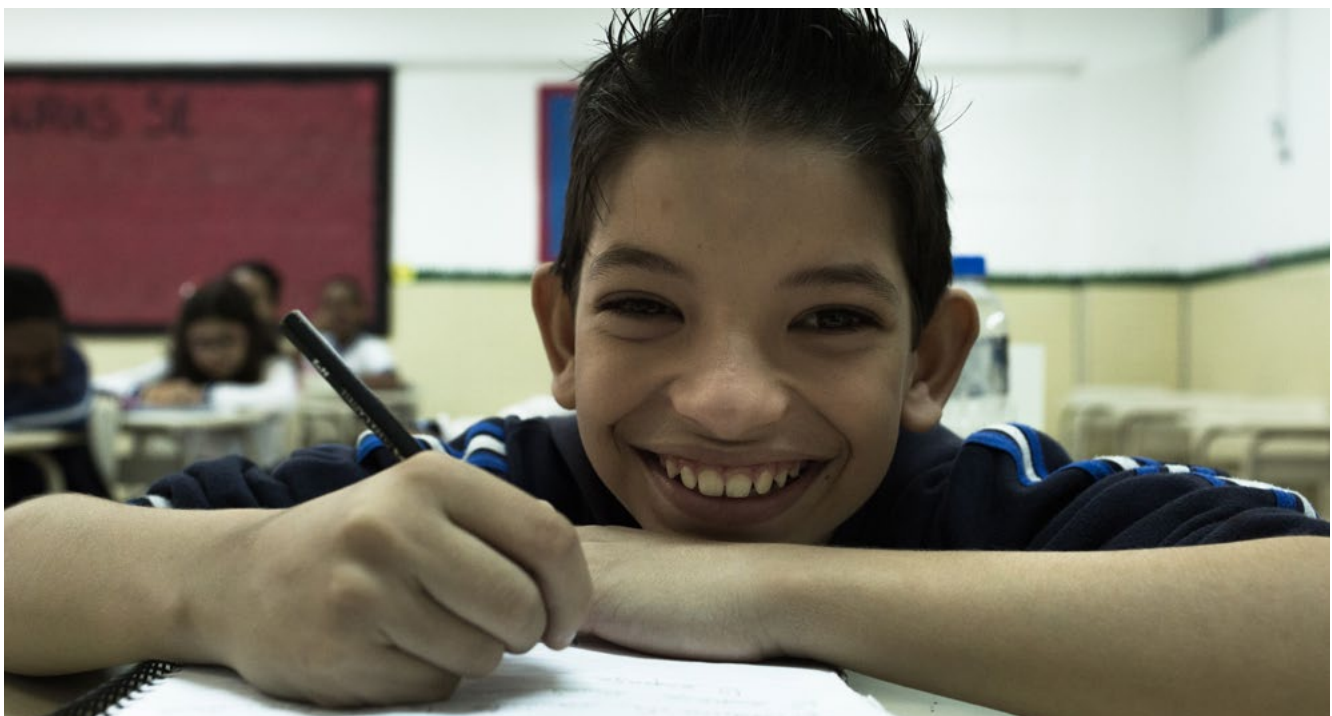
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- 4 Source: BEYMER, P., THOMSON, M. The Effects of Choice in the Classroom: Is There Too Little or too Much Choice? 2015. Available at: [https://www.researchgate.net/publication/280971252\\_The\\_effects\\_of\\_choice\\_in\\_the\\_classroom\\_Is\\_there\\_too\\_little\\_or\\_too\\_much\\_choice?enrichId=rgreq-877ba54a0d25a94c-cdafc625a7c7316f-XXX&enrichSource=Y292ZX-JQYWdlOzI4MDk3MTI1MjtBUzo3MjUxNTMONTc-2NTE3MTRAMTU0OTkwMTQ2NTY2Mg%3D-%3D&el=1\\_x\\_2&\\_esc=publicationCoverPdf](https://www.researchgate.net/publication/280971252_The_effects_of_choice_in_the_classroom_Is_there_too_little_or_too_much_choice?enrichId=rgreq-877ba54a0d25a94c-cdafc625a7c7316f-XXX&enrichSource=Y292ZX-JQYWdlOzI4MDk3MTI1MjtBUzo3MjUxNTMONTc-2NTE3MTRAMTU0OTkwMTQ2NTY2Mg%3D-%3D&el=1_x_2&_esc=publicationCoverPdf). Accessed on October 19, 2019.



# STUDENT CENTERED LEARNING

**NOTE 2:** Studies also suggest that students can be initially resistant to student-centered learning as they may feel overwhelmed by the constant need to set goals.<sup>5</sup> The cognitive effort undertaken by students in active methodologies can be perceived as an indicator that

they are learning less than they should, which affects their motivation, involvement, and the ability to self-manage their learning process.<sup>6</sup> One of the practices that can potentially prevent such negative views of the active learning process is **visible learning**.<sup>7</sup>



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5 Source: MATHEWSON, T. Personalized learning gives students a sense of control over chaotic lives. 2018. Available at: <https://hechingerreport.org/personalized-learning-gives-students-sense-control-chaotic-lives/>. Accessed on April 5th. 2019.

6 Source: DESLAURIES, L., McCARTY, L., MILLER, K., CALLAGHAN, K., KESTIN, G. Measuring Actual Learning Versus Feeling of Learning in Response to Being Actively Engaged in the Classroom. 2019. Available at: <https://www.pnas.org/content/pnas/116/39/19251.full.pdf>. Accessed on October 12, 2019.

7 According to Hattie (2009), visible teaching and learning occurs when teachers see learning through their students' eyes and help them become their own teachers. Source: <https://visible-learning.org/>.



# STUDENT CENTERED LEARNING

4

### Strengthening bonds

Collaborative learning experiences where educators and students support each other create significant bonds. **Personalized learning** can easily be reduced to individual learning through student-aimed instructional platforms. However, to make sure the learning objectives are didactic and to effectively meet students' cognitive, social and emotional needs, the approach needs to combine elements of autonomous individual learning, collaborative learning between peers, and individualized interaction between educators and students. This is known to generate more expecta-

tions and rigor in regards to learning, engagement, sense of belonging and social and emotional development.

5

### Process-integrated technology

When integrated with the other implementation guidelines, digital technologies allow **personalized learning** to be scaled and produce substantial results. There are different technology-enabled support systems for **personalized learning** that are categorized based on their general guidance and objectives:

## CHARACTERISTICS OF CUSTOMIZED LEARNING SYSTEMS

RESPONSIVE SYSTEMS			ADAPTIVE SYSTEMS	
CUSTOMIZED INTERFACE	LEARNING MANAGEMENT	DATA-DRIVEN	ADAPTIVE LEARNING	SMART TUTORING (under development)
Interfaces that invite students to customize their learning experience by selecting colors and avatars of their choice.	Platforms that automate a series of classroom management tasks. These may include students' ability to choose their own path by browsing through the material.	Systems that provide teaching resources in line with students' level of proficiency based on data collection. In general, these are structured based on a matrix of predetermined decisions.	Machine learning application allows for adaptation to students' behavior and skills based on data collection.	A proactive learning guide which can create questions or use facial recognition to respond to students' emotional states.

**Image 2** | Source: Personalized Learning: The Conversations We're Not Having, p. 6. Data Society. 2016. Available at: [https://datasociety.net/pubs/ecl/PersonalizedLearning\\_primer\\_2016.pdf](https://datasociety.net/pubs/ecl/PersonalizedLearning_primer_2016.pdf). Accessed on April 5th, 2019.

# STUDENT CENTERED LEARNING

Most of the reference programs mapped in this study are based on Learning Management Systems and digital diagnostic and formative assessment tools, which provide real-time learning data for teachers. The idea that most educators involved in **student-centered learning** programs use data to inform their **differentiated instruction** was corroborated by a recent IBM study on personalized learning programs.<sup>8</sup> However, the paper indicates that educators rely on data mostly for description and diagnostic purposes, as shown by the image below:

Differentiated instruction is a continuous decision-making process through which teachers diagnose student diversity and adapt their instructional methods to ensure clarity, access, rigor and relevance at appropriate levels for each individual student. The main objective is to leverage individual student strengths and overcome challenges that could hinder their learning process. By differentiating instructions, teachers create a classroom culture that promotes feelings of autonomy, belonging, competence<sup>9</sup> and meaning throughout the process.

Source: Rhonda Bondie, Akane Zusho, 2016 - Differentiated instruction made practical: Engaging the Extremes Through Classroom Routines. Available at: <https://www.amazon.com.br/Differentiated-Instruction-Made-Practical-Classroom/dp/0815370814>

## MOST TEACHING INSTITUTIONS HAVE ONLY USED LIMITED DATA ANALYSIS RESOURCES



**Image 3** | Circle size indicates the number of responses; dotted circles have had no response.

8 Source: IBM Personalized Education: From Curriculum To Career With Cognitive Systems. 2016. Available at: <https://www.ibm.com/thought-leadership/technology-market-research/personalized-education-quiz/dist/files/ibm-white-paper.pdf>. Accessed on October 18, 2019.

9 From this perspective, the meaning of 'competence' is in line with the definition proposed by the National Learning Standards - in simple terms, understanding how to apply theoretical and practical knowledge, recognizing its importance to effectively meet the current demands of the contemporary world.

6

## Flexibility of school structures

Schools must optimize resources (staff, facilities, class schedules, and time) in a flexible way to promote **personalized learning** and to meet the needs, interests, and learning pace of each student or student group. To roll out this method, classroom organization and size are planned in advance in order to group students in multi-age classrooms, e.g., according to their needs as evidenced by data collected previously.

7

## Core Competencies as a Baseline

Teaching students how to learn and succeed in an ever-changing world requires comprehensive competencies<sup>10</sup>. This is the primary objective of **student-centered learning** initiatives. Therefore, a common core with learning objectives based on explicit and measurable competencies is the starting point for any program linked to this approach.

**OBSERVATION:** Mastery-based learning is a characteristic and even a requirement for efficacy in some of the programs analyzed, including Teach to One: Math, carried out by US-based organization New Classrooms. It can avoid the so-called 'Iceberg Problem' phenomenon (Image 4), that occurs when only a small portion of what students learned is visible, while most of the information is hidden below summative assessments. According to New Classrooms, students are often unable to keep up with content from their grade due to unfinished learning gaps accumulated from previous years, which cumulatively hinders their performance. However, this condition is based on the premise that concepts and skills are progressive and a hierarchy exists between competencies, which is already evident in math. In order to affirm that the same applies to all areas of knowledge in the National Learning Standards (BNCC), a thorough and specific academic study would be necessary.

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10 From this perspective, the meaning of "competence" is in line with the definition proposed by the National Learning Standards - in simple terms, understanding and knowing how to apply theoretical and practical knowledge, recognizing its importance to effectively meet the current demands of the contemporary world.

THE ACCUMULATION OF LEARNING GAPS CAN BE CALLED 'THE ICEBERG PROBLEM'

Only a small portion of the iceberg is visible, while most of it remains hidden below the water's surface.

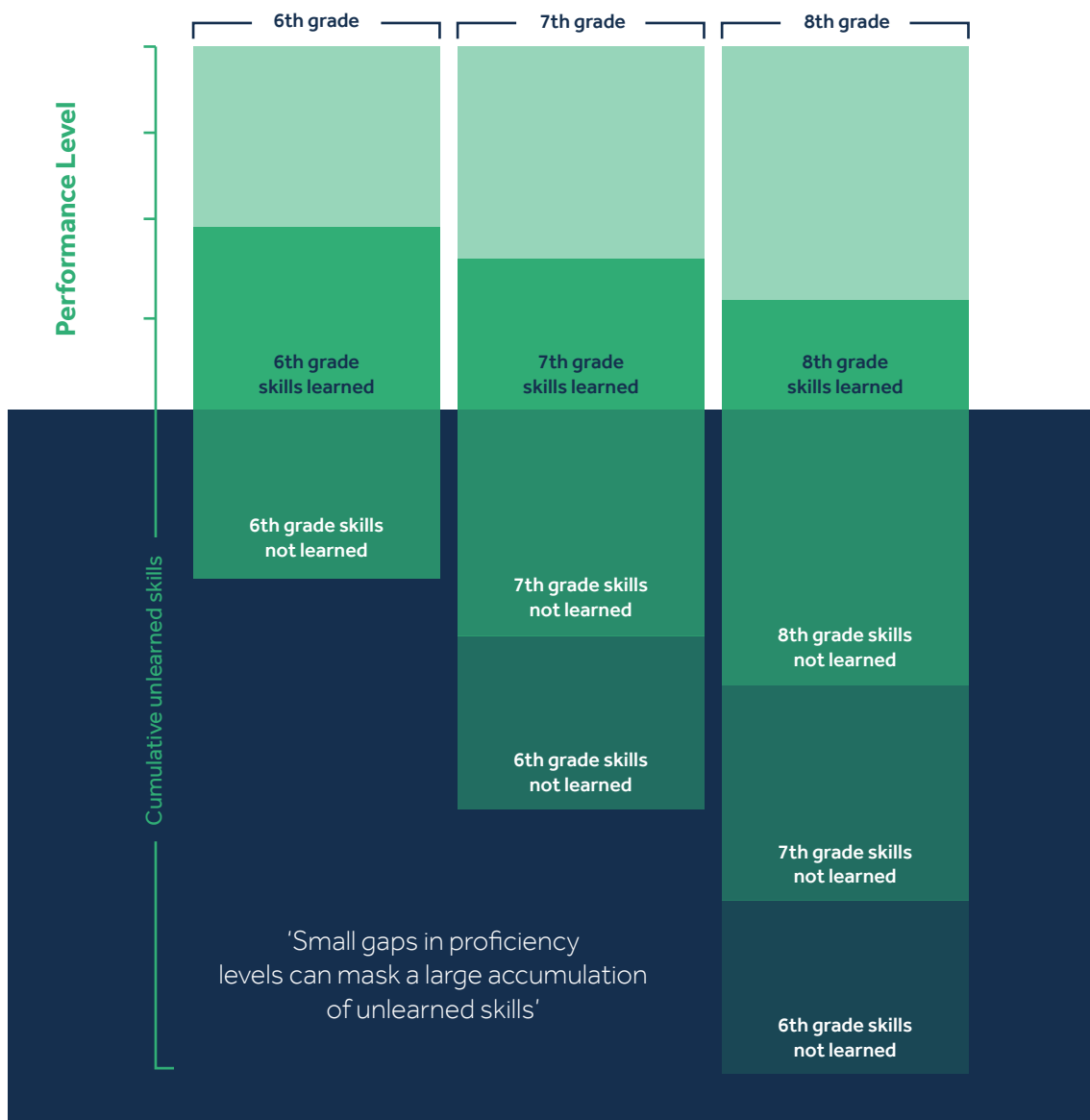


Image 4 | Source: New Classrooms. The Iceberg Problem. Available at: <https://www.newclassrooms.org/icebergproblem/>. Accessed on October 20, 2019.



## REFERENCE PROGRAMS AND OUTCOMES

Among the 15+ programs subjected to case studies and impact assessments, eight were underscored for their relevant findings or roll-out characteristics.

### 1. NEW CLASSROOM - TEACH TO ONE: MATH (TTO)

**PROGRAM DESCRIPTION:** This math teaching model promotes interaction between teachers, students, and content in such a way that every student's learning experience becomes more personalized. By combining direct instruction technology, group work, and individualized learning, TtO ensures that students learn at their own pace and study topics in line with their level of knowledge. At the end of each day, students are assessed for their mastery of the material and individually personalized lesson plans are prepared for the next day with the help of digital technology

**TARGET-AUDIENCE:** 6th, 7th and 8th grade students

**LOCATION:** New Jersey, United States

#### **OUTCOMES:**

##### **LEARNING INCREASE:**

Three years into the program, learning increased by 20 percentage points at the school level, 23% higher on average than the control group of US students. Schools that opted to measure learning by observing **learning growth** had even larger gains than schools that only measured students' final performance in standardized district exams. In this case, there was an increase of 38 percentage points at the school level, which represents 53% more growth than the control



The MAP® Growth™ digital diagnostic and formative assessment tool created by US-based organization NWEA uses a learning variation index to assess students' development between diagnostic and formative assessments. The learning variation is demonstrated by specific indicators on the student level based on their starting and ending points with regards to the common curriculum.

# STUDENT CENTERED LEARNING

group of US students.

**SOURCE:** Margrady Research. Three-Year MAP Growth at Schools Using Teach to One: Math. (2019). Available at: <http://margrady.com/wp-content/uploads/2019/02/Three-Year-MAP-Growth-at-TtO-Schools.pdf>. Accessed on June 10, 2019.

## 2. MINDSPARK - TECHNOLOGY-LED INSTRUCTIONAL PROGRAM

**PROGRAM DESCRIPTION:** Digital software that evaluates each student's learning level and personalizes the material, adapting it for individual level and learning pace. The tool can be operated on- and offline and implemented in classrooms, after-school periods or self-directed learning. In the study we analyzed, 619 students from secondary school were split into two groups, control and treatment. Students from the treatment group attended the after-school activity center with a voucher that granted them six extra classes per week (90 minutes per day each), over a period of four and a half months. It was a self-guided learning study in the Mindspark software and teachers provided instructional support for groups of up to 12-15 students.

**TARGET-AUDIENCE:** secondary school students

**LOCATION:** Delhi, India

**OUTCOMES:**

**LEARNING INCREASE:** After four and a half mon-

ths, students in the program performed twice as well on the math test and 2.4 times better in Hindi. In the first study, there was no attempt to distinguish the impact of the program's three separate elements (Mindspark software, group lessons and extra instruction time given by teachers). However, an experimental comparative analysis was conducted to evaluate the impact of a similar program that did not use any software. The outcomes of this program were not positive, which suggests that adaptive digital technologies are relevant.

**SOURCE:** MURALIDHARAN, K., SINGH, A., GANIMIAN, A. J. Disrupting Education? Experimental Evidence on Technology-Aided Instruction in India (2018). Available at: [https://econweb.ucsd.edu/~kamurali/papers/Working\\_Papers/Disrupting\\_Education\\_\(Current\\_WP\).pdf](https://econweb.ucsd.edu/~kamurali/papers/Working_Papers/Disrupting_Education_(Current_WP).pdf).



# STUDENT CENTERED LEARNING

## 3. BARR (BUILDING ASSETS REDUCING RISKS) SCHOOLS

**PROGRAM DESCRIPTION:** Pedagogical model with an approach based on leveraging data and strengthening relationships to meet students' academic, social and emotional needs. One of the key elements was restructuring the ninth grade into teams composed of three or four teachers and a school counselor, who oversee a group of students by collecting data via digital platforms to affect instructional changes and provide non-academic support when necessary.

**TARGET-AUDIENCE:** 9th grade students

**LOCATION:** United States

**OUTCOMES:**

**LEARNING INCREASE:**

In a randomized controlled trial conducted with over 1,200 students, 78.6% of BARR students achieved the expected growth in math, versus 71.7% of non-BARR students. In reading, the outcome was 73% versus 67%. In a school year at California's Hemet High School, 50% of freshmen were taught using the

BARR model, while the other half was taught using the school's traditional approach. In average, BARR students attained the equivalent of a two-year growth in math. Non-BARR students achieved the equivalent of one year's growth.

**INCREASE IN APPROVAL RATES:** Failure rates dropped 40% after one year of BARR in urban schools and 29% in rural schools.

**INCREASED IN LEARNING EQUITY:** There was a reduction in the gap between the outcomes of "non-white" students and students who do not pay for lunch (or pay at a discount) compared to white students and students who pay for lunch.

**SCHOOL CLIMATE IMPROVEMENT:** BARR teachers reported higher levels of collaboration, data use, and school support, as well as better expectations regarding students' behaviors.

**SOURCE:** American Institutes for Research, Impacting 9th Grade Educational Outcomes: Results from a Three-Year Randomized Controlled Trial. (2018). Available at: <https://www.barrcenter.org/wp-content/uploads/2018/03/AIR-SREE-2018-BARR.pdf>. Accessed on June 10, 2019.

### LEARNING INCREASE ONE YEAR INTO THE BARR PROGRAM

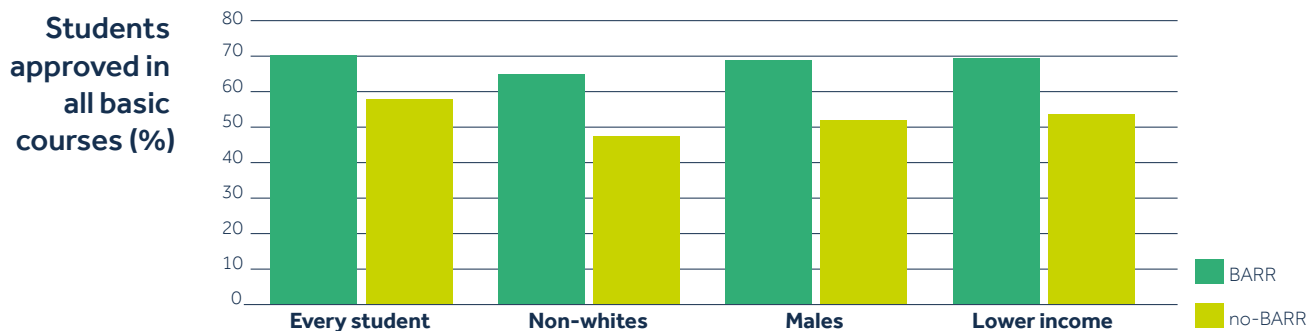


Image 5 | Approval rates increase one year into the BARR Program.

# STUDENT CENTERED LEARNING

## 4. EDUCATION ELEMENTS

**PROGRAM DESCRIPTION:** The organization offers customized education solutions as well as expertise, facilitation, design thinking, and collaborative processes through a set of resources and digital technologies to deliver sustainable results to schools. The program provides theoretical frameworks and implementation structures divided into stages and processes to make **personalized learning** a reality in different contexts while also helping manage these changes.

**TARGET-AUDIENCE:** Elementary and High School Students

**LOCATION:** United States

**OUTCOMES:**

**LEARNING INCREASE:** Between 2016 and 2017, student-centered learning was implemented for 36,000 students. These schools saw an average increase of 130% in reading and 122% in math; 57% of students achieved or exceeded the growth target in reading and 61% in math.

**INCREASED PLEASURE IN TEACHING AND LEARNING:**

**School district leaders' perspective:**

92% say their teachers are more effective;

90% say their students are more engaged;

**Teachers' perspective:**

70% feel confident about the positive effect of personalized learning on education;

67% say students are more engaged since the program was implemented in their schools.

**SOURCE:** Impact Report: Building Capacity for Personalized Learning and More. (2016-2017). Available at: <https://www.edelements.com/thank-you-for-downloading-impact-report-2016-2017?submissionGuid=bea0a21b-95fd-4626-9bf2-8486a1efa79b> . Accessed on October 4th, 2019.





# STUDENT CENTERED LEARNING

## 5. DATA TEAMS INTERVENTION

**PROGRAM DESCRIPTION:** A team of about five teachers and two managers learn to use data to solve student performance-related problems in their schools. Using a **systematic procedure**, they are assisted by a pedagogical expert and a data-coach who monitor and support the process for two years. Through monthly meetings, the teams build a learning community focused specifically on data-driven professional development.

**TARGET-AUDIENCE:** Secondary school students

**LOCATION:** Holland

### OUTCOMES:

**LEARNING INCREASE | APPROVAL RATE INCREASE:** Five out of nine data teams assessed were able to solve the educational problem selected (low promotion rates) within two years. Three out of those five data teams had an increase in student averages in specific subjects and two of them had an increase in the annual promotion rate. Overall, the problem causes identified by data and analyzed by the teams underscored the need to enhance curricular alignment, assessment, and teachers' instructions for students who lag behind. The study indicates that one of the key success factors is educators' openness to reflect on the cause of problems and improve their own practice, as well as developing the ability of holding themselves accountable as opposed to blaming external factors for their problems. The four teams that were unable to solve the problems struggled with participant engagement during and after the period in

The data team procedure is as follows:

- 1) identify problem
- 2) formulate hypotheses
- 3) collect data
- 4) verify data quality
- 5) analyze data
- 6) interpret data and draw conclusions
- 7) implement improvement measures and
- 8) evaluate.

which they worked with the data coach (Image 6).

**SOURCE:** POORTMAN \*, CL, SCHILDKAMP, K. Solving Student Achievement Problems with a Data Use Intervention for Teachers. (2016). Available at: <https://drive.google.com/a/fundacaolemann.org.br/file/d/1F4I5yM-mEN0RGBZrnsUNY9KUEzivNYdB/view?usp=sharing>. Accessed on June 10, 2019.



## OUTCOMES OF ONE TEAM THAT SUCCESSFULLY SOLVED THE SELECTED PROBLEM

TEAM	PROBLEM DEFINITION - STEP 1	WAS THE EDUCATIONAL PROBLEM SOLVED?
E	'We are not satisfied with the number of third grade students approved. That percentage has decreased initially from 76% to 70% and subsequently to 66% in the last three years (compared to an average of 105 students). We would like to increase this percentage to 80% in the next three years.'	After implementing structured interventions during the program, the percentage of approvals increased to 95% in the two following years (compared to an average of 107 students). This represents an increase to the tune of more than 25 percentage points since before the beginning of the data team, elevating the outcome 15 percentage points above the three-year target.

Image 6 | Four data teams, educational problems chosen and reasons why they were not solved two years into Data Teams.

## OUTCOMES OF TWO TEAMS THAT DID NOT RESOLVE THE SELECTED PROBLEMS

TEAM	PROBLEM DEFINITION - STEP 1	WAS THE EDUCATIONAL PROBLEM SOLVED?
A	'We are not satisfied with the drop in the number of students approved in fifth grade (92% to 83% in the previous seven years) and the increase of students with a low level of learning (2% to 8% in the previous seven years). Our goal is a 97% approval in the fifth grade.'	The team was unable to complete the steps within the program period. Data team discontinued after the program. Educational problem not solved.
C	'We are not satisfied with the decrease in the number of students approved in the last 3 grades of secondary education (56% in the previous 5 years). Our goal is to reach a percentage of approval in line with the national average (65%) in a period of three years.'	The team was unable to complete the steps due to facilitation issues with the data specialist and the staff members departing the school after the program began. Educational problem not solved.

Figure 7 | Two data teams, educational problems selected and reasons why they were not solved two years into the Data Teams.

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## 6. TO & THROUGH | ON TRACK

**PROGRAM DESCRIPTION:** Public policy that provides educators, public officials, and families in the Chicago educational system with research, data, and resources on the most important indicators for high school students to succeed at the university level. It's noteworthy to mention the program's weekly monitoring of attendance, grades, and classroom participation. Actions are taken upon identifying risks that may cause grade repetition. The intervention is guided by the On Track predictor, which is based on extensive research. Students considered to be On Track to Graduation have at least five credits and no more than one F in 9th grade. According to researchers, the On Track indicator is more accurate in predicting grade promotion than scores from previous performance tests.

**TARGET-AUDIENCE:** Basic education students

**LOCATION:** Chicago, United States

**OUTCOMES:**

**INCREASE IN APPROVAL RATES:**

From 2007 to 2014 in Chicago public schools, the rate of high school students involved in the To & Through program that were On Track to Graduate, i.e. meeting the predictive grade promotion indicators, rose from 57% to 84%. The study determined that On Track students are 3.5 times more likely to graduate from high school in four years than "Off Track" students.

**SOURCES:** <https://dataqualitycampaign.org/resource/giving-students-chance-success-chicago/> and <https://consortium.uchicago.edu/publications/track-indicator-predictor-high-school-graduation>



# STUDENT CENTERED LEARNING

## 7. PLACE - A PROJECT APPROACH TO LITERACY AND CIVIC ENGAGEMENT

**PROGRAM DESCRIPTION:** A randomized controlled trial conducted to investigate the impact of project-based learning (PBL) combined with teacher training for social studies, literacy and motivation. The study compiled data from 684 primary school students from low-income areas. 48 teachers were split into two groups. The first group was tasked with using PBL to develop four didactic units comprising 20 sessions. These had to be thoroughly written, but still leave enough wiggle room for students and teachers to make choices so as to tailor to their needs. A three-hour teacher training session was provided at the onset with short introduction videos about the units and meetings throughout the year. The second group was asked to teach content as they used to but in a specific number of classes to fit the study's design.

**TARGET-AUDIENCE:** US primary schools

**LOCATION:** Michigan, United States

**OUTCOMES:**

**LEARNING INCREASE:** The group that taught using PBL performed 63% higher in social studies and 23% higher in informational reading compared to the control group. In terms of writing performance, the difference between groups was not statistically significant.

**SOURCE:** DUKE, NK, HALVORSEN, A., STRACHAN, SL, KIM, J., KONSTANTOPOULOS, S. Putting PBL to the Test: The Impact of Project-based Learning on Second-Graders'

Social Studies and Literacy Learning and Motivation in Low-SES School Settings. (2018). Available at: <https://sites.google.com/a/umich.edu/nkduke/publications/project-place-papers>. Accessed on April 13, 2019.





# STUDENT CENTERED LEARNING

## 8. SCHOOLWIDE ENRICHMENT MODEL - READING (SEM-R)

**PROGRAM DESCRIPTION:** An implementation of the ou an US educational program SEM-R in a reading context. SEM-R is a widely known educational program which emphasizes engaging and challenging learning experiences built around students' interests and learning styles. In the initial 'exposure' phase, teachers engage students by reading short texts aloud. The second phase focuses on developing students' ability to read independently by choosing books adequate to their level of knowledge, yet slightly challenging. Teachers also provide differentiated instructions and one-on-one support to students. Phase 3 activities promote the exploration of new technologies, discussion groups, advanced questioning and thinking skills, creativity training in language arts, project-based learning, buddy reading, and book discussions.

**TARGET-AUDIENCE:** 2nd to 5th grade students

**LOCATION:** United States

**OUTCOMES:**

### INCREASED PLEASURE IN TEACHING AND LEARNING:

When asked about the benefits of SEM-R, more than 90% of the teachers and principals reported an increase in students' enjoyment and involvement with reading. In addition, educators applied differentiation strategies in the classroom routine, which increased their enjoyment of teaching.

**SOURCE:** University of Connecticut. The Effects of Differentiated Instruction and Enrichment Pedagogy on

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## SUCCESS REQUIREMENTS FOR THE IMPLEMENTATION GUIDELINES:

The following are some common factors identified in the cases studied which we view as necessary conditions to maximize chances of success:

1

**A common core with learning objectives based on explicit and measurable competencies to drive teaching-learning processes in schools**

**NOTE 1:** **Mastery-based learning** has proved itself valid for math. However, further study and evidence is needed in order to validate it for other areas of knowledge; we encourage such studies.

**NOTE 2:** From a student-centric perspective, an excessive number of objectives can cause educators to reduce the rigor and depth required in a competency-based model. We recommend paying extra attention to this point.

2

**Digital tools for collecting and analyzing learning data and student characteristics**

These should include:

**Availability and access to real-time data;** i.e. student-related information, including socioeconomic background, school records and classroom behavior;

**Diagnostic and formative assessment;** descriptions of what each student knows according to the local curriculum and suggestions for the next development steps;

**Learning delta measurement;** based on diagnostic and formative assessment, we can measure and value each student's individual progression according to their starting point as opposed to comparing it exclusively to a common indicator established for the school year previously;

**Differentiated instruction;** developed by educators based on data;

**Longitudinal comparison;** longitudinal data systems and standards on the individual student level accessible to all educators in every school.

These should consider:

**Data that impact** the analysis of the problems faced and the root causes;

**Individual data protection and confidentiality** in line with Brazilian legislation (LGPD).



# STUDENT CENTERED LEARNING

3

## Continuing education and educator support

**Data literacy;** initiatives for collecting, analyzing, creating, implementing and monitoring solutions to tackle the challenges identified;

**Active methodologies;** knowing how and when to differentiate instruction and how to manage classrooms in which students are agents of their own learning;

**Time for individual and collective planning;** quality time available to plan, experiment and reflect on the teaching-learning process. Teachers emerge as researchers of their own practice, both individually and collectively;

**Individualized attention time;** creating an environment where teachers can give individual attention to students or groups in the classroom while the others learn collaboratively through different materials or digital technologies;

**Collective effort;** creating an environment and conditions for educators to promote collaboration for professional development and interdisciplinary practices.

4

**School community engaged** right from the onset, as they implement personalized learning practices and feel confident about their effectiveness, all the while practicing good oversight in dealing with student data.

5

**Systemic and gradual change;** willingness and competence to break paradigms and affect change in current pedagogical models, not only to incorporate part of the conditions (e.g. implementing a specific technological solution), but the entire structure.





## THE JOURNEY HAS JUST BEGUN

This report summarizes the information related to student-centered learning for teachers, school managers, educational leaders, and anyone involved or interested in education.

By highlighting successful practices that place the student at the center of the learning process, we are encouraged to reflect on how to incorporate and adapt these processes to the public education system in Brazil. The aim is to stimulate and improve levels of learning, decrease school dropout, and promote engagement between students and educators. In addition to reflecting on these issues, we will continue to include similar pedagogical practices in our programs and initiatives across the country.

We hope to awaken your desire to learn more about the topic and explore it in practice, be it through small experiments or profound transformations.

### **LET'S CONTINUE OUR CONVERSATION!**

Questions or suggestions? Please email us at [contato@fundacaolemann.org.br](mailto:contato@fundacaolemann.org.br).



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