

A young boy and a woman are working together on a project. The boy is focused on a task, while the woman looks on with a smile. They are in a classroom or workshop setting, with a computer monitor and various supplies visible in the background. The entire image has a warm, orange-toned overlay.

EXPLOELEVATE
INNOVATIVE SCHOOLS COOPERATIVE

Graded: The American School of São Paulo

*Building Student Metacognitive Skills
and Going Deep on Design Thinking*

A Case Study By:
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Graded: The American School of São Paulo

A School Building Student Metacognitive Skills and Going Deep on Design Thinking

In recent years, Graded: The American School of São Paulo, has focused on two grounding principles in their work with students and staff.

The first: investing significant time and energy on building students' metacognitive skills, in order to support them in getting to deeper learning in an enduring fashion. The second is embracing design thinking principles, and training teachers on the design thinking process so that they can use it as a fundamental frame when planning and thinking about their curriculum. As these two pieces of work intersect amid a backdrop of a strong culture committed to innovation and creating a sense of belonging for faculty and staff, the school is poised to deliver on their theory of change: cultivating graduates who are empowered to reach their potential and positively impact the world.



Graded Fast Facts

Location: São Paulo, Brazil

Grades Served: PK-12

Total Enrollment: ~1300

Superintendent: Richard Boerner

Student to Faculty Ratio 8:1

Founded in 1920 by the American Chamber of Commerce, in partnership with six American companies - Citibank, Dow Chemical, General Electric, General Motors, Ford Motor, and Goodyear - Graded School is a private, co-educational, non-sectarian, nonprofit day school. The school follows an American curriculum with instruction in English. Graded is a founding member school of EXPLO Elevate, a global innovative schools cooperative whose mission is to help schools design, build, implement, and continuously improve the environments needed for all learners to thrive now and in the future.

About the author

Sudipti Kumar is a researcher with over 15 years of experience in education. She taught both high school and fifth grade in public schools located in Brooklyn, NY and in Boston, MA. Her research background includes in-depth studies on human capital policies affecting teachers in large urban school districts, promising practices in teacher preparation including research on teacher residency models, and data-informed practices in education. Sudipti has experience in both quantitative and qualitative research methods, with a specific interest in qualitative semi-structured studies that focus on understanding the human experience as it relates to the area of interest.

Creating a Culture of Innovation

In 2015, Graded was at a crossroads. The school was experiencing a significant rise in attrition of faculty. There was also a widely held belief across the school about a lack of alignment between everyday practice and their overall mission and vision.

This disconnect translated to concerns around the current curriculum not fully preparing students in the way that future jobs may require (the school used the Future of Jobs Report from the World Economic Forum as one guiding document to help them think through the disparity between current graduates' skills and future needs). The school board brought in a new Superintendent - Richard Boerner - who had years of experience as an independent school head and who was ready for the difficult task of significantly rethinking the school's future as he also ran the day-to-day operations.

To that end, Boerner and his leadership team got to work revising documents central to the school that spoke to the direction they wanted to take it. This included developing a new mission and vision statement, strategic plan, a theory of change, and cultivating a set of highly strategic and aligned partnerships. All of these undertakings required significant input from Graded faculty, as well as key conversations with leading experts. Putting these ideas into action has been, and continues to be, the work at hand.



Graded's new mission statement, published in the fall of 2016 after a thorough review of anchor documents and input from community stakeholders.

“Without being completely experimental, we can’t be a change agent.”

Superintendent Richard Boerner

Using Think Tanks to Co-Design and Co-Construct the Future

A question that may often be on the minds of school heads looking to innovate is the “how?”. It isn’t easy to translate ideas that sound good on paper to action, and to do it quickly building buy-in along the way.

The Graded approach was as thoughtful as it was groundbreaking. In 2019, they hosted a signature event called the Think Tank. The school brought together thought leaders from around the world to their campus for a three day conference that focused on helping the school envision their future, based on the initial research and thinking the leadership team had already done.

Attendees included leaders from Stanford’s d.school, the Asia Society, the Klingenstein Center, Project Lead The Way, Lead Inclusion, The Institute for Social Emotional Learning, Global Online Academy (GOA), the Association of American Schools in South America (AASSA), and the Academy of International School Heads, (AISH). Students from the school and Board members also participated, alongside current faculty. The goal was to utilize the immense expertise and experience in the room to build high quality learning experiences for students that “fully empowered them to reach their potential and positively impact the world.”

The outcome of the Think Tank event was three-fold: it helped to generate a sense of shared purpose about the work of the school, it provided the school with ideas to push the initiatives forward, and lastly but just as important, it offered broad validation for the efforts the school was planning to undertake. School leadership was able to share with families that there was deep multi-stakeholder engagement from thought leaders throughout the world. According to Boerner, this type of communication accelerated their ability to move forward exponentially.

Think Tank Framing Questions

Below are a few examples of some of the framing questions participants at the Think Tank grappled with collaboratively:

- How can I provide the most inspirational, empowering and engaging instruction?
- What does it look like for a student to be successful in the present and ready for a future we can’t predict?
- How can we lead, support and create an environment where students thrive and teachers transform their learning?
- How can I inspire students to ensure that their learning is deep, personal and enduring?
- In what ways can I challenge my students to think deeply and demonstrate their learning?

Hosting a Think Tank At Your School: What to Consider

- **CRAFT THE GUEST LIST:**
Invitations should cover a broad swath of stakeholders both internal to the school as well as external thought-leaders in the world of education and beyond. They should all be invested in seeing the school succeed and be willing to think beyond the current parameters of the school to allow for “dreaming” and “futuristic” thinking.
- **DEVELOP THE RIGHT SET OF FRAMING QUESTIONS:**
Graded leadership worked diligently to develop a set of thoughtful questions (shared above) that would push the community to collaborate, dialogue, and develop ideas that could build on the school’s foundational set of talents.
- **ENSURE THAT THE MAJOR THEMES AND OUTCOMES FROM DISCUSSIONS ARE TRACKED:**
Use the themes to develop the outline of a game plan that can be further fleshed out via a working committee or subset of school-wide interdisciplinary team members.
- **RECORD THE EVENT:**
Share an edited version widely that includes validation from external experts who were part of the event. This allows the opportunity to build buy-in to continue, especially for parents and other faculty who were not in attendance.

“Can you imagine the power of bringing 10 distinguished visitors, who are all experts in their field around teaching and learning, to the Graded staff, and together being a think tank to discover the desirable future of teaching and learning in this school? Well, that is what the school did.”

Deb Welch, CEO, Academy of International School Heads (attendee and facilitator at the Think Tank)



Outcome of the Think Tank:

Focus on Deep, Enduring, Transferable Learning

The Think Tank provided Boerner and his team support that the direction they were pursuing was the right one; in order for students to learn effectively in a deep and enduring way, the school needed to help students in learning how to learn.

Their theory of change had been developing this very idea, and the Think Tank helped to solidify that this, in fact, was the strategy to support their students and also provided practical examples of how they could move forward. A necessary first step would of course be requiring that teachers be trained in teaching students how to learn by understanding these principles themselves.

What does it mean for students to “know how to learn?”

Fundamentally, this means that students are picking up the science of learning in order to become independent, self-directed learners who can transfer their ability to learn into any new environment, whether that be across different classes at the school, or when they move onto college and other post-secondary experiences. For Graded, it means that the school is prioritizing not only building content knowledge in their students in central subject areas such as geometry and biology, but also that students both understand and are able to practice what learning itself looks like. Core skills include students' ability to set goals and evaluate progress towards them, self-monitor and identify mistakes, organize and plan effectively, and consistently reflect on their learning journey to improve upon it as needed.

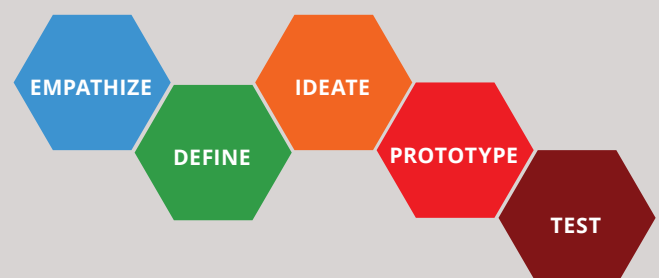
There is significant research evidence that metacognitive skills and “learning how to learn” are teachable, and that when they are taught, there is significant benefit to the student. In fact, studies have found that students who apply metacognitive strategies to learning tasks outperform those who do not.¹

Incorporating Design Thinking Principles

A key lever for success for Graded has been partnerships. In early 2019, they partnered with the d.school at Stanford University to focus on incorporating design thinking as the approach by which teachers plan. The K-12 lab component of the d.school trained a set of integral staff on understanding the design process. They then conducted a training that was available for every adult on campus on an “introduction to the design process”. The goal is that principles that comprise design thinking will help integrate the school's initiatives to develop a holistic overall approach.

Stanford d.school Design Thinking Process

Design thinking is a methodology for creative problem solving. You can use it to inform your own teaching practice, or you can teach it to your students as a framework for real-world projects.



Stanford d.School Design Thinking Process (Schmarzo, 2017)

¹ Mason, L., Boldrin, A. & Ariasi, N. Epistemic metacognition in context: evaluating and learning online information. Metacognition Learning 5, 67–90 (2010). <https://doi.org/10.1007/s11409-009-9048-2>

But First... Build a Deep Sense of Belonging Among Faculty and Students

In order for students and faculty truly to be able to focus on cognition and the learning process itself, the school recognized that they needed to first prioritize building a sense of belonging to the Graded community.

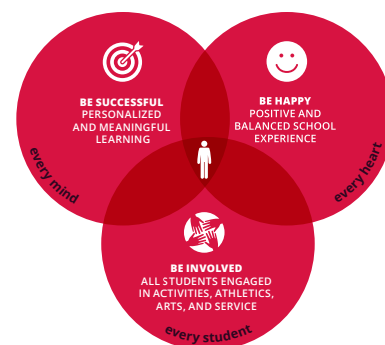
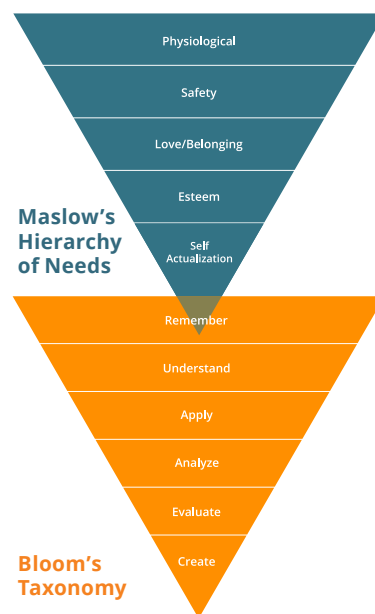
In fact, this type of thinking directly aligns to the relationship between Maslow's Hierarchy of Needs and Bloom's Taxonomy that can be summarized by the popular hashtag often used in educator circles: #MaslowBeforeBloom. Core needs such as safety and esteem must be met before students are ready to engage in knowledge, application, and synthesis (all components of Bloom's taxonomy).

When the school has held retreats to actualize goals, it is notable that the leadership team brought together all staff members, not just teachers who work directly with students. For example, The Director of Business Operations, Director of Human Resources, and the lunch staff were all asked how they were going to support the students' success. People who had never been asked to consider how their work contributes to the school's broader outcomes had an opportunity to do so. This type of culture shift is even more significant as an international school where many local faculty were not used to this type of engagement and inclusion.

Since 2015, faculty attrition at Graded has gone down significantly. Superintendent Boerner noted in an interview that faculty are increasingly willing to make themselves vulnerable in ways that they weren't when he first joined at the school. He recently asked faculty if some would be willing to videotape their classroom for learning purposes, something that can be daunting for an educator. It could be said that a faculty member's willingness to videotape their own instruction and share it with their peers and leadership is a proxy of a safe and nurturing environment. When Boerner asked his staff, over half of the faculty volunteered, a number that speaks volumes about both the safe environment the school has created as well as the faculty member's own desire to reflectively look at their work.

As the COVID-19 pandemic forced students into remote environments in the Spring of 2020, Shauna Hobbs-Beckley, the School's Director of Analytics, Innovation and Research, immediately created surveys to check in on faculty, students and families. As a researcher, she is acutely attuned to checking on staff members and student health and mental well-being while they are on campus and when they are at home. As students returned for school in the fall in a staggered fashion, she continued these monthly surveys and tracked progress to ensure they knew how students were doing at all times and could make real-time changes to their community.

#MaslowBeforeBloom



One pillar of Graded's three-pronged strategic plan is to "be happy", meaning that both students and staff across the school have a "positive and balanced school experience".

Focus on Metacognition and Deeper Learning

Due to the pandemic, the work of prioritizing cognition and deeper learning took a pause temporarily in the spring of 2020. A significant part of a culture of innovation and change is the commitment to creating an environment that is psychologically safe for faculty.²

A critical way of doing that is tending to their needs and not going too quickly if people are not on board due to other urgent needs. Boerner is one of the first to note that there were certain moments during the pandemic where his staff were emotionally and mentally spent, and while he may have wanted to push forward with certain ideas or initiatives, he knew that this wasn't the exact moment for them. He waited for when they were ready and able to receive the messages because in the long run, this would better serve his students and his faculty.

Once the school had become used to a new rhythm, a committee of key people came together to start to develop a plan, which started with first training teachers on building students' metacognitive skills through understanding the principles of learning science.

The school has hired a cadre of four deeper learning coaches and two curriculum coordinators to help lead and accelerate the work for the school. They work alongside the school's Director of Teaching and Learning, Shannon Hobbs-Beckley, whose role is to provide coaching to the faculty around learning science, including concepts such as productive struggle, cognitive load, and retrieval practice that support students in building their cognitive skills.

The fall of 2020 gave deeper learning coaches an opportunity to think meaningfully about how to engage faculty in this critical work. Weekly meetings were held with the deeper learning coaches, leadership at Graded (including Rich, Shauna and Shannon), partners from the d.school at Stanford, Kevin Mattingly of the Klingenstein Center, as well as a new partner for Graded COGx, a R&D in applied cognitive science that offers schools a comprehensive online curriculum to train teachers and students to master the science of learning led by Javier Arguello, Founder & Executive Director of COGx (www.cogx.info)

It is important to highlight that each partner provides a specific type of support to Graded and that this is in and of itself critical to the success of the work overall. The d.school's expertise in design thinking pushes both the coaches and the leadership team to think deeply about the process by which they will roll out this work across the school. Kevin's experience in learning science allows for an advisor to call upon to focus on the goals of this work and the ways in which those goals are being met. COGx has provided the tools and opportunities, in the form of professional development, to learn more about cognitive science.

With this robust team providing support in the Spring of 2021, the deeper learning coaches have done incredibly thoughtful work developing a teacher training plan, which has evolved through multiple rounds of feedback. Faculty at Graded will be trained in rounds, starting with "early adopters" and then moving onto serve additional sets of faculty until all teachers are trained.

The 2-3 day workshop will include the PD, as well as collaborative discussions between educators, modeling, an opportunity to read anchor texts, and an opportunity to plan, practice, and reflect. The two week coaching cycle will allow for goal setting and feedback cycles, aligned to what was just learned with a deeper learning coach, as well as co-planning, co-teaching, and documentation.

²Hill, Linda A. (2014). *Collective genius: the art and practice of leading innovation*. Boston, Massachusetts: Harvard Business Review Press,



Weeks

1	2	3	4	5	6	7	8	9	10
3-Day Workshop	2-Week Goal Focused Coaching Cycle		3-Day Workshop	2-Week Goal Focused Coaching Cycle		3-Day Workshop	2-Week Goal Focused Coaching Cycle		1-Day Culmination Celebration Workshop
MINI-CYCLE 1			MINI-CYCLE 2			MINI-CYCLE 3			

Graded faculty go through a 10 week training process that is comprised of 3 mini-cycles.

Measuring Metacognition

A critical question for Graded since they began the focus on learning science is around measurement: how do they know that students are actually learning how to learn, and that this major initiative is in fact improving their outcomes in their classes and better preparing them for their future?

This is a herculean task, but the school is dedicated to measuring their work. Both teachers and students have taken the Metacognitive Awareness Inventory, which is an instrument designed to assess self-regulated learning across the disciplines. It provides some baseline data for the school to consider, but does not offer a fully-baked approach to measuring progress and improvement based on the targeted work the school is doing with faculty who will in turn, support students.

One challenge is that learning metacognitive skills takes time, and can often feel more qualitative - can you really boil down to a score a child's ability to critically think? Can you then track that score over time? Will it be accurate? Are teachers across the school systematically being trained? And if so, are they being trained with fidelity to a framework that provides proof that the model itself is the right one? Shauna Hobbs-Beckley is leading the charge on thinking about these questions and is currently in the process of engaging with potential partners who would support the school in the measurement aspect - a vital piece to the overall initiative.

Stay Tuned for Part Two

As the school embarks on training faculty on the principles of learning science, and they in turn start supporting students with this work, EXPLO Elevate will be following along closely so that we can document the school's process and share both their successes and new found opportunities. We believe that an inside and ongoing look at Graded's change process has invaluable insights for other schools who want to pursue similar types of initiatives.

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