

A man with glasses, wearing a blue and white checkered shirt and a dark blue tie, stands in front of a chalkboard filled with various business diagrams and charts. He is holding a blue circular graphic in his right hand. The graphic contains the text 'THE REWARDS' in white, bold, sans-serif font. A white curved line arches over the top of the image, pointing towards the graphic.

**THE  
REWARDS**

Brendan Lea and Winnie Hunsburger

# Changing the World One Mistake at a Time

BY WARREN LANG



I want them to fail.” Senior School math teacher Sheila Barclay is describing what she hopes to accomplish with her Calculus and Vectors students. And then, before this statement conjures images of unhelpful teachers, she clarifies: “At the beginning of the year, I explain to all of my students that their brains can only learn if they make mistakes. That’s when new synapses grow.”

Ms. Barclay is talking about a leading-edge approach to learning that is in line with most research-based practices around the world. From Senior School math courses to classes in the Junior School, BSS teachers are committed to developing a growth mindset that encourages risk taking and learning from error. A growth mindset exists when a student believes that her intelligence will develop in response to dedication and hard work rather than viewing intelligence or talent as being fixed and not open to growth.

“Inquiry is at the heart of what we do,” explains Vice Principal of Curriculum, Brendan Lea. “We help the girls develop their critical thinking and risk-taking skills to promote the kind of learning they will actually face in life. We want them to focus on the process instead of only producing correct answers.” In an English classroom, for example, students evaluate their approach to writing, while in the science

lab, they assess the investigative procedures they use to test a hypothesis.

Open-ended tasks and complex, sometimes unanswerable, questions enrich and extend established learning practices. “Our curriculum design allows for error, which is a catalyst for learning. They have a go at it, make mistakes, assess their progress and then go at it again. Just like they would if they were solving a real-life problem,” Mr. Lea explains.

But unlike the real world, students at BSS benefit from having their teachers close by to provide age-appropriate support with the entire learning process. “The teachers gradually increase the complexity of the problems they put to the girls,” adds Mr. Lea. “And then they provide appropriate levels of support at each stage, always with an emphasis on letting the student do the learning.”

A recent example of independent learning in the Junior School was “Space Week,” a Grade 6 integrated learning project led by faculty members Rachel Hughes and Radhika Raj, who worked on the idea with Winnie Hunsburger (Team Leader, Research, Inquiry and Middle School). The project posed a perplexing challenge to the girls: the earth will become uninhabitable by 2200 – where should we go to live?

“The girls had to develop and defend their very own theory about how to address the problem,” explains Ms. Hughes. “We

kicked off the week with a trip to the Ontario Science Centre and finished the next Monday with a debate that required the girls to defend their theories.” Along the way, the Grade 6 students wrote, researched, discussed and thought deeply about their personal model for saving humanity.

The results were stunning. “The students were so engaged and excited,” says Ms. Raj. “They did extra research at night and reported that they enjoyed doing their homework – even though they weren’t assigned any! And they impressed themselves by how much their thinking processes had changed in only a week. It was thrilling for all of us.”

Beyond the project buzz, Ms. Hunsburger points to the long-term benefits of this mode of learning. “The girls develop their curiosity and ability to explore a difficult question. They come to see the power of learning to overcome confusion and uncertainty. And they learn that knowledge can change the self and the world.”

Nearby in Grade 7, English teacher Celeste Kirsch followed the same principles while designing a social activism unit. Beginning with a video called *The Story of Change*, the students were given a challenge: find a social issue to research and explore, partly by altering your personal habits for ten days to give you a direct experience of the problem.

Radhika Raj and Rachel Hughes at the Ontario Science Centre



Approaching their task like scientists, the girls immediately immersed themselves in their study. Counselling to avoid adjustments in their lives that could be harmful, the girls were highly creative with their personal experiments. One girl explored water issues by committing to use only a single bucket of water each day for all of her needs. Another investigated homelessness and slept on the floor to understand the physical discomfort involved.

The various experiments led to interesting situations. “For many of the girls, it was hard to stick with their commitment for ten days,” explains Ms. Kirsch. “For example, one student decided to speak only if she was spoken to and found that her peers stopped talking to her after about three days. The silence was a real challenge for her. And another girl who committed to not eating meat found that she kept slipping up and eating the wrong things.”

To ensure they reflected on what could be learned from the challenges, the girls wrote a nightly blog. “I was really surprised by how open they were about their struggles,” says Ms. Kirsch. “The writing was where they sorted out what went wrong and tried to commit to doing better. They had to learn that the point was to do your best, not to be perfect.”

In his role at the centre of curriculum development in the Middle and Senior School, Mr. Lea could not agree more. “We have to get students out of the perfectionist mindset. When they are terrified to make mistakes, there is very little learning happening because they are paralyzed by fear.”

He adds that teachers at BSS model risk taking for their students in order to create a true learning culture. Gone is the teacher with all the answers who controls the learning process. Now, teachers leap into the unknown with their students.

“It was scary for us,” says Ms. Hughes of the Space Week adventure. Ms. Raj expands: “It was so open-ended that we didn’t know how it would go. We told the girls that we didn’t have all the answers, and we all dove into the project together.”

But how does this method of learning work when university applications loom and the education system is still deeply committed to grades and tests? “There is an intimate relationship between risk taking and problem solving,” explains Mr. Lea. “You can’t solve problems unless you are willing to take risks. And you can’t succeed



Celeste Kirsh

in school unless you can solve problems.”

“BSS grads attend the best universities in the world, and we have an excellent track record of preparing them for that environment,” he continues. “But we can always do more for them. This new approach gives them a wider perspective and broader skills so that they can be successful at university and then be ready for the challenges they face when their formal education is complete.”

In her math classes, Ms. Barclay made an almost daily point of talking with her students about the rewards of risk taking and failure. “The person who makes no mistakes, makes nothing. A growth mindset includes having the confidence to welcome failures and learn from them.” ●

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