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Apprentissage au 21e siècle, changement éducatif, pédagogie, technologie, transformation (de T. Konsieni et S. Collin)
par Pierre Poulin
IN BRIEF
En 2012, un conseil scolaire de la Colombie-Britannique a réinvesti les cours d’élèves en 8e et en 9e année, offrant des activités en classe et parascolaires pour renforcer leur résilience à titre d’apprenants actifs engagés. Le programme "Get REAL is the School District’s à Maple Ridge/Pitt Meadows a utilisé l’apprentissage par investigation et d’autres stratégies afin que les élèves renoncent à l’école. Au lieu de cours d’exercices, les élèves se sont servis d’IPads et d’ordinateurs portables pour effectuer leurs recherches et bâtir un portefeuille de réalisations au cours du programme de trois semaines.

Les résultats de la première année ont été positifs : taux de fréquentation élevé des cours d’été, résultats scolaires améliorés au sein même des élèves et sensibilisation des enseignants à la valeur de l’enseignement de bases avec les élèves.

requirements of the provincial curriculum. "We were working with kids so they could see that learning can be fun, not just rote work, reading, writing and textbooks, and that learning can be physical," says Mr. Grady.

Every day, students selected from a menu of extra-curricular activities.

When teacher Trevor Takasaki noticed that a lot of students rode bicycles without functioning brakes, he set up a workshop on bike repairs. This informal setting helped get him to know the students as individuals as they acquired expertise of interest to them. "They learned to be more confident on a broad range of things," says Takasaki, an English teacher in Maple Ridge for the past decade.

"Doing sports activities, bicycle repair and cooking, they started to realize they could have gains in the school environment."

For 16-year-old Dusty Cooper, Get REAL was a stark contrast to his previous two summer school experiences, "where you just had work." He enjoyed the extra-curricular activities, especially coming up with ways to help make notes from a textbook. "It was pretty cool to get to work with electronic equipment other than a textbook," says Dusty, who had never used an iPad.

At the summer school, adapted life-skills and wellbeing support teacher Erin Talbot did not have Dusty as a student, but they still developed an informal relationship over the summer that carried over into the next school year, when she was one of his advisors at Thomas Haney Secondary School.

A Grade 10 student who previously skipped school, Dusty completed most of his assignments over the past academic year, says Talbot. "He has been really successful with his courses and has a wonderful rapport with all his teachers," she adds. "Summer school gave him that opportunity to build resiliency and build that confidence in himself."

A self-described shy student, Dusty went on all the field trips, including a challenging tree-climbing course that took him 60 feet up into the trees. "I am sort of afraid of heights," he says. "I discovered I could push the limits a little bit."

Ray Cooper, Dusty’s father, says he sees a big change in his son since his summer school experience. "He is happier and not as anxious about going to school."

The teachers made their own discoveries. The absence of textbooks "forced me not to rely on the old normal," says Tom Levesque. "I had to think of new ways I could get across the same concepts without saying, ‘turn to page whatever.’" No longer in the role of information disseminator, Levesque became a facilitator, helping students use their iPads and laptops to study the solar system, a unit in the Science course. "I had so much more one-on-one contact with students," he says.

Trevor Takasaki says teaching summer school was "a huge boost for all of us teachers, myself included, in the excitement we have in teaching." He says the experience reinforced his belief in engaging with students to help them succeed. "It has definitely pushed us to recognize the need for the same sort of relationships [during the school year]," he says.

In 2012, a district analysis found that 17 of 145 students (four opted out) earned one or more course credits, a higher ratio than for traditional summer school. In the fall 2012 semester, 57 percent of summer school students in either Grade 9 or 10 were doing well enough not to need further remedial help.

In summer 2013, the school district expanded the program to include 71 students from Grade 7 and 8 from Grade 10, along with 139 from Grades 9 and 10.

"It says to me that some of our kids are re-engaged," says Grady. "They have the potential and the intelligence and the tools to be successful." 

Innovation in Action

Cultivating an Opposable Mind

A case study in Integrative Thinking by ELLIE AVISHAI

"I learned I don’t have to sacrifice one option for another. I don’t have to settle. I can just create something new."

– Salam A., Student at John Polanyi Collegiate Institute

THE TEACHERS at John Polanyi Collegiate Institute (JPCI) in Toronto were facing a not uncommon problem. Despite an established campaign of posters, assemblies and workshops promoting tolerance, homophobia remained a recurring issue at their school and students seemed largely indifferent to efforts to address it.

Rethinking their approach, the teachers decided to engage an unusual group of consultants: Grade 12 students in the school’s Business Leadership class.

This flagship course, first taught in 2010, was developed through a partnership between the Toronto District School Board (TDSB) and the I-Think Initiative at the Rotman School of Management at the University of Toronto. The I-Think program leverages concrete metacognitive tools, based on Rotman’s integrative Thinking curriculum for executives and MBA students, it is an approach that focuses on constructing powerful new solutions to complex problems.

In response to their teachers’ challenge, the leadership students recommended a new framework for tackling prejudice at the school – one based on the recognition of their own values, experiences, and challenges. They did so by engaging in a profound reconsideration of their own points of view and by embracing a new way to think.

An Integrative Thinking process

Integrative Thinking began as an attempt to understand how successful leaders – in business and elsewhere – face their own critical challenges. Roger Martin, then Dean of the Rotman School of Management, set out to identify and teach a new set of reflective skills to business students hoping to solve their own tough problems. The successful leaders Roger met challenged conventional wisdom that tried to box them into unpalatable either/or choices. Instead, they found innovative ways to obtain the benefits of multiple, often seemingly incompatible, solutions.

Fused with an Integrative Thinking process helps students to consider and combine opposing choices without having to choose one at the expense of the other. At its core, it challenges the mindset that innovation is an innate capacity and therefore not teachable – a belief that, according to Sir Michael Barber and his colleagues in their 2012 report Oceans of Innovation, is one of the core obstacles currently facing education. Integrative Thinking teaches the seeds of innovation lie in cultivating an “opposable” mind – one that seeks to find creative solutions inside competing ideas.

That’s what the leadership students at JPCI were challenged to do. Over the course of six weeks, the business leadership students struggled to solve their “teachers’ dilemma.” The integrative thinking process helped them redefine their choices and reframe their problem from a constraining either/or choice into a creative design challenge. The following four steps capture the heart of the students’ process:

1. Construct a two-sided dilemma

The students were presented with a relatively unstructured problem: “How do we eliminate homophobia at our school?” Their teachers explained that they had previously launched an awareness campaign (in the form of anti-homophobia posters) and held assemblies to create more school cohesion, but that those approaches didn’t seem to have much effect. The teachers wondered if bringing anti-homophobia content

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Ellie Avishai is the founder and Director of think, a critical thinking initiative at the Rotman School of Management at the University of Toronto. I-Think adopts Rotman’s Integrative Thinking curriculum, which aims to engender self-reflective thinking and creative problem-solving in MBA students, to the K-12 world.

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EN BREF
La pénalisation intégrative désigne la capacité d’innoer dans la création de solutions à des problèmes complexes en exploitant des idées qui semblent contradictoires. Au John Polanyi College cette année, les élèves suivent un cours exceptionnel de leadership en affaires exploitant la pénalisation intégrative pour résoudre des dîtes auxquelles ils font face dans leur propre vie.

En refusant d’ouvrir les options et de choisir entre elles, en cherchant plutôt à établir de nouveaux rapports entre elles, un groupe d’élèves a révélé l’approche mise de l’avant par leur école pour diminuer l’homophobie, engendrant une nouvelle façon de percevoir la tolérance dans leur communauté scolaire.

into class would have more impact. Fundamentally, they were asking the students to choose how they should spend their time and energy to combat homophobia: in class or out of class?

Integrative solutions emerge from exploring the tension between opposing ideas. So, the first step in the students’ process was to clearly define the opposing tensions that they would explore. At first, the choice seemed to be between fun assemblies focused on the community at large and in-class sessions aimed at individual learning. The students extended this tension, pitting “focus exclusively on the school community” against “focus exclusively on the individual learning.”

By constructing a two-sided dilemma using anxiety and opposing ideas, the students created a clear and manageable structure for their thinking and gave themselves two interesting choices to explore.

2. Articulate the benefits of the models
Once the students had two clearly defined models to consider, they spent time understanding and exploring those models deeply.

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EXPLORER, INVESTIGATE, DISCOVER HANDS-ON ACTION!

3. Examine the models and reframe the problem
The next step in the process asks students to take a step back and examine the opposing models side by side. What similarities and differences stand out now that the benefits of each model have been made explicit? What, if anything, do they learn about each of the models that they wouldn’t want to lose when building a new answer?

When the leadership students examined their models, they noticed interesting things that they hadn’t seen before: the community model and the individual model both highlighted relationships, but in different ways. The community model was about strengthening student relationships to the school while the individual model was about strengthening relationships between individual students (or students and teachers). This caused the group to pause and think about the problem they were tackling in a way that hadn’t been done before: Was the core problem really about homophobia at all? What if the problem instead had more to do with the relationships in the school in general?

3. Examine the models and reframe the problem

identified as “different” (due to cultural, economic or social identities) rarely mixed. In discussions with classmates, they found a pattern of homophobia was frequently a result of students not discussing their personal experiences with others. Each group saw themselves as ostracized and another group as having power. No group self-identified as the entire school community. The students interpreted this as a signal that their classrooms were feeling isolated and were not communicating with one another. Here is how the group described this reframe in their project summary:

“Our first challenge was finding out what was causing homophobia in the school. We boiled it down to people being ignorant of each other’s cultures and expressing that lack of knowledge as fear and anger towards each other. But once again this found us wondering, why didn’t they know about each other? We found it was the lack of sharing between the [social and cultural] groups and that they were learning enough about each other because they weren’t sharing enough about themselves. So that led us to our ultimate question: why aren’t students comfortable sharing information about their cultures and lifestyles with each other? We decided that this was the problem that we would need to solve.”

In isolation, this shift might look like a sudden burst of insight. But it was made possible by rigorous exploration of the competing models. The students’ analysis was not one of judging each model critically, but rather of considering what value they might find in each.

4. Explore the possibilities
Armed with their new insights, the students now had a brand new design challenge on their hands – how might they help bridge the barriers between the different social groups to enable shared learning? The students brainstormed a variety of options and settled on a set of activities to get students to mix and mingle, rather than insulate themselves from homophobia. They recommended a set of assemblies that would highlight the richness of different cultural heritages, followed by small breakfasts where students from different backgrounds could learn about each other through facilitated activities. They also suggested setting up a series of presentations under the guise of student pot-luck lunches, to encourage informal conversation among students who otherwise would not connect. Each of their solution aimed at...
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order to think from multiple perspectives, the group chose three “stakeholders” or groups of people they felt were the most invested in their answer: students, teachers, and the school administration. The students posed a key question: Each stakeholder: What is the group seen as ostracizing and another group as having power. No group felt comfortable with one another. Here is how the group described this reframe in their project summary:

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Increasing awareness and dialogue to break down communication barriers throughout the student body. The recommendations met with surprise and delight from their teachers, who began to investigate how to implement them. The students came away with a new sense of agency in tackling the "wicked" problems in their own lives. As one student wrote,

"This class has made me realize how powerful my thoughts are. Personally, I've always been impatient and... I try to get things done as soon as possible. Now I definitely take a lot of time to think more about my actions as well as other people's actions. It's definitely not easy, but it has helped me become less judgmental than I was before and has helped me make better decisions."

The limits of evaluate and choose
Traditionally, students have been offered techniques for evaluating and choosing between competing options when they are trying to solve a problem. It is common to conduct in-class debates, ask students to research how "experts" resolve the problem or ask them to write position papers. Using the iconic "pro/cons" list, students are told to carefully analyze the various benefits and drawbacks of a particular solution or point of view, pick a side and then defend their choice. ("Research the climate change debate between proponents of environmental protection and those who support industrial progress. Which side compels you the most and why? Write a two-page summary explaining your position.") Students learn tools to compare and contrast, form inferences and apply various criteria for judgment. At their best, these tools aid what philosopher and educator John Dewey called "reflective thought," where we work to apply an open-minded and scientific rigour to our analyses in order to learn deeply from our experiences. At their worst, they create an implicit assumption that there is a single right answer. What these tools miss are processes that lead students to create unseen possibilities and form new connections when no answer exists at the back of the book. Howard Gardner touches on the importance of this skill in Five Minds for the Future, writing of the "synthesizing mind":

"The ability to knit together information from disparate sources into a coherent whole is vital today. The amount of accumulated knowledge is reportedly doubling every two or three years. Sources of information are vast and disparate, and individuals crave coherence and integration."[8]

While it is important to teach students specific domains of knowledge like math, science and literacy, it is even more important to teach them to think about how different domains work together. Above all, we must provide students with tools and opportunities to reflect on their thinking. These students, after all, will one day be tasked with solving some of the world's most pressing problems. [8]

Notes
1. This partnership, originally a small pilot program with one class, has grown to include several pilot schools, including Lakeshore Collegiate Institute and Lethbridge Park Elementary and Middle School, along with leadership training for more than 150 TDSB teachers and administrators.