

# Michael Scott

## Catches the Millennium Wave



*“All through my life, I jumped into jobs with the thrill and excitement of learning to do new things. It hasn’t become rote.”*

“Teaching was never in my plans,” says Michael Scott, who is a Consultant for technological education and business studies and the Ontario Youth Apprenticeship (OYAP) Coordinator with the Ottawa Catholic School Board’s Student Success Department. Teaching might seem a far stretch

for someone who was bored and disengaged in high school and felt ill prepared to choose between art and science for a career path. “No one told me about engineering, which combines art and science.” His own lack of opportunity to explore how his skills would fit in a lab or business environment have prompted Scott to get involved in the education system “to help the next generation see the world and understand it.” Working at the school board office gives him a chance to be innovative and to try new things out.

### Inspiration and encouragement

Scott credits Mr. Zimmermann, his excellent art teacher with teaching all his students “that being truly artistic comes down to creatively solving problems”. It was inspiration enough to encourage all of his art students to go on post-secondary courses in art. When Scott was “asked to leave” high school, the same teacher encouraged Mike with the words “I am not worried about you. You will find your path.”

### Exploration

Early employment in an automotive factory encouraged Scott to find out more about how things were made. At Fanshawe College, Scott discovered constructivist art, architectural art for public spaces. Building a giant wing shaped structure out of aluminum and steel for Harbourfront in Toronto led Scott to discovering an unimagined realm of possibilities in civil engineering when a wind engineer was brought in to ensure that Scott’s structure was sound and would not pose a danger to the public.

*“When kids aren’t paying attention, that means our educational system is failing. Your role as a teacher is to motivate. If you aren’t doing that, you aren’t teaching.”*

### Combining his talents

After taking night classes in civil engineering, Scott got his first chance to combine his artistic skills and growing knowledge of engineering by becoming a model maker and electronics technician for the University of Western Ontario Boundary Layer Wind Tunnel. Scott had a chance to test wind and weather effects on models of some of the most unique structures in the World – The CN Tower and SkyDome in Toronto, the World Trade Centre in New York and various bridges and oil platforms around the world.

### Continuous Learning

Correspondence courses from the University of Waterloo for a Bachelor of Science degree with a concentration in Geophysics, led to Scott’s next interdisciplinary leap into the field of biomechanical research. Scott designed testing equipment for an orthopaedic research lab, investigating total knee and hip replacements. Working with surgeons such as Dr. Peter Fowler, former orthopaedic doctor for the Canadian Olympic team, Mike did experiments at the University of Western Ontario on sheep with a ligament augmentation device to test the effectiveness of repairs to torn tendons. He went on to design precision surgical instruments for knee replacements. One of the byproducts of this work was learning about computerized drafting and CNC manufacturing.

### Same Skills – Other Uses

What Scott had learned in wind tunnel tests came in useful for Scott’s next job ventures, testing cladding on residential structures for the Central Mortgage and Housing Corporation and field studies of cladding systems in commercial structures such as the Museum of Civilization. From there, Scott went on to develop computer based systems to monitor climate conditions in buildings and other environments, such as trucks carrying satellites to Florida for the Canadian Space Agency.



Scott with his 1991 Nissan Figaro, designed by a Nissan group called the Pike Factory, who designed retro styled vehicles for the Japanese market. The Figaro is based on a Nissan Micro platform but with a four cylinder 1000cc turbo engine. It features leather seats, a roll back roof, automatic 3 speed transmission, front wheel drive, air condition, power windows, brakes and steering, right hand steering for domestic market, and a CD/tape/AM/FM radio. The design team used design clues from 1950s and 1960s European sports cars, including lots of chrome.

# Michael Scott - Ottawa, ON

## *To the stars and beyond*

Scott's skill set soon put him in such high demand at the Space Agency in the area of computerized data acquisition and analysis related to satellite testing, that he was in a position to name his own salary. Instead, in 1991, he felt called on to take on his next challenge, accepting a position as design and technology department head at St. Peter's High School in Orleans, just east of Ottawa. Although this move meant a drop in salary, it also gave him a "chance to change the world a little" and to work in a state of the art facility equipped with a wide range of computer systems and one of the first non-linear video editing suites in Ottawa.

## *Taking technology to the classroom*

At the beginning of his tenure at St. Peter, Scott discovered that "Kids knew little about synthesizing knowledge, didn't understand trigonometry, electronics, or Ohms law." He was amazed at the level of disconnect between education and the real world that existed then and continues to persist in some cases. "Taking tech was looked down on as if you weren't bright", as if purely academic learning was the only type of learning that mattered. Since then, there has been a shift in Ontario education to take into account the various ways that the brain learns, including the importance of hands-on learning.

## *Passion for true learning*

Mike Scott becomes very eloquent when learning becomes the subject of discussion. He feels very strongly that the current public education system, which was developed at the beginning of the industrial age as a cookie cutter model to get youth off the farm and into city needs to adjust to serve the learning needs of today's youth. "99.9% of people learn by hands-on experience," he says. "This is demonstrated particularly in high failure rates in mathematics where the focus is on theory. Mathematics can be very exciting, but theory and content are meaningless unless you are given the application for that knowledge."

## *Teaching Technology*

Scott is a strong advocate for education by "real world" problem solving and project based learning. He believes that students truly shine when



teachers "give them an impossible task, like we did with a space station simulation project, and allow them to learn for themselves." Having worked in industry and education, he is convinced that tech education works best when tech teachers have industry experience. "Someone who has once worked in industry understands how skills and knowledge are applied. When projects are realistic and relevant students take ownership of learning." Scott hopes to get funding for two initiatives that would have students research the supply chains that bring water, food and energy to consumers, taking on a global perspective by comparing Canadian and developing world realities.

## *Industry Involvement*

Looking ahead, Scott sees that "Industry representing the skilled trades will have a battle on its hands for the hearts and minds of hands-on type of students. Because he believes that Ontario has to adapt very quickly to new global realities, industry has to get directly involved in educating and training youth. Scott initiated the "We Jump Start Careers Here" promotional campaign in Eastern Ontario that gives community visibility to employers who take on local youth for co-op and apprenticeship placements. Beyond that, Scott sees employers playing a significant role in training educators and teaching students. "Grade 4 or 5 is the perfect opportunity to take kids to a dealership, he says. "How fascinating that could be. It's the perfect stage for discovering how the world works." He smiles as he recalls "My world started with Curious George. I was utterly fascinated by the story of Curious George going by a construction site, watching a house being built day by day. It took all these people to build! Before that I had no idea how things work, how people did things."



CARS gratefully acknowledges the leadership, energy and innovation Michael Scott invests in creating real-life learning opportunities for the students of Ottawa-Carleton. He continues to build bridges between industry and education, generously connecting CARS to educators and community groups and providing valuable input and guidance on our Industry Education Committee.