TECHSPLORATION®

Empowering young women to explore careers in science, trades & technology

2015 – 2016

Message From Tina Kelly
President, Techsploration Board of Directors

Tina Kelly, President
Techsploration
Board of Directors

On behalf of the Techsploration Board of Directors, it is my pleasure to share the 2015 Community Report.

The underrepresentation of women in science, trades and technology is well-documented. These careers are essential and important professions with above-average wages where women can demonstrate leadership ability. The skills are not feminine or masculine; yet they provide the very foundation, infrastructure and operation of our communities. We are pleased to offer programming where young women across Nova Scotia can connect a strong academic foundation in reading, writing, math and science to the variety of careers in these fields. We know we need to do things differently and work to change attitudes that may limit our capacity to create a more diverse and welcoming workforce (Ivany, 2014). The young women of Techsploration represent a powerful solution to some of the most difficult challenges facing our economy and society today.

We look forward to continuing to create awareness about the opportunities in science, engineering, trades and technology occupations while growing in new and innovative ways.

The goal of Techsploration is to increase the number of women working in science, trades, and technology occupations by assisting young women from diverse backgrounds to explore a wide range of career options.

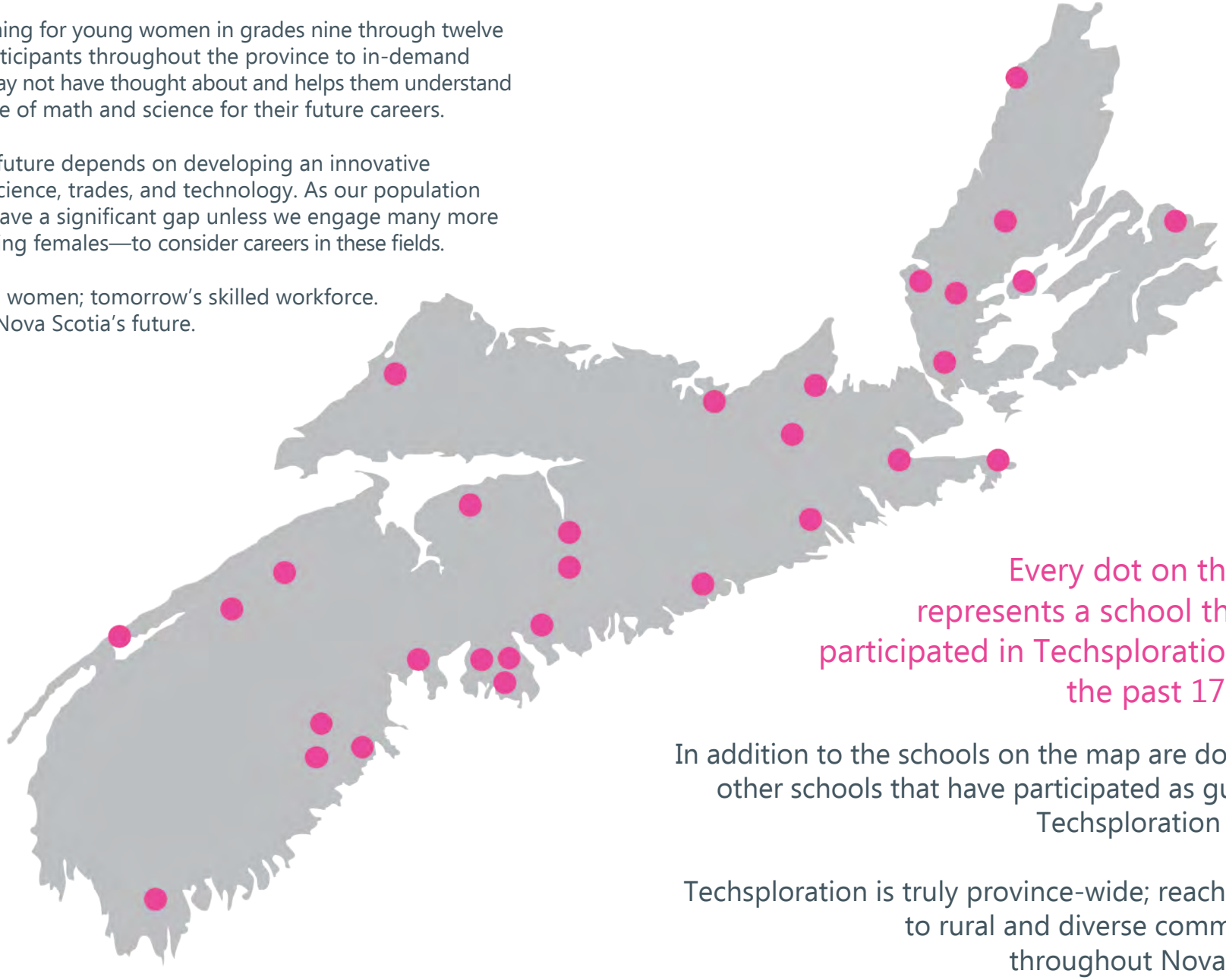
About Techsploration

Techsploration changes lives.

Our programming for young women in grades nine through twelve introduces participants throughout the province to in-demand careers they may not have thought about and helps them understand the significance of math and science for their future careers.

Nova Scotia's future depends on developing an innovative workforce in science, trades, and technology. As our population ages, we will have a significant gap unless we engage many more youth—including females—to consider careers in these fields.

Today's young women; tomorrow's skilled workforce.
Help us build Nova Scotia's future.



Every dot on the map represents a school that has participated in Techsploration over the past 17 years.

In addition to the schools on the map are dozens of other schools that have participated as guests at Techsploration events.

Techsploration is truly province-wide; reaching out to rural and diverse communities throughout Nova Scotia.

Why Focus on Girls?

Contributed by Karen Blotnicky, PhD, Mount Saint Vincent University (MSVU)

I am part of a research project at Mount Saint Vincent that focuses on girls and STEM* careers. Recently, when presenting our findings a woman asked me why we were focusing primarily on girls.

Why should girls get all the attention? Don't boys matter? What message does that send to boys?

Well, the fact of the matter is that we need more people in STEM; both boys and girls. But here is the problem we need to address: boys are already there—they dominate STEM careers. They don't need our help to empower them to consider these options.

But that isn't the only reason to focus on girls. Hilary Rodham Clinton has an Honorary Doctorate from the Mount. I was there the day she received it in a special convocation during the G7 Summit in Halifax.

Something Hilary said really stuck with me. She said, "If you educate women, you educate generations. Because when women are educated, they see to it that their children are educated. And they in turn, educate their children, and so on, and so on."

In fact, this kind of intervention—educating girls—has been part of the toolkit for international economic development for many years.

What is the best thing we can do with STEM careers? Make sure girls know they belong. Make them feel welcome. Empower them.

We know from our research at MSVU that what Techsploration is doing makes a difference, but especially for girls.

Now I want to leave you with one more thought about, "why girls?" When more girls enter STEM, it normalizes that career choice for both genders. And as STEM careers become more popular, we will see more men and women pursuing STEM. And that is the change we need to make our economy grow, and to help make Canada competitive for generations to come.

Girls who had engaged in STEM activities in the past 12 months were **2.7 times more likely** to consider a STEM career.

Neither girls' feelings of competence in STEM subjects nor the influence of their teachers increased their likelihood of choosing a STEM career.

These results show that the only effective means of increasing the likelihood for girls to consider STEM careers is by **engaging girls in highly active STEM activities.**

Franz-Odendaal, T., Blotnicky, K., French, F., & Joy, P (2014). Career Choices and Influencers in Science, Technology, Engineering and Math: An Analysis of the Maritime Provinces.

For more information, visit wiseatlantic.ca

*STEM: Science, Technology, Engineering & Math

Crystal Smeaton (Back row, far left) with her 2014 Techsploration team.

Alumna Profile

Crystal Smeaton
Medical Radiation Technologist

More and more often, Techsploration sees its participants come full-circle from Techsplorer to role model.

In 2001, Crystal Smeaton joined the Techsploration team at Dr. JH Gillis Regional High School and spent the day with a role model learning about welding at the NSCC Strait Area Campus.

"I didn't know what career options were available other than teachers or nurses. I think it's really important to show girls what's available; Techsploration certainly plays a role in that."

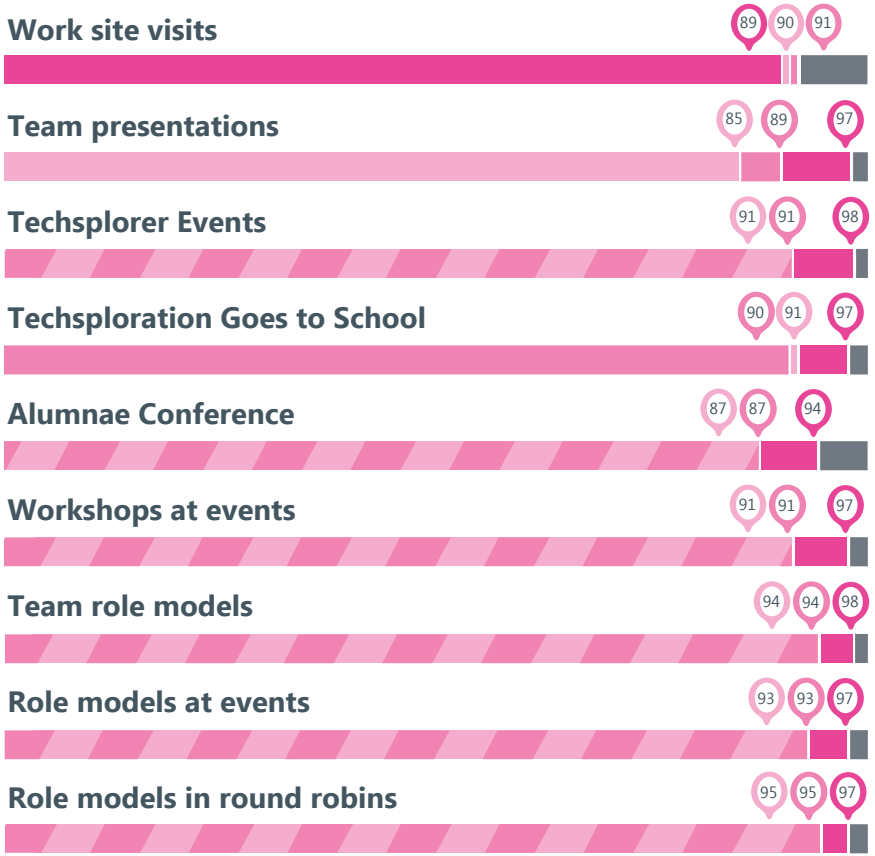
In 2014, Crystal rejoined the Techsploration team, but now as the role model for her alma mater teaching them about her career in medical radiation technology.

Impact

There are many ways young women in the program can learn about different careers. In our 2014 survey, we asked alumnae to rate each of our events and activities on their effectiveness.

Below, you will find the percentages of respondents who agreed each event was 'somewhat' or 'very effective' at:

- making them more aware of careers in science, trades, and technology (dark pink)
- making them more interested in pursuing a career in science, trades or technology (pink)
- helping them select a career, regardless if it was in science, trades or technology (pale pink).



The Program

Techsploration Career Research Model
December – March
Students apply and a teacher selects six young women in grade nine to be on their school's Techsploration team. Together, they research a science, trade, or technology career assigned to their team. With the help of a female role model working in that field, the team spends a day at her workplace, learns about her work and creates a presentation.

Techsploration Goes to School
February – April
The Techsploration team shares their experience and presentation with students at their school. Young women and young men, staff and invited guests are introduced to in-demand careers by participating in a round robin with women working in these fields. Students ask the role models questions about their jobs, training and education.

Techsplorer Events
April – May
Techsploration teams from across the province gather together to share their presentation with participants from other schools. The young women get an in-depth look at multiple science, trades, and technology careers and learn valuable skills by participating in interactive presentations and workshops.

Techsplorer Alumnae Activities
Ongoing
Young women in grades 10 – 12 are invited for follow-up activities such as interactive workshops and alumnae conferences to learn about more career options. They are encouraged to help teachers select the new school team and assist with the program. In grade 12, all participants can also apply for scholarships created especially for Techsploration by our sponsors and volunteers.

Projects

Women in Action Web Video Series

These videos explore exciting careers for women in science, trades and technology-related fields. Since their launch in 2009, the videos have become increasingly popular, being used as a resource tool in classrooms, assemblies and career presentations across Canada.

We have been thrilled with the success of this project; and were amazed when careercruising.com, an online career guidance system used in schools and libraries in 50 states and all 10 provinces, asked to feature our Women in Action Web Videos in their database of occupation profiles.

Also, thanks to our collaboration with WISEatlantic, we have been approached by the Chair for Women in Science and Engineering for Ontario to produce three additional Women in Action Videos. They will be added to our library in early 2015.

Each video features a Techsploration role model who provides a two-to-three minute overview of her career.

The videos can be viewed in the Women in Action library at techploration.ca, wiseatlantic.ca, or on Techsploration's YouTube channel.

Projects

Scholarships

Techsploration offered 10 scholarships ranging in value from $1000 – $3000 to recognize outstanding Techsploration alumnae.

Dominque Zwicker, New Germany Rural High School
Dalhousie University, Bachelor of Health Science

Alison Wood, East Antigonish Academy
Cape Breton University, Engineering Controls and Technology

Juliana Alick, Springhill Junior Senior High School
NSCC Marconi Campus, Heavy Duty Equipment Mechanics

Leah Cook, New Germany Rural High School
Dalhousie Agricultural Campus, Bachelor of Science (Agriculture)

Taryn MacDonald, Dalbrae Academy
NSCC Strait Area Campus, Welding

Kelsey Hanhams, Fanning Education Centre/Canso Academy
Medavie HealthEd, Primary Care Paramedic

Chelsea Penney, New Germany Rural High School
Acadia University, Bachelor of Science

Aleta MacDonnell, Central Kings Rural High School
Dalhousie University, Bachelor of Science

Brooklyn Connors, Duncan MacMillan High School
NSCC Institute of Technology Campus, Industrial Mechanical

Olivia Emino, New Germany Rural High School
Trent University, Bachelor of Science

Projects

Webinars

We hosted our pilot webinar in February 2014. This new tool was built and sustained with equipment, software and resources with the assistance of our partners. Teachers, guidance counsellors, students and Techsploration alumnae from four schools in the province participated in the pilot webinar.

Throughout the research phase of this project we achieved a greater understanding of how webinars can be used to improve both the participants' experience and program quality. As a result, we plan to expand the scope of this project in 2015 to include additional webinars for students and pilot webinars for role models and teachers.

Alumnae Tracking Project

The first phase of the Alumnae Tracking Project was such a huge success that the importance of continuing this initiative was obvious. It not only provided an opportunity to learn how to make program improvements, but proved that Techsploration works.

In our second phase, we focused on surveying alumnae who had graduated from high school since we finished phase one. We asked many of the same questions, hoping to identify trends over time as the project continues.

Check out the amazing results from the second phase of the project throughout this report.

Alumna Profile

Brooklyn Connors
Student, Industrial Mechanical

Techsploration does more than introduce young women to careers in science, trades and technology; it highlights the importance of math and science for their future careers.

"I knew I wanted to take a trade since I was little, so Techsploration helped me decide what courses in school would be consistent with a variety of trades. When I was in Techsploration I learned math and science were a major part in most trades; from then on I took courses that were math and science-related."

After completing a 100-hour cooperative education program, Brooklyn is now following in her father's footsteps and studying Industrial Mechanical at the NSCC Institute of Technology Campus to pursue a career as a millwright.

Influence

At the completion of the Alumnae Tracking Project, we learned how Techsploration influenced their lives.

Our alumnae surveys ask the same questions each year so we can identify trends over time. This section outlines those themes and provides the percentage of respondents who said they either 'somewhat' or 'strongly agree' with the following statements:

Choosing Careers

82 — Techsploration introduced me to career opportunities that I don't think I would have known about otherwise.

71 — Techsploration led me to seriously consider entering careers that I would not have thought about otherwise.

Advancing Education

80 — Techsploration showed me that math and science courses are important.

53 — Techsploration influenced my decision to take math and science courses in high school beyond the basic level required for graduation.

35 — Techsploration influenced my decision to stay in school and graduate from grade 12.

47 — Techsploration helped me make a decision to go to community college, university or other post-secondary study.

“Who cares if girls are in science, trades or technology?”

Our Sponsors.

Benefits to Sponsors

Development of a Local Workforce
Your support demonstrates leadership in promoting education, training, and youth initiatives that will lead to career and job opportunities for Nova Scotians.

Addressing the Skills Shortage
The current skills shortage will require a significant recruitment effort to attract new workers to science, trades and technology fields. Techsploration directly addresses this challenge. Women make up over half the workforce and present a viable source of skilled workers in a wide variety of occupations.

Involvement in Techsploration also facilitates organizations in attracting talented young people to post-secondary educational training opportunities. For employers, this is a way to renew your workforce in future years and to start succession planning.

Workplace Diversity
Your participation demonstrates the value you hold for workplace diversity. Techsploration is a proven program that supports employment equity initiatives and programs.

Demonstrate Commitment to Your Community
The increased popularity of corporate citizenship has meant corporations have become a vital part of community and non-profit organizations. Techsploration offers you the opportunity to make a significant statement about your commitment to the communities in which you operate.

Recognition
Your organization will be recognized in all promotional materials. Your corporate logo will appear on Techsploration program materials distributed to teachers, role models, students and their parents. In addition, your name will be highlighted at the Annual Launch, Alumnae Conference and Techsplorer Events.

Our Sponsors

Acadia University

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Atlantic Canada Regional Council of Carpenters, Millwrights and Allied Workers, Local 1178

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International Brotherhood of Electrical Workers, Local 625

International Union of Painters and Allied Trades, Local 1439

Irving Shipbuilding Centre of Excellence

Irving Shipbuilding Inc.

IWK Health Centre

Labourers' International Union of North America, Local 615

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Our Partners

Nova Scotia Apprenticeship Agency

Women in Trades and Technology Nova Scotia

Nova Scotia Community College

"I think that the sponsors are incredible. **Without these sponsors, young women wouldn't have the opportunity to see what other careers there are to offer!** I read the comments from former Techsplorers; it isn't just me that thinks the sponsors are doing a great thing by making this program happen."

Leanne Goodick, 2014 Techsplorer
Shelburne Regional High School

Get Involved

Provide a Female School Team Role Model
Each school team is assigned a science, trade, or technology-related career to research with the assistance of a team role model employed in that career. She will:

- facilitate and host a 'Techsploration Goes to Work' day
- participate in a 'Techsploration Goes to School' event
- participate in a Techsplorer Event

Provide a Female 'Techsploration Goes to School' Role Model
Each year, up to 200 role models participate in Techsploration Goes to School events across the province. She presents on a science, trades, or technology-related career to male and female students, teachers and invited guests. The employer supports her participation by providing the time to attend the event and by covering the cost of travel and expenses.

Provide In-kind Products or Services
Techsploration relies on support from industrial and educational organizations. If you can provide an in-kind donation of services, promotional products, or participate on a Techsploration committee, please feel free to contact the Techsploration office at 902.491.4693. We would love to discuss this with you.

Provide Financial Support
Your donation will ensure the ongoing success and expansion of the Techsploration program. While considering the benefits to your organization, we want to assure you that your contribution can be flexible; payment for your contribution can be in one or more installments. If you decide that Techsploration is a great fit for your organization, please contact Arylene Reycraft, Program and Fund Development Manager, at 902.491.2798 or arylene.reycraft@techsploration.ca.

Alumna Profile

Leah Cook
Student, Bachelor of Science (Agriculture)

With two sisters who were also Techsplorers, Leah Cook knows first *and* second-hand the personal development and life skills that participating in Techsploration provides.

"Being a part of Techsploration is an experience that I have taken many life lessons and skills away from; lessons and skills that I still benefit from even years after completing Techsploration. It's an organization that I think every female should have the opportunity to participate in. Through Techsploration, many young females will acquire the education and drive to fulfill their highest potential and allow themselves to achieve a successful life."

Leah is currently studying for a Bachelor of Science (Agriculture) in Animal Science at the Dalhousie Agricultural Campus.

Influence

Building Confidence

94 — Techsploration showed me that women can be successful in careers involving trades, technology or science.

89 — Techsploration showed me that I can be successful in any career I choose.

66 — I think that my experience with Techsploration made me feel more confident about my future career options.

71 — I think that my experience with Techsploration helped increase my self-esteem.

Developing Skills

60 — I think that my experience with Techsploration helped me learn skills I could use when applying for a job or at work.

66 — I think that my experience with Techsploration gave me better career research skills.

65 — I think that my Techsploration experience helped me feel more confident when making presentations or speaking.

Changing Attitudes

84 — Based on my Techsploration experience, I am more likely to recommend that other girls/women consider careers in trades, technology or science.

86 — Based on my experience with Techsploration, I believe I will/would encourage my own daughters to consider careers in trades, technology and science.

The Organization

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"Without a doubt, the most life changing lesson Techsploration taught me was not that trades are for girls, but that **trades are for me**."

Taryn MacDonald
2014 Techsploration Scholarship Recipient
Welding, NSCC Strait Area Campus

These young women **thank you!**

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