

## Background Information

Founded in the year 2000, MaRS Discovery District is an independent registered charity funded by the Province of Ontario, The Ontario Trillium Foundation, charitable trusts and the charitable and community development divisions of major Canadian Banks. Various law firms, accounting and management consultants, technology companies and other for-profit firms having an interest in the development and commercialization of new technologies are also involved in funding the MaRS initiative.

MaRS is focused on technology transfer and commercialization. MaRS' vision and mission are as follows:

- Our future matters; the quality of that future depends on Innovation.
- MaRS' aims to drive economic and societal prosperity by harnessing the full potential of Canadian innovation.

## About our guest: Joe Wilson and his work at MaRS

Joe is an education advisor at MaRS, working with education technology entrepreneurs to bring innovations to K-12 and post-secondary schools, teachers, parents and students. He has also contributed to a series of educational programs, resources and events that foster Entrepreneurial Thinking.

A common thread in MaRS' outreach to the Education establishment is to help shift the culture of learning; 'don't look for a job, instead learn to create your own job'. The tools MaRS has developed are intended to help participants recognise Problems as Opportunities, and to work within the learning community to test and iterate their collaborative solutions.

MaRS' efforts have primarily consisted of 1) partnerships with other organisations to deliver camps and hackathons for youth, and 2) teacher-training and associated tool development to embed Entrepreneurial Thinking in classrooms. MaRS seeks to align its offering with pre-existing educational values. For example, teacher development is often presented as 'inquiry-based programming'.

- **Youth Hackathon Playbook:** A resource to help educators to plan their own hackathons and idea jams, in the hope that the playbook will nudge educators in the direction of connected learning.
- **Entrepreneurs Toolkit workshops:** Experiential, hands-on workshops facilitated by experienced entrepreneurs. The workshops offer tools, mentoring and peer feedback to help entrepreneurs solve specific problems and develop essential business components.
- **The Future Leaders Series:** A 1-week summer program for teens aged 13 to 15, modelling the life of an entrepreneur through a combination of expert mentoring and hands-on assignments.

## What are some of Joe's ongoing challenges?

- **The spirit of innovation is to get as much done as quickly as possible for as cheaply as possible, planning to fail in the spirit of discovering what works. This stance is often at odds with those of the prevailing Education establishment. Brokering successful communication and mutually-beneficial partnerships can be challenging.**
- Messaging the offer effectively for the Education establishment. For instance, a bias exists to the term 'Entrepreneur', yet MaRS sees that 'entrepreneur' embodies the practices and skills for which they advocate.
- **Ensuring that resources, programs and events access and engage an increasingly diverse set of participants, avoiding the exclusivity which is often associated with the MaRS.**
- **Expand and enrich community partnerships. In 2014, MaRS and TDSB partnered on an Entrepreneurial Thinking initiative. Meeting TDSB's administrative interests and securing an ongoing commitment has proved challenging.**

## What can Systems Thinking offer MaRS in its effort to help shift the culture of education in Ontario?

*In our Systems Thinking Ontario sessions we are attempting to apply Soft Systems Modeling (SSM). The following pages describe progress made in the April session and set some context for our present May session of ST-ON.*

## Soft System Modeling Session #1 – April 15<sup>th</sup>, 2015 – What did we do?

First Joe Wilson elaborated on the history of his participation at MaRS and the challenges faced when introducing the Entrepreneurial Thinking course material into the Public education system.

First, we agreed to take the bolded bullet points from the Challenges section at the bottom of the previous page as a reasonable approximation of a “Problematical Situation”.

Next (and this took up most of the time available), we took turns identifying different perspectives on the problem situation. The following Perspectives and value/perspective statements were captured on flip-charts:

### Perspectives we identified in April:

- Teachers; Senior, Junior, etc.
- Educational Assistants
- School/Faculty Departments
- Unions
- MaRS
- Universities and Colleges
- School Boards
- TDSB
- Ministry of Education
- Corporations
- Employees
- Ontario College of Teachers
- Parents
- Textbook and other suppliers
- Voters

### Statements Representative of values/perspectives:

- Will my kid get into the right school? Does this course aid or impair that objective?
- Teachers keep order in the classroom and keep learning happening – “custodial role”.
- Some people in school advocate for self-agency
- Entrenchment of existing processes – teach in the way we already know
- Entrepreneurship means different things to different people – creativity, innovation, commercialization, etc.
- Entrepreneurial Thinking is thinking for the 21<sup>st</sup> century – helps kids to invent their own jobs
- Reflection – double loop learning
- Kids should go to university – need good test scores and we reward “good boys and girls”.
- University is desirable – as a path to success.
- Parents just want to know: “what are the marks/grades my kid is getting”
- Don’t fail.
- Voters want improved test scores.
- Standardized tests are expected to improve over time.
- In actuality, there are diverse pathways experienced – re: “life after high school”
- Innovation is, “key”.
- Student: “someone else knows better than I do.”
- Student: “I am special.”
- Student takes a “serve me” disposition in the classroom.
- Parents want to feel proud of their children.
- Do certain kids gravitate to Entrepreneurial thinking?
- Is Entrepreneurial thinking valuable for all kids?
- “Entrepreneurship” – distinctions of “privilege” – some groups more access to entrepreneurship.
- “Entrepreneurial Thinking” - critical analysis - both positive and negative aspects.
- Outcome-based measures and political mandates.
- What is the suitable environment/context for Entrepreneurial Thinking education – Informal, Formal?
- Not everyone is autodidactic.
- MaRS has their specialized lingo
- Great capacity and know-how is available
- Move [educational] practice towards process and away from content.

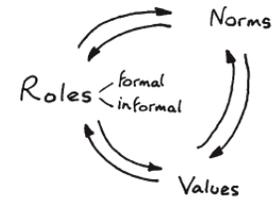
### Recap on “attitude “of SSM:

- **The SSM process is about cycles of discussion, debate and learning rather than producing the “ideal” solution first time.**
- **While modeling should be closely inspected in ways that increase the rigour of the overall inquiry, many consider that the debates and discussions that surround model building are in some ways more important than the model itself.**

We then jumped ahead and around a bit. We sought clarification of the sequence of steps and the forms of analysis involved in SSM – and what to undertake next. Specifically, we clarified “Analysis #2 (Social)” from the “Finding Out” stage:

“You should have some sense of what you take ‘social reality’ to be. .... much human action lie outside logic, in cultural norms or emotions... if we are to be effective in social situations, we have to take ‘culture’ seriously and decide what we mean by it.

“SSM makes use of a particular model... it has proved itself useful in situations from small firms dominated by individuals to large corporations which develop and (partially) impose their own norms. The model is at the same time simple (you can keep it in your head) but also subtle. It consists of only three elements – **roles**, **norms**, **values** – but the subtlety comes from the fact that none of these elements is static. Each, over time, continually helps to create and modify the other two elements, as shown”



each arrow means:  
'creates and recreates'

### Recap of SSM steps:

1. Acknowledge, explore and define the “problem situation” in some way.
2. Express the problem situation – ideally in the form of a “rich picture” that elaborates on:
  - a. Structures
  - b. Processes
  - c. Climate
  - d. People
  - e. Issues expressed by people
  - f. Conflicts
3. Identify and develop models of “Root Definitions” – each representing a distinct set of values from which to evaluate the situation
  - a. Identify plausible, relevant purposeful perspectives that can describe the real world activities
  - b. For each perspective address the following (CATWOE):
    - i. Transformation
    - ii. Meaning of Transformation (Weltanschauung)
    - iii. Customers - benefit by Transformation
    - iv. Actors Facilitating Transformation
    - v. Owners of the (sub) System
    - vi. Environmental influences
4. Develop the Model.
5. Compare the Model with the Real World to Gain Insights.
6. Develop Desirable and Feasible Interventions.
7. Take Action to Improve the Situation.

**Roles** are social positions which mark differences between members of a group or organization. They may be formally recognized, as when a large organization has, say, a chief executive, directors, department heads, section heads and members of sections. But in any local culture informal roles also develop. Individuals may develop a reputation as ‘a boat-rocker’, or ‘a licensed jester’ – someone who can get away with saying things others would suppress. The informal roles which are recognized in a given culture tell you a lot about it.

**Norms** are the expected behaviours associated with, and helping to define, a role. Suppose you told a friend you were going to meet ‘the vice-chancellor of a UK university’ next day. If you returned from the meeting and said that the VC sat picking her teeth, with her feet on the table, and was very foul-mouthed, your friend would be flabbergasted. Such behaviour is way outside the expected behaviour of someone in the role of VC in British society.

**Values** are the standards – the criteria – by which behaviour-in-role gets judged. In all human groups there is always plenty of gossip related to this. People love to discuss behaviour in role and reach judgements which praise or disparage: ‘He’s a very efficient town clerk who services committees well’; ‘She’s an ineffective vice-chancellor who won’t take decisions.’

**It is obvious from these definitions that the three elements – roles, norms, values – are closely related to each other, dynamically, and that they change over time as the world moves on.**

Following the April session, some participants in ST-ON developed a “Rich Picture” – to serve as a starting point for the May session and further learning and practice of the Soft Systems Methodology.

