



Faculty of Design

2016

Synthesis maps: Systemic design pedagogy, narrative, and intervention

Bowes, Jeremy and Jones, Peter

Suggested citation:

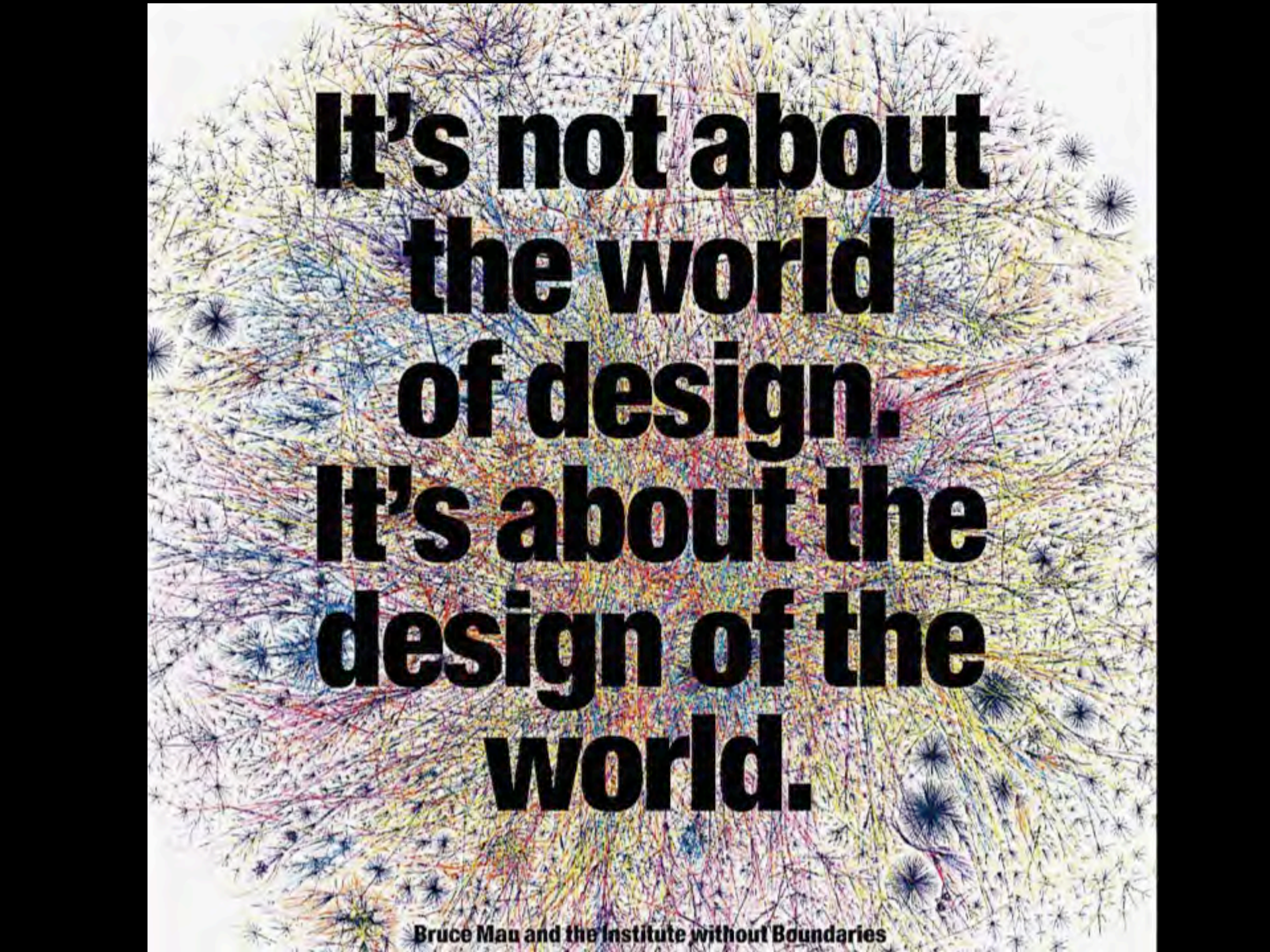
Bowes, Jeremy and Jones, Peter (2016) Synthesis maps: Systemic design pedagogy, narrative, and intervention. In: Relating Systems Thinking and Design Symposium (RSD), 13-15 Oct 2016, Toronto, Canada. Available at <http://openresearch.ocadu.ca/id/eprint/1932/>

Open Research is a publicly accessible, curated repository for the preservation and dissemination of scholarly and creative output of the OCAD University community. Material in Open Research is open access and made available via the consent of the author and/or rights holder on a non-exclusive basis.

The OCAD University Library is committed to accessibility as outlined in the [Ontario Human Rights Code](#) and the [Accessibility for Ontarians with Disabilities Act \(AODA\)](#) and is working to improve accessibility of the Open Research Repository collection. If you require an accessible version of a repository item contact us at repository@ocadu.ca.

SYNTHESISMAPS

as design constructs



**It's not about
the world
of design.
It's about the
design of the
world.**

Bruce Mau and the Institute without Boundaries

how to deal with systemic complexity ...and the wicked systemic problem?...

*We as designers can make progress on the historic opportunity to re-envision and redesign existing social systems **through frameworks for understanding**, a shared view of the problem, and tools to allow us to innovate, and provide transformative systemic change.*

*Design provides a variety of **visual tools and frameworks**.*

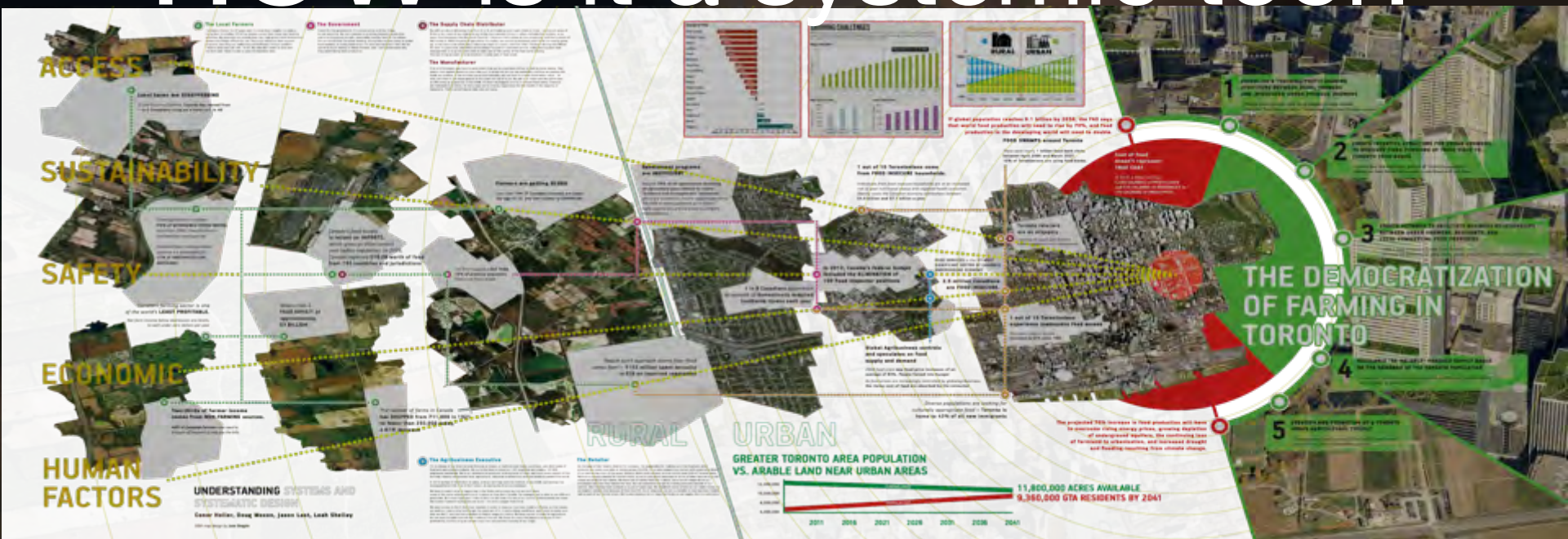
The GIGA-synthesis map as a key systemic visual tool for complex problem understanding

Provide context, precedent and relationship to other systemic mapping approaches

Outline elements & aspects of a Synthesis Map creation with examples

Synthesis Map

how is it a systemic tool?





SCAFFOLDS & INTEGRATES EXISTING DESIGN METHODS TO CREATE A DIALOGUE AROUND A TOPIC

Choosing a topic – What are the essentials?

- *A topic that interests you*
- *It should be challenging and have enough scope*
- *Is adequate research is available*
- *Who is the appropriate audience?*

Thinking it Through: A Practical Guide to Academic Essay Writing, Avery et al..

Bruce Mau, Design and the Welfare of All Life, Design Ecologies: Essays on the Nature of Design, Tilder and Blostein



SCAFFOLDING ON EXISTING DESIGN METHODS



The MINDMAP as a research plan?

Drawing an informal and pictorial outline, sometimes known as a mind map, can be a way of freeing yourself from the constraints of sentences and paragraphs so that you can explore ideas more creatively. To draw a mind map, begin by placing a tentative thesis in the centre of a blank page. Explore the thesis by drawing branches from it to represent ideas and concepts that, from reading and research, you now associate with the topic thesis. As you are drawing / composing your map, create as many branches as you can, and as many twigs as possible from the branches. The mind map can be used as an exploratory method only if you push yourself to explore; restricting your thinking to the main branches will never allow you to recognize the smaller, more subtle possibilities of your topic.

A mind map for the "waste land" sample essay might look something like the diagram to the left. Thinking it Through, Avery

SCAFFOLDING ON EXISTING DESIGN METHODS



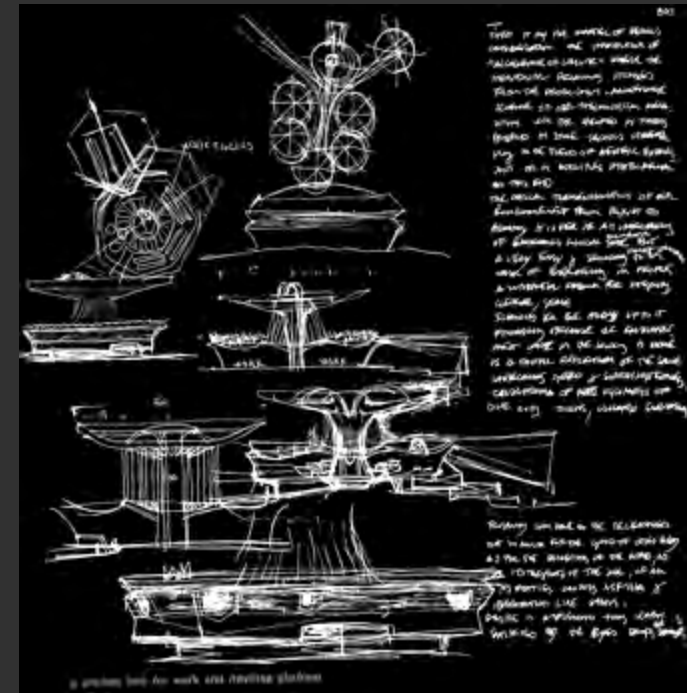
Converging your ideas?

Based on your research about developments in your topical area, and the overlaps between related topics, create diagrams which identify commonalities.

- For example if “diabetes” is the project topic and / or concern, your research might suggest that “food” and “wellness, and maybe “food production” are topics that overlap with it.

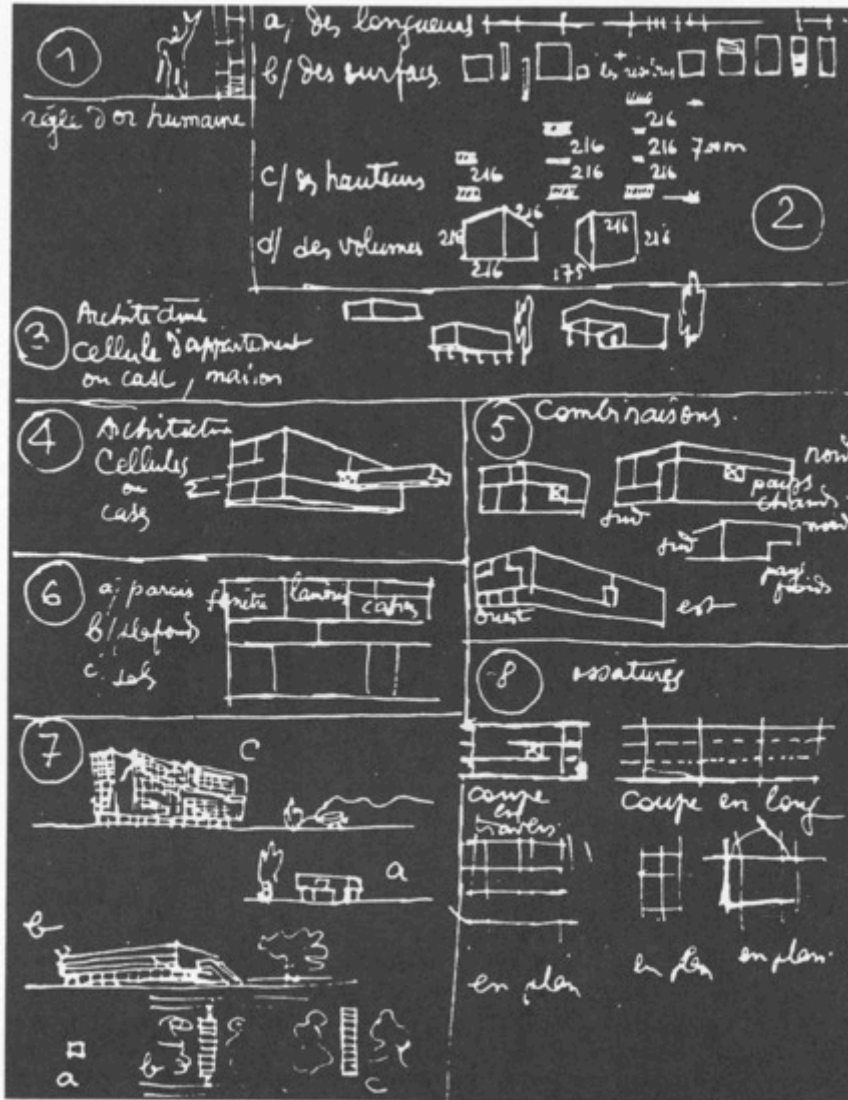
SCAFFOLDING ON EXISTING DESIGN METHODS

- *the "referential sketch" as a visual pneumonic to understand a system of complexity*
- *the model & prototype to test team ideas, and create a dialogue around conceptual development*
- *A design process artifact needs to do both*



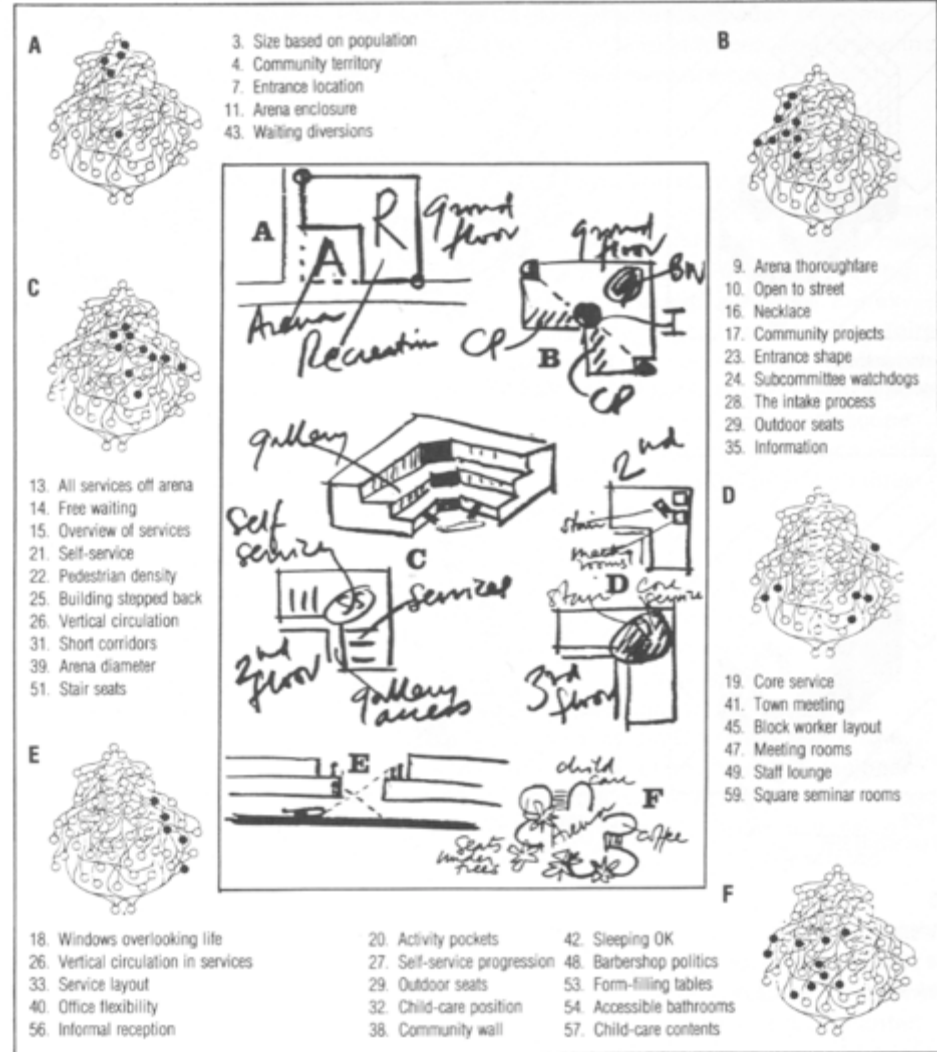
Paolo Soleri's Sketche, and ongoing study model for Arcosanti

SCAFFOLDING ON EXISTING DESIGN METHODS



22

Le Corbusier's guidelines for the ATBAT project of 1946.

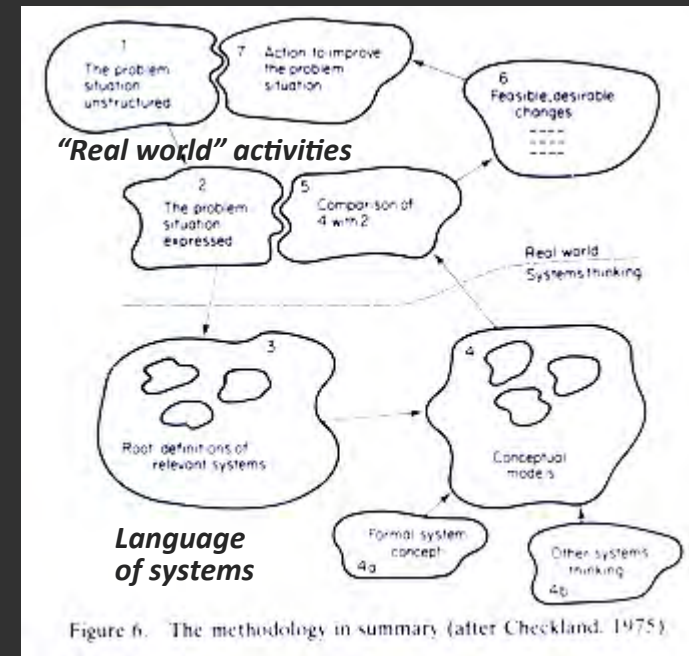
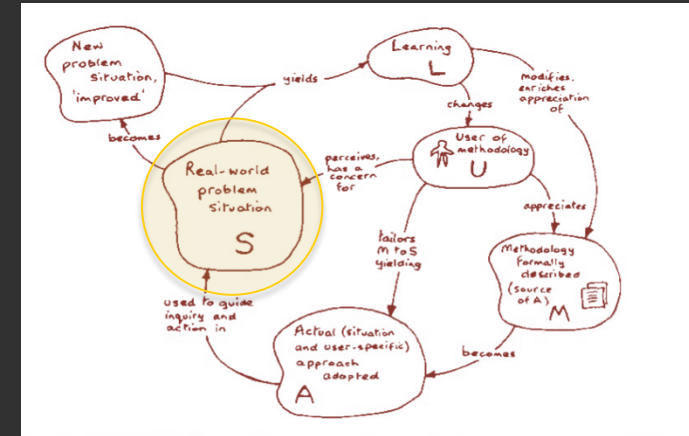


34

The "pattern language" of Alexander, Ishikawa, and Silverstein (an application in the San Francisco area).

SCAFFOLDING ON EXISTING DESIGN METHODS

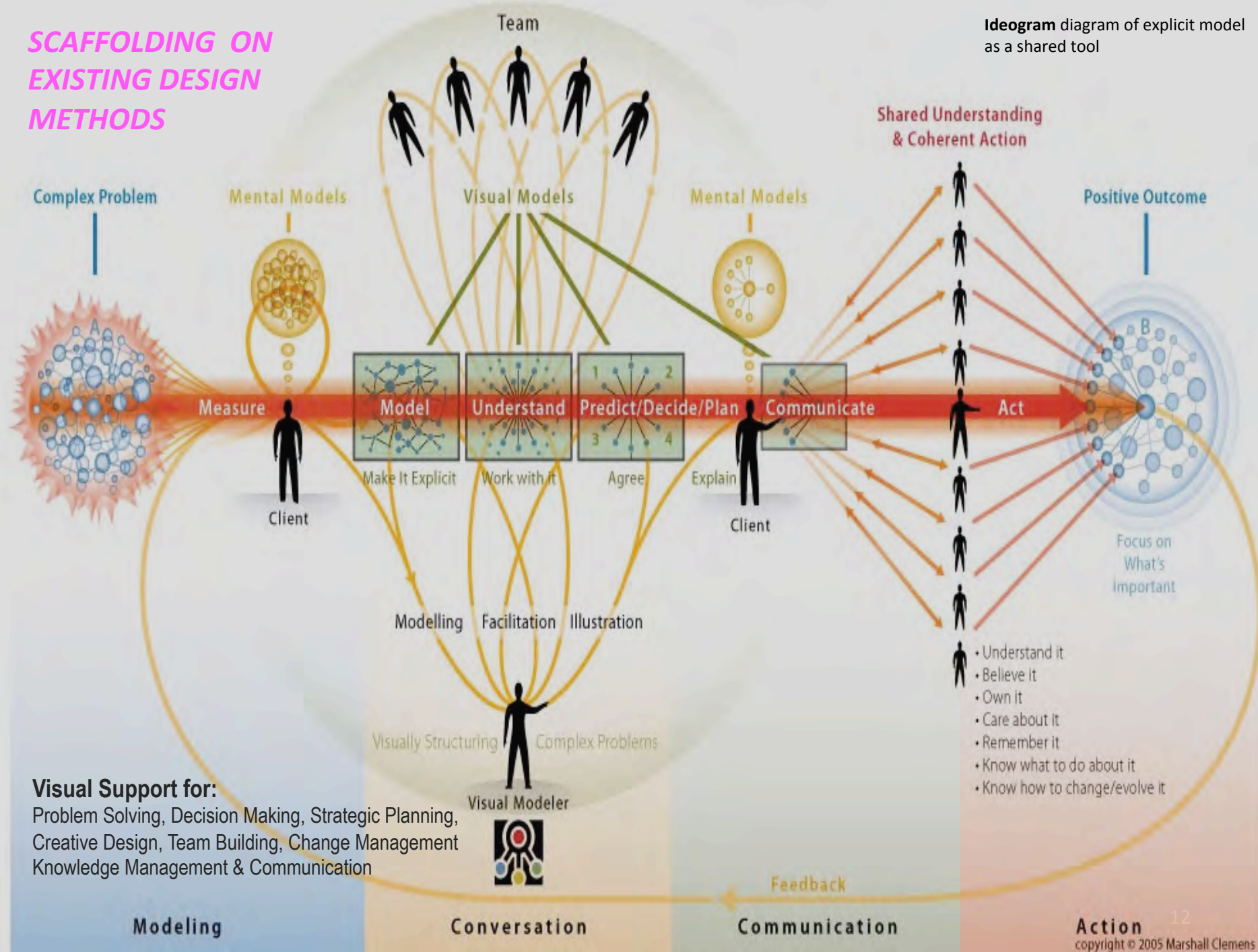
- Checkland's idealized model, as a “learning” model (LUMAS)
- framed with the idea of the “soft system” as a more visual and qualitative method of seeing systems through an “idealized model”
- a systemic map that is a shared vehicle for learning



Checkland,, soft systems approach

SCAFFOLDING ON EXISTING DESIGN METHODS

Ideogram diagram of explicit model as a shared tool



Visual Support for:

Problem Solving, Decision Making, Strategic Planning,
Creative Design, Team Building, Change Management
Knowledge Management & Communication

SCAFFOLDING ON EXISTING DESIGN METHODS

- system stock and flow, and the representation of causal or systemic elemental relations. (Meadows)
- builds on system literacy
- includes influence maps, and other systemic diagrams similar to systemigrams

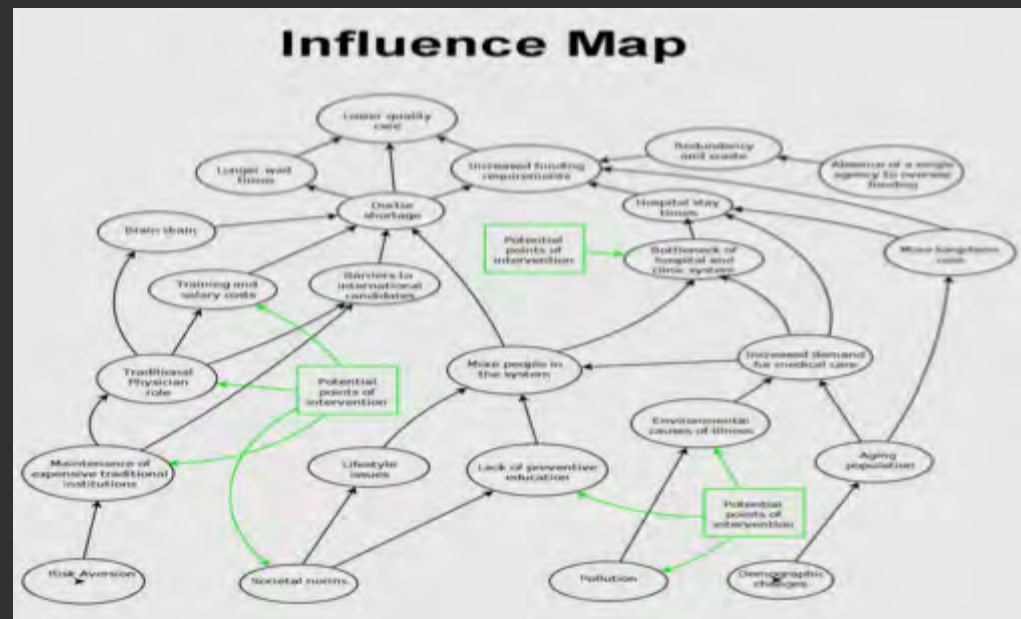
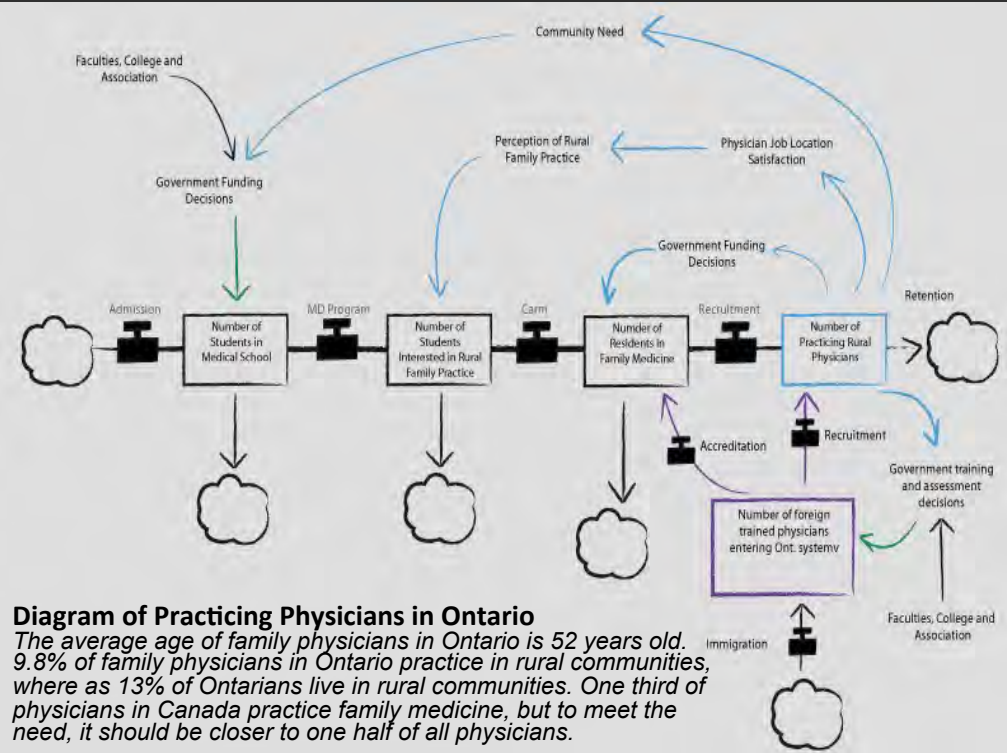


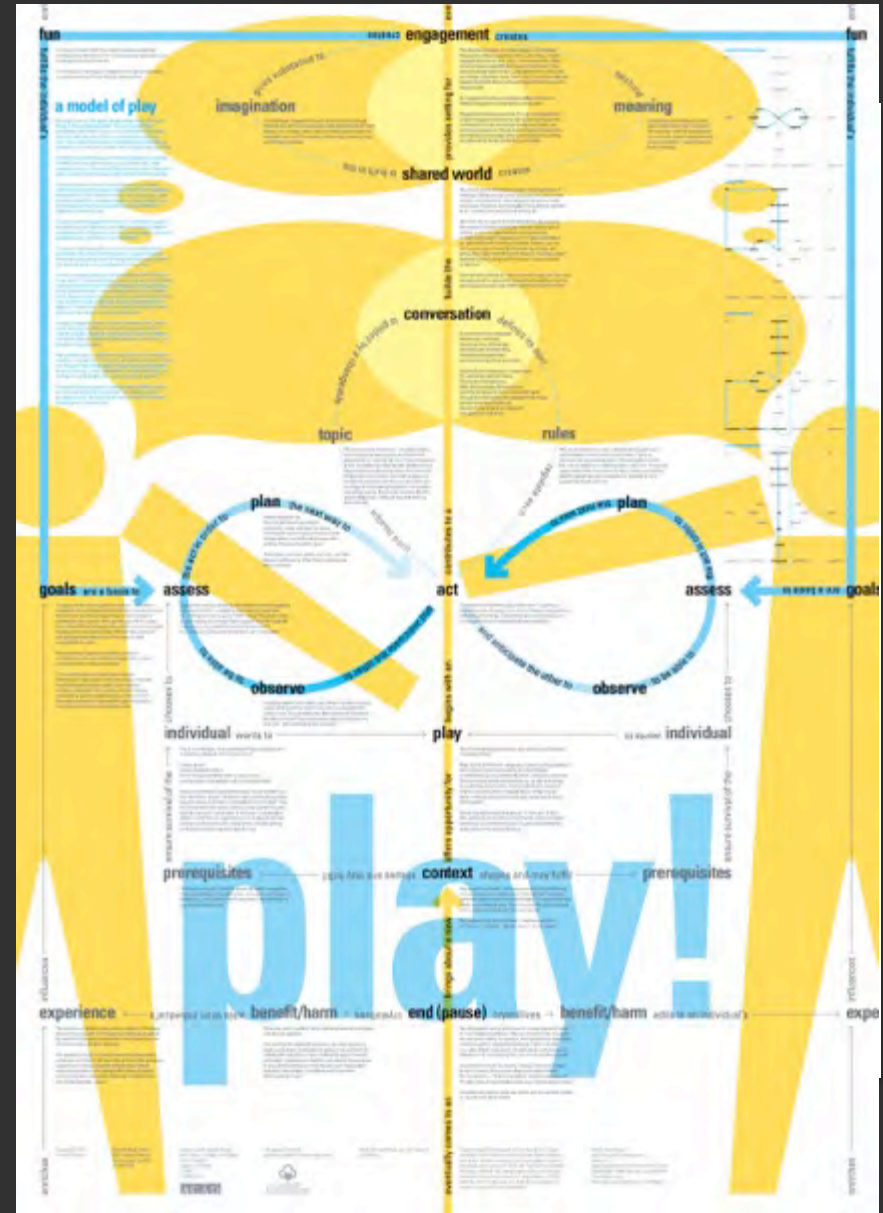
Diagram of Practicing Physicians in Ontario, Josina Vink, Jessica Mills, Phouphet Sihavong, Social Systems project, Strategic Foresight & Innovation, OCAD U

HEALTHY HEALTHCARE, Oksana Kachur, Jonathan Resnick, KarlShroeder, SFI Student Project, identifying points of intervention

Professor Jeremy Bowes, OCAD University, Oct.2016, RSD5

SCAFFOLDING ON EXISTING DESIGN APPROACHES

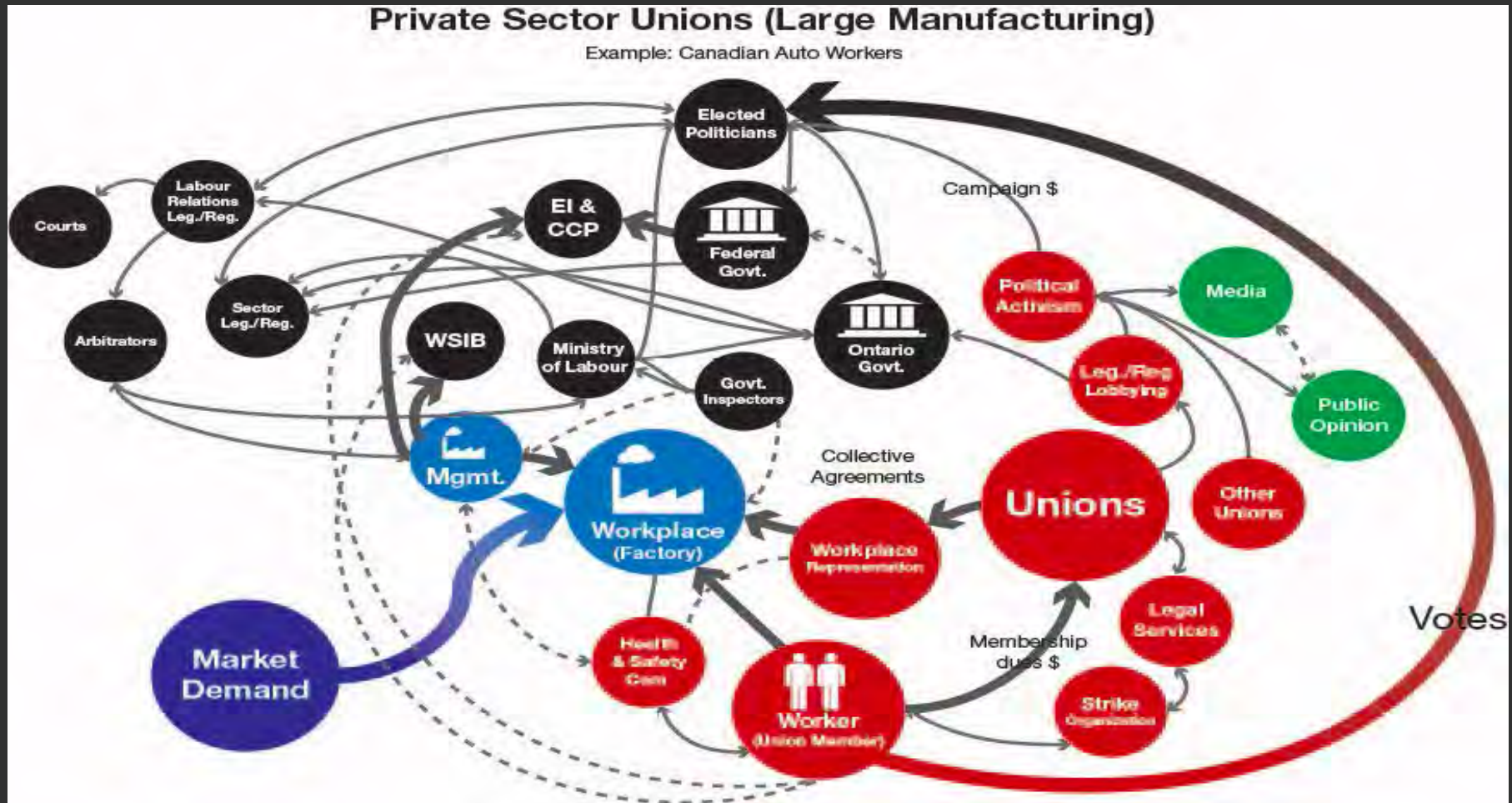
- *uses the designed map, to represent a conversation and dialogue around the activity as demonstrated in Dubberley Pangaro work.*
- *develops a “rich picture” as outlined by Checkland to engage with the design problem*
- *co-creates a shared visual model as in the GIGAmaps by Sevaldson.*



Hugh Dubberley, Paul Pangaro, illustration of Play

[illegible]

SCAFFOLDING ON EXISTING DESIGN APPROACHES



- *System diagrams, cause and effect, influence diagrams, etc.*
- *“Systemigrams” by Boardman and Sauser*

Protecting Workers in Global Economy , Maggie Dempster, Pansy Lee, and Simon Trevvarthen , Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U

SCAFFOLDING ON EXISTING DESIGN APPROACHES

Protecting Canadians & Vulnerable Workers in a Global Economy

Economy



Demographic



Unions

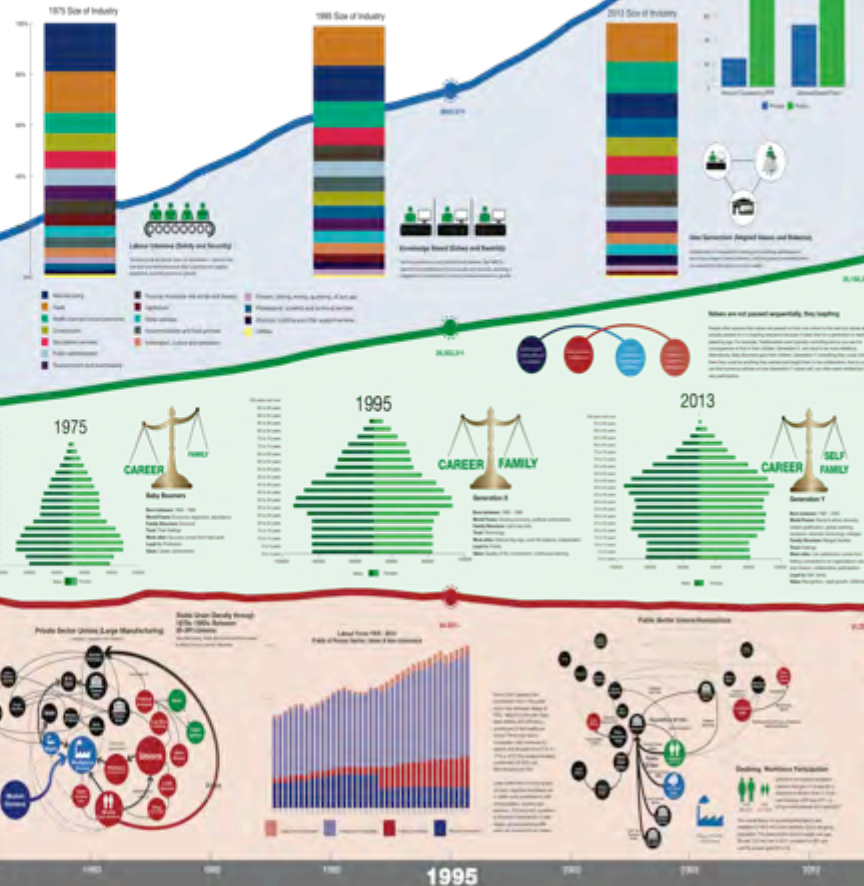


Since 1975, Canada's economy, workplaces and people have changed immeasurably. Globalization has driven trade but has also led to the manufacturing sector's decline, the majority of the nation's post-war economy. Increasingly the service-based economy, Canada has seen a fundamental shift in the nature of work, types of employment and diversity of workplaces. Gone is the factory floor, replaced by more part-time, casual and even precarious jobs.

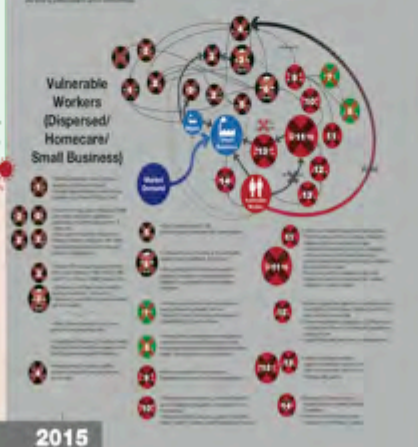
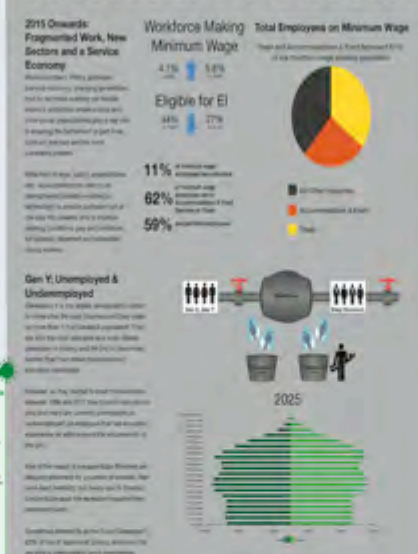
As work has changed, so has women's participation in the workforce, cultural diversity driven by immigration and attitudes of different generations in the workplace. These generational attitudes are reshaping how workers connect and value jobs. The post-war Baby Boomer generation

driven by certainty, and now increasingly focused on retirement, is being replaced by a far younger Generation Y who expects to have multiple jobs and even careers. The stable job with defined benefits is increasingly the preserve of public sector workers. Increasingly, the private sector is fragmenting into a few large employers and small to medium businesses where most new immigrants, contractors, young people, semi-skilled and vulnerable workers earn a living. Traditionally, unions rooted in a given industry gave workers the collective strength to negotiate better wages, pensions and benefits, improved, safer conditions, and to organize their political muscle to advocate for greater workplace protections. Union membership is on the decline. Although, many have been

been passed to support and protect workers, like unions they have challenges responding to a new economy with a fragmented, dispersed and isolated workforce. These tears in the legal and collective architecture designed to protect workers means that there are serious gaps where young, immigrant and semi-skilled workers can be subject to exploitation, unsafe conditions and be "hedge pigs". Having rights is a start but being able to exercise those rights is the key, this gap is designed to provide dialogue amongst labour activists to find creative and flexible solutions to enable all Canadians to work in decent, safe and protected workplaces.



Wicked Problem



Moving Forward



Creative and Generation Y Workers

- Levels of protection:**
- Build strong pathways out of menial jobs to meaningful work through the partnership of employers, post-secondary education and training institutions, and youth representation.
 - Incent employers to hire Generation Y employees through tax breaks, funding and training programs.
 - Incent workplaces to experiment with alternative to full time employment, such as job-sharing that enable Baby Boomers to split their jobs with young workers.
 - Widened the bandwidth of legal and regulatory protection to include part-time, freelance, sub-contractors and creative industries.
 - Expand Generation Y funding to create their own start-up companies.
 - Strengthen public awareness of the dangers of the workplace for Generation Y on occupational health & safety, harassment and discrimination, pay equity and employment standards.

Vulnerable Workers

- Levels of protection:**
- Update and expand existing legal "Workers Protection Architecture" to match the growing segmentation of "vulnerable workers"
 - Create greater flexibility in working arrangements and protection to reflect the part-time, casual and seasonal work trends
 - Regularize and skill low-paying work to improve pay and conditions, and to enable transitions beyond menial roles.
 - Explore how to organize dispersed and small workforces through technology (e.g. social media platforms)
 - Provide workers' protection information in easy to read formats in new immigrant groups' languages
 - Enable community engagement strategies to tackle precarious employment and unsafe working conditions.
 - Raise fines, penalties and punishments for employees exploiting "vulnerable workers" and conditions that lead to death or serious injuries.

Protecting Workers in Global Economy , Maggie Dempster, Pansy Lee, and Simon Trevvarthen , Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U

SCAFFOLDING ON EXISTING DESIGN APPROACHES

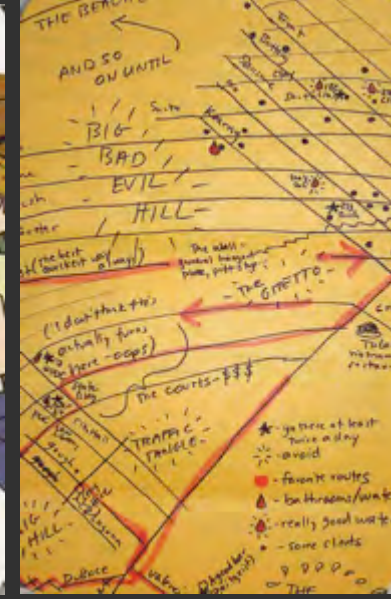
Affinity Diagrams



Scenarios



Cognitive Maps



Basic systemic stock & flow diagrams, Meadows

Iterative Context diagrams, Structure, Processes, Function and Purpose Gharajedaghi

Influence maps, Warfield

Causal loop diagrams, System Design, Meadows

Soft Systems / Rich Pictures, Checkland, Sevaldson

Systemigrams, Boardman

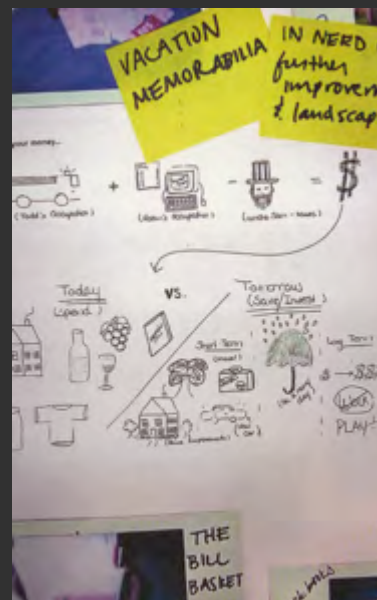
Gigamaps, Sevaldson

Mind maps, affinity diagrams, concept, & cognitive maps

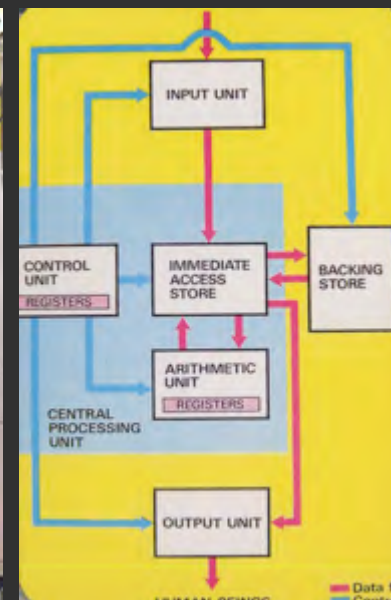
Images from IDEO Methods cards



Collage



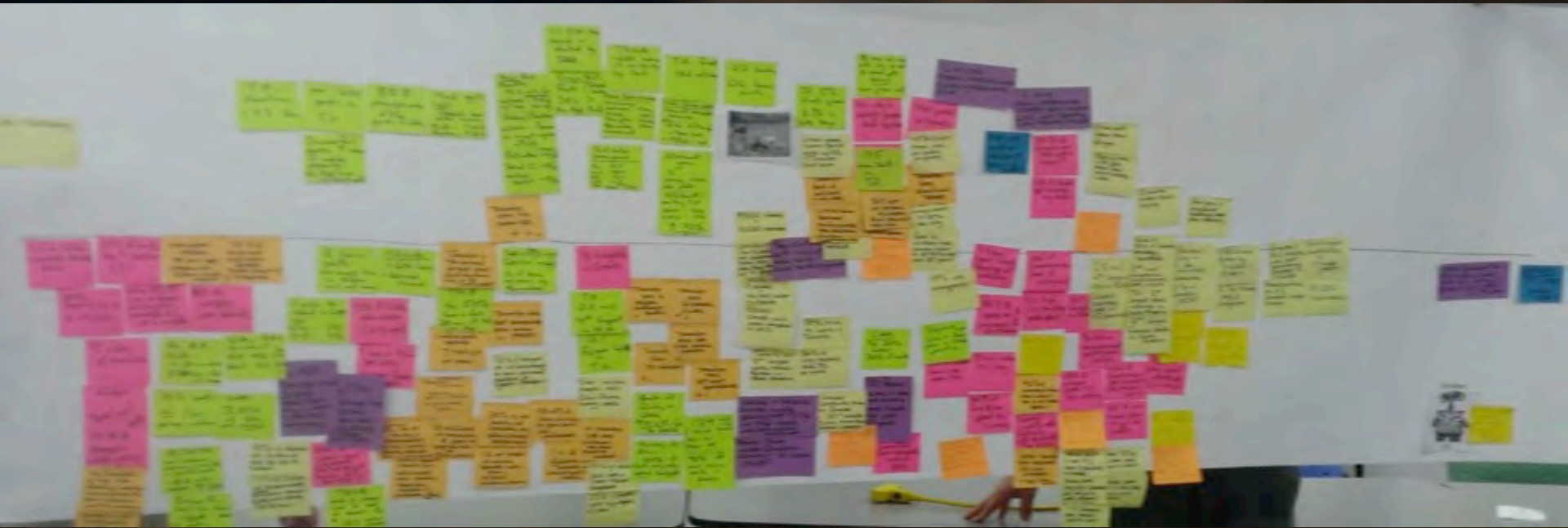
Draw the Experience



Flow Analysis

Synthesis Map Creation

what are the principles?



Toronto Urban Ecology Group, Cathy Clark, Heather Russek, Mike Greenwood, Tara O'Neil, Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U

SYNTHESIS MAP CREATION - PRINCIPLES

Synthesis Map creation

Collaborative transdisciplinary inquiry into real world problems to co-design solutions

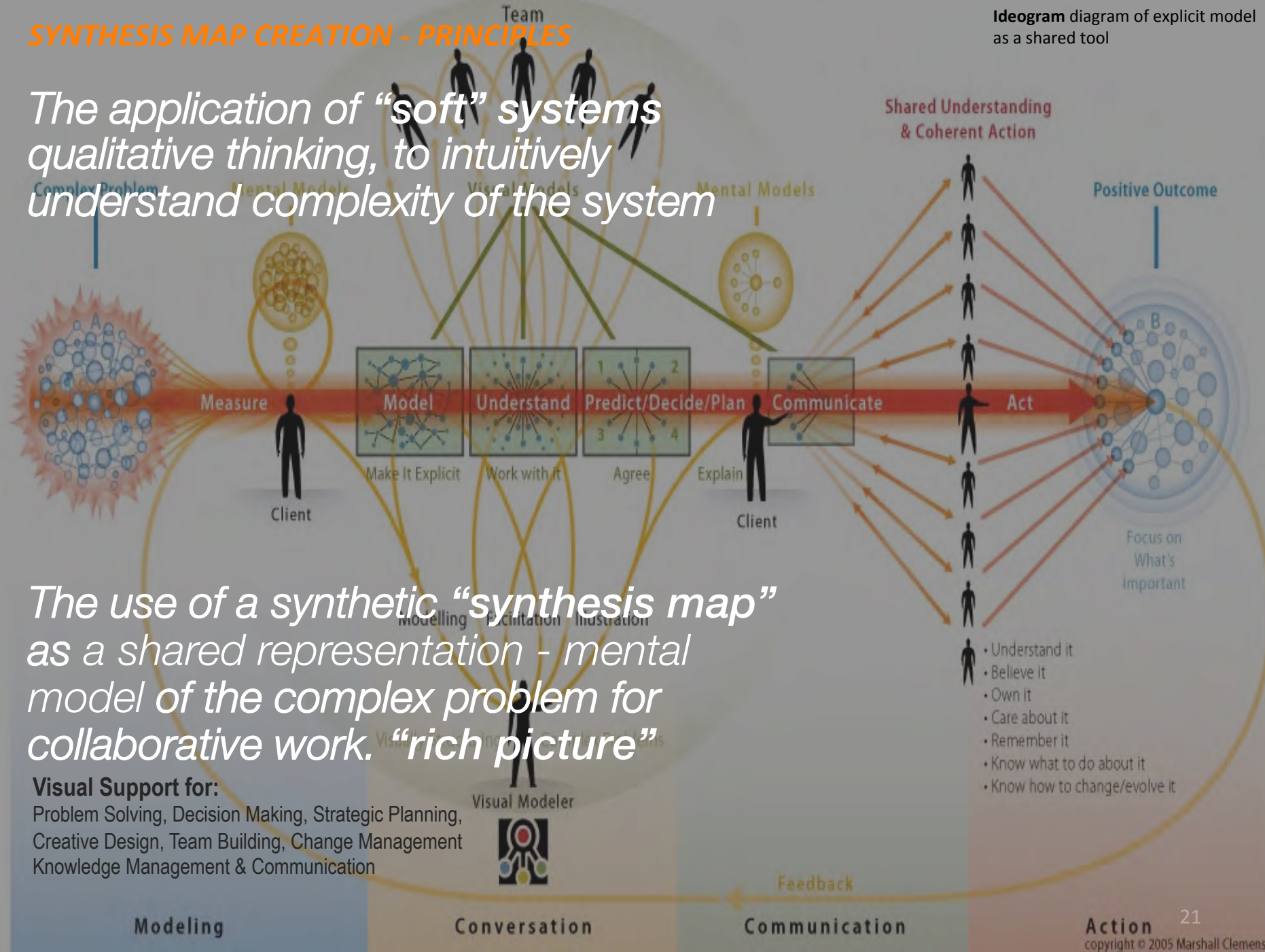
Practice based approach to studio work & research, collecting user-based information integrated into the understanding of the complex system

Use of design and system thinking to provide a holistic lens, to understand systemic and social system relations, big picture - ecosystem thinking

SYNTHESIS MAP CREATION - PRINCIPLES

Ideogram diagram of explicit model as a shared tool

The application of “soft” systems qualitative thinking, to intuitively understand complexity of the system



The use of a synthetic “synthesis map” as a shared representation - mental model of the complex problem for collaborative work. “rich picture”

Visual Support for:

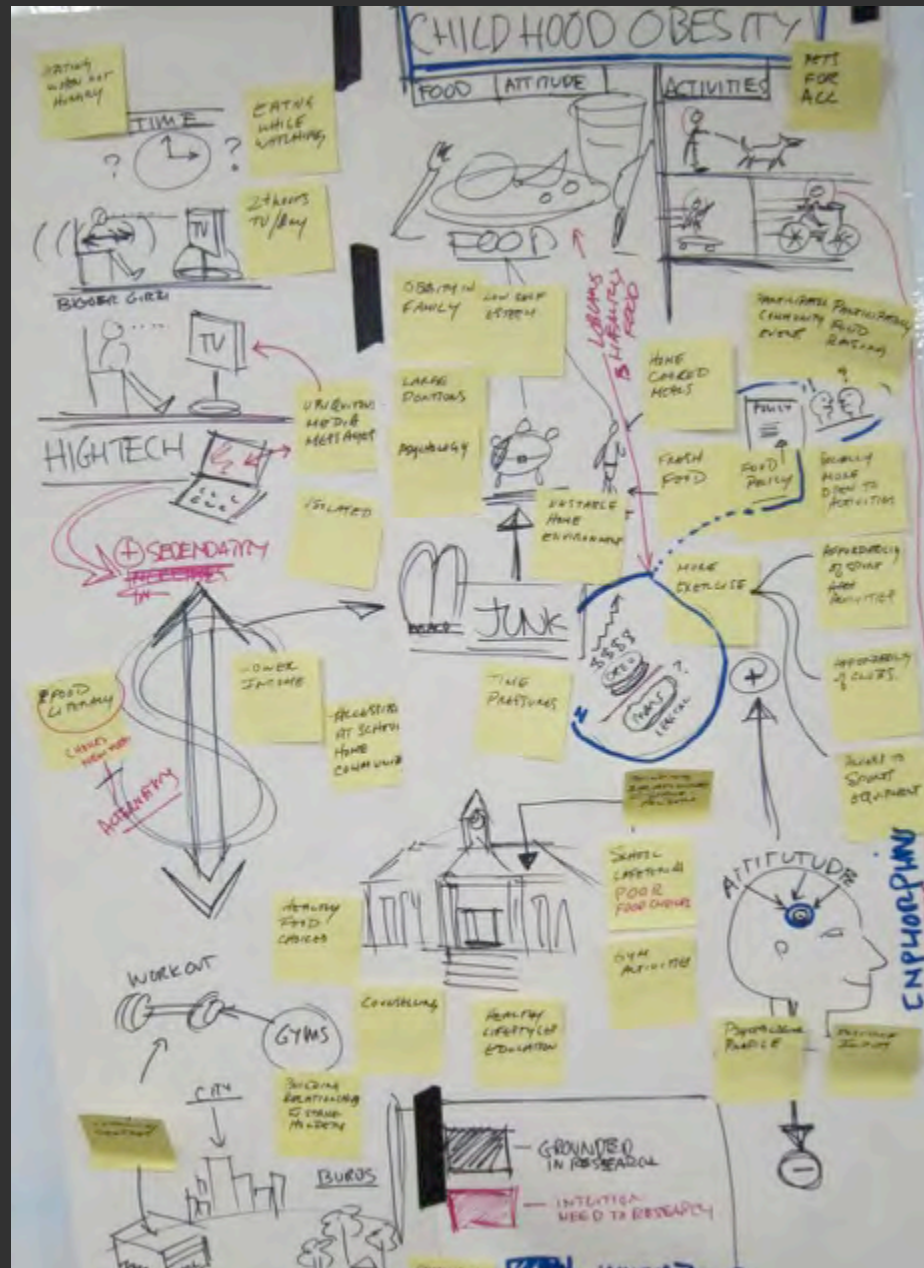
Problem Solving, Decision Making, Strategic Planning, Creative Design, Team Building, Change Management Knowledge Management & Communication

SYNTHESIS MAP CREATION - PRINCIPLES

Establishing of a “shared view” of the systemic problem

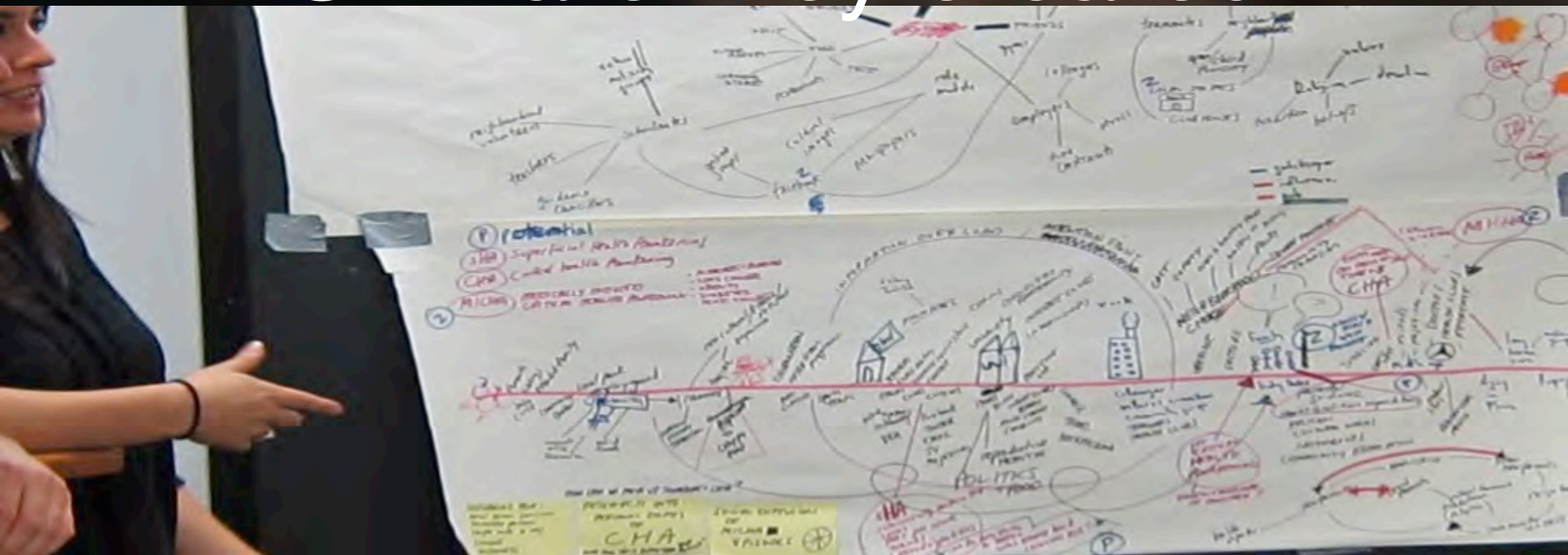
Creation of the map as a process of discovery, ordering, identifying and simplifying problem issues, working through ambiguity, not definitive solutions

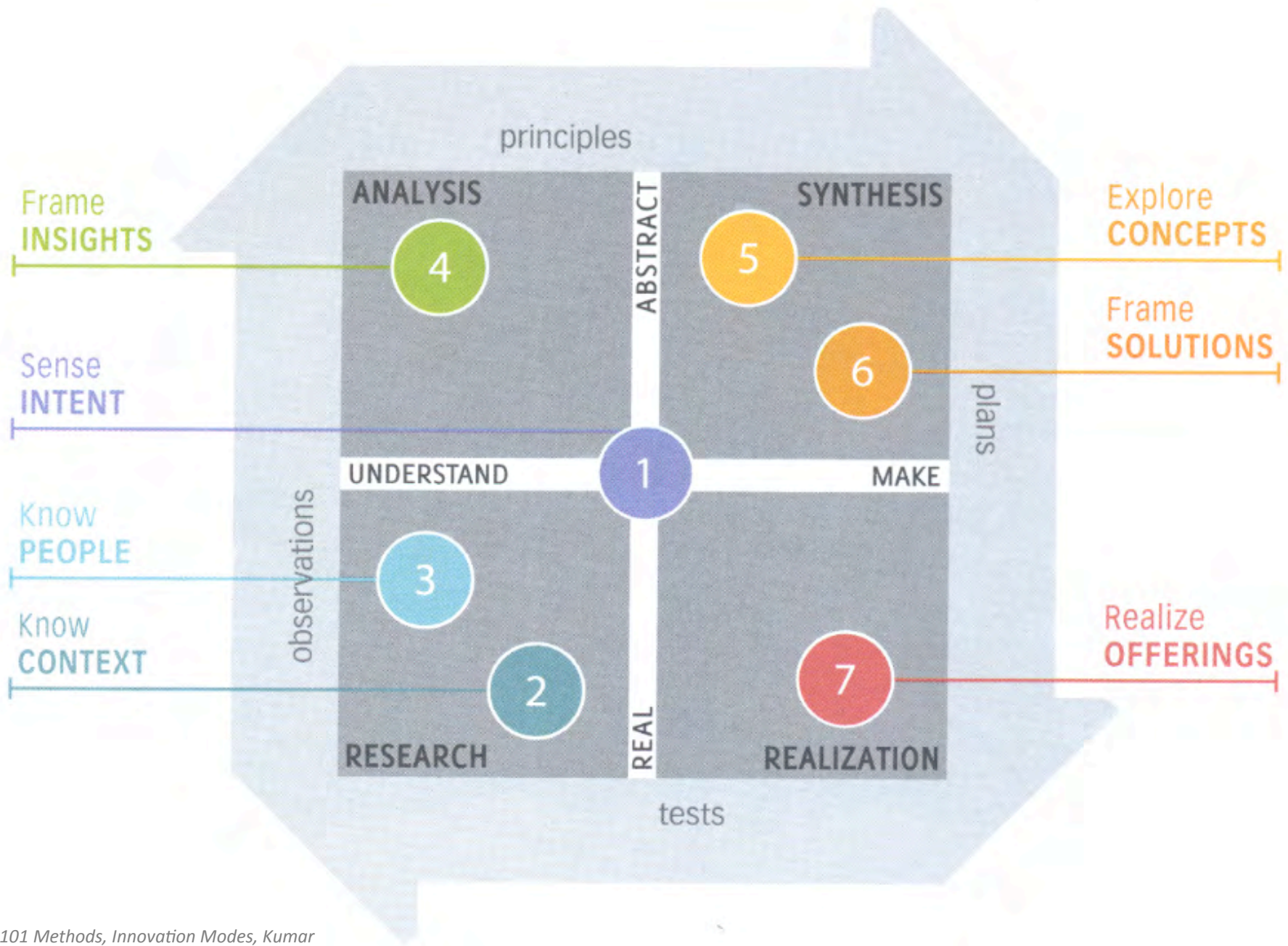
*Creation of **narrative** of the map as a problem dialogue around the issues*



Synthesis Map method

how are they created?





*Seven Modes of the **Design Innovation Process***

Sense Intent - Gather info, map overviews, reframe problems

Know Context - Workplan for research, search knowledge base, map development and make comparisons, ask experts

Know People - Observe and engage people, collect and organize observations of activities, interactions, and findings

Frame Insights - Find insights, patterns, map values and experiences, create frameworks

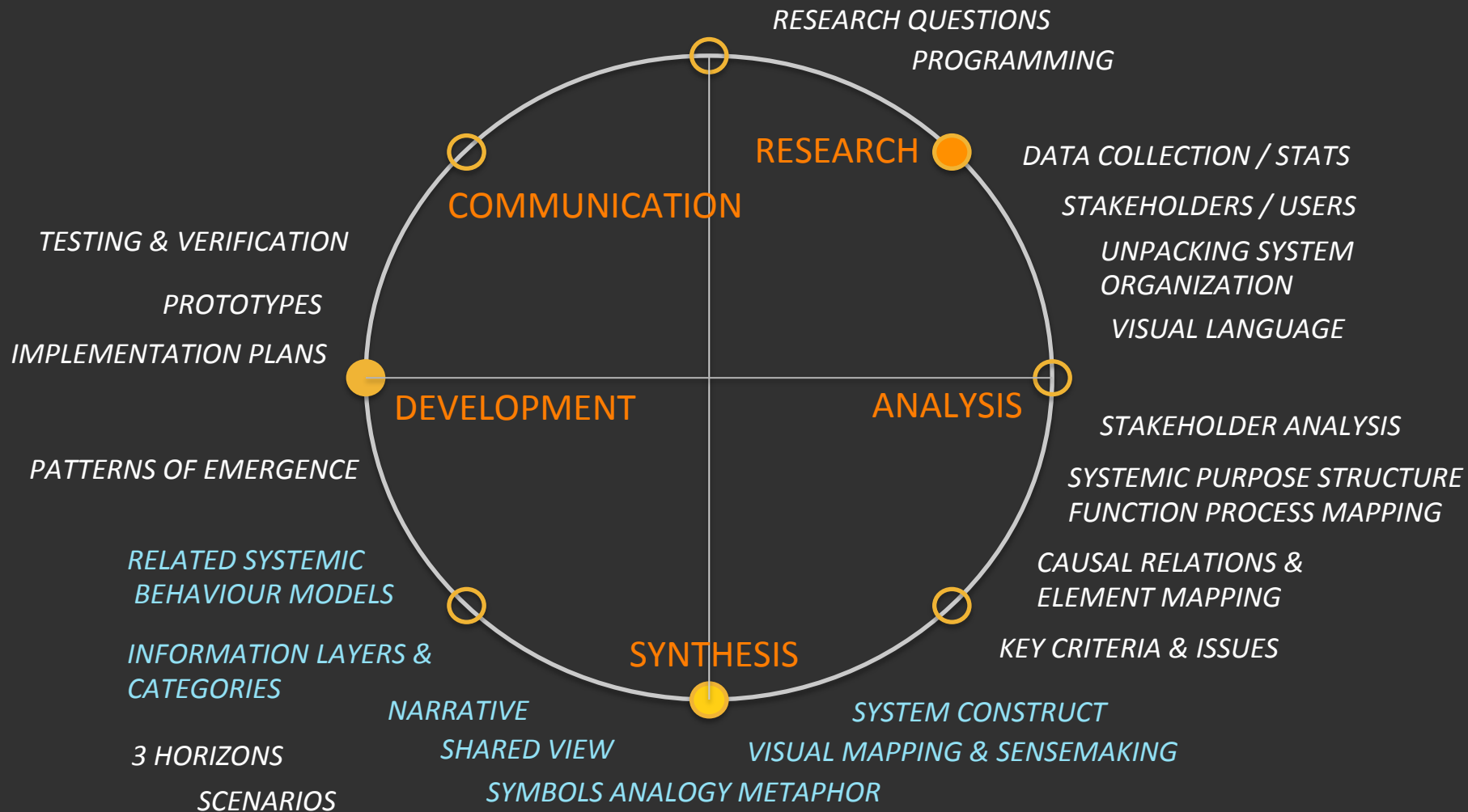
Explore Concepts - Frame concept space, principles, assumptions, organizing concepts, make diagrams, sketches, prototypes

Frame Solutions - Generate options, cluster conceptual ideas, identify solution narratives and areas

Realize Offerings & Implement – create prototypes, strategies and tactics, evaluate feasibility

Thinking it Through: A Practical Guide to Academic Essay Writing, Avery et al..

SYNTHESIS MAP - PROCESS METHODS & TECHNIQUES



SYNTHESIS MAP CREATION

Creating a **GIGA**synthesis Map

How do you create a GIGA-synthesis map?

- *Research, analyze and summarize – evidence & analysis, brief of stakeholder analysis*
- *Problem statement – research question, scope, description, and boundaries of the social system / service.*
- *Identify user research and terms in different fields, synthesized across different fields, evidence – based*
- *Unpacking of elements of system, and clarification of the systemic purpose function, structure and processes.*

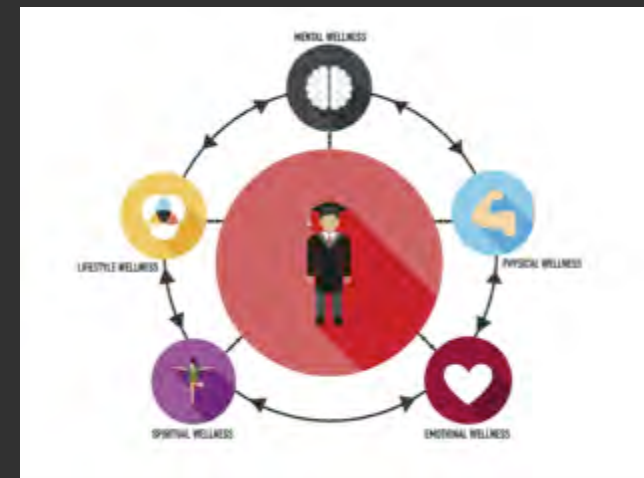


Student team sharing research in a working session for the Synthesis Map project

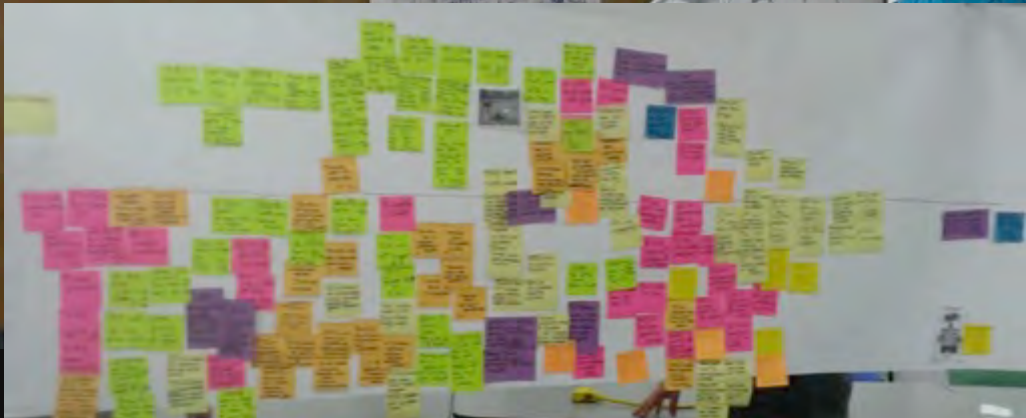


SYNTHESIS MAP CREATION

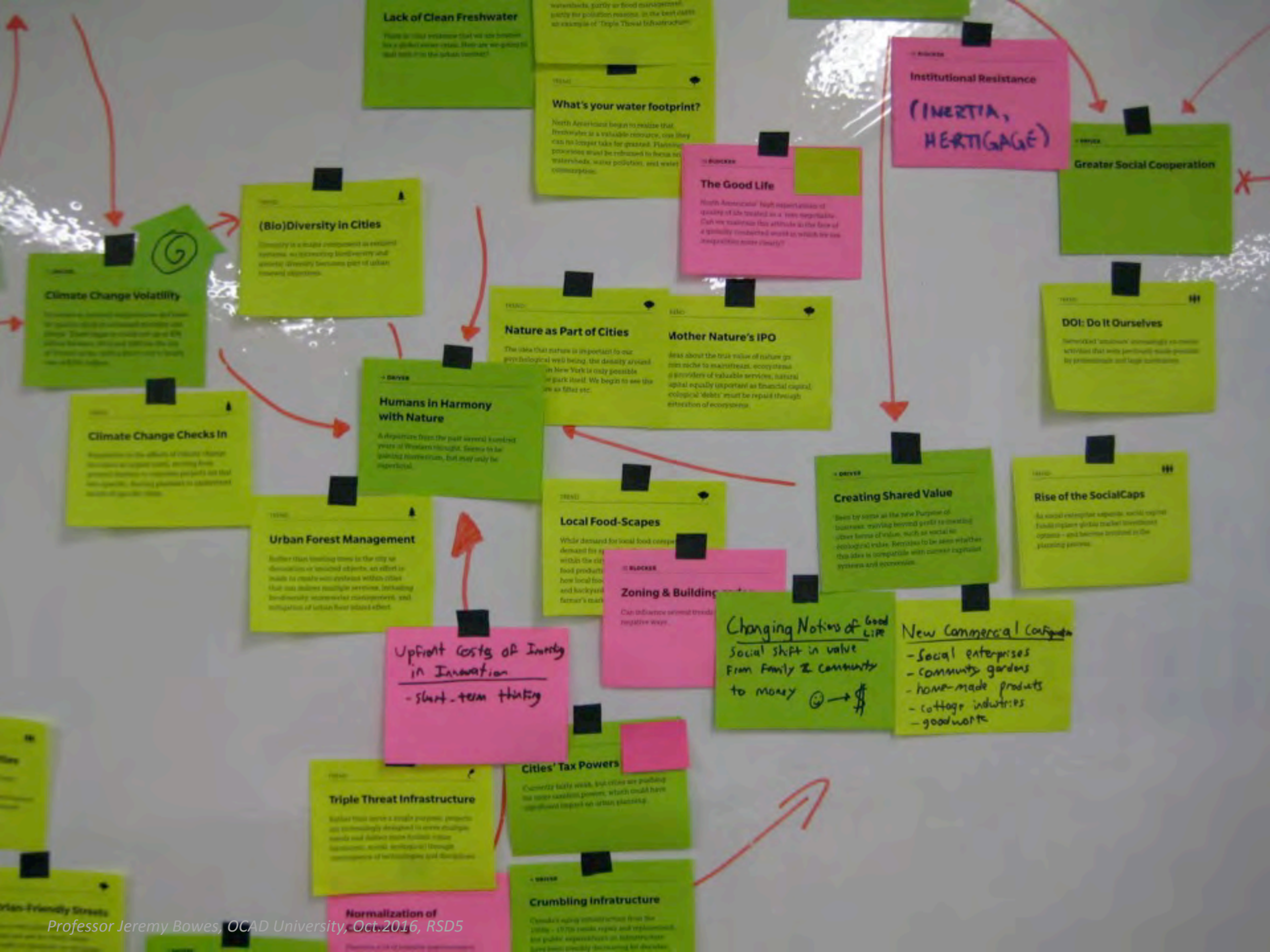
- *Systemic Principles, and associated visual design language and symbols identified*
- *Visual mapping of components and relationships of the social system*
- *Framework model – selection of a system construct /scaffold to test the framework for solutions, inform a possible way to model / visualize the problem*
- *Prefigured judgements of the solution set, mapping key issues / aspects of the problem; for “the shared view”; development of a narrative*
- *Look for analogies, metaphors & iconographic symbols that could serve as a vehicle for integration and assembly*



Student team of Icons describing different aspects of wellness for the Culture of Wellness Map project, and top an archetypal diagram of Reputation growth and investment at TIFF



Professor Jeremy Bowes, OCAD University, Oct.2016, RSD5



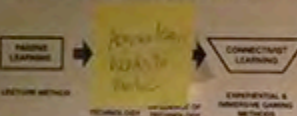
SYNTHESIS MAP CREATION

EX Learning in the 21st Century We Learn

Summary, Exemplary, +
Connectivism: A way
forward

Knowledge has changed educators' beliefs. Knowledge is growing exponentially and the half-life of knowledge is measured in months rather than years. Half of what is known today was not known 10 years ago.

The amount of knowledge in the world has doubled in the past 10 years and is doubling every 18 months. Learning theories such as behaviorism, cognitivism, and constructivism do not address learning that occurs outside of a teacher's control and through use of technology or outside the value of what is being learned.



Connectivism
In the integration of various systems to learn, network, and connectivity and self-organization. Learning is a process that occurs, not within the control of the individual. Learning is defined as an individual's knowledge and skills are not solely within an organization or a classroom, but are distributed across a network of information sources, and the connections that enable us to learn more are more important than our current state of knowing.

definition
Playing a game is the voluntary attempt to overcome unnecessary obstacles.

rules
1. Play is a voluntary activity.
2. Play is a voluntary activity.
3. Play is a voluntary activity.
4. Play is a voluntary activity.
5. Play is a voluntary activity.

the power of playing games

Through neuroplasticity, the brain receives itself based on frequent activity and strengthens different areas of the brain. (304-58 p88)

Games teach on persistence, perseverance and the thrill for challenge, striving to not end (304-58 p87) and to be more resilient in the face of setbacks. (304-58 p88)

Games teach on self-efficacy, confidence in our skill set and our ability to solve specific problems or achieve particular goals. We convert our motivation into effort to achieve the goal that we have the ability to conquer our problems. (304-58 p87)

Two people in flow together are synchronized. Deep synchronization leads directly to increased empathy and deeper mind-body connection. (304-58 p88/89)



our names And Sources Go Here

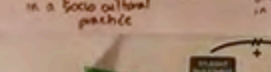
How Learning is Configured as a Social process

engagement of intention to learn

engagement in situated activities

engagement in a social practice

full participation in a socio-cultural practice



Learning Definition / Legitimate Participation

Full Participation

Legitimate Participation

Full Participation

Legitimate Participation

Full Participation

Legitimate Participation

Full Participation

Legitimate Participation

Full Participation

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

make real (class)

KEY CASE STUDY

WARD GAME

WORLD WITHOUT OIL

ZOMBIE APOCALYPSE

DUNGEONS AND DRAGONS

LARPING

INSIGHT ENGINE GAMES

HEART TO THE PAST

NUCLEAR DISASTER

HOSPITAL EVACUATION SIMULATION

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

KEY CASE STUDY

WARD GAME

WORLD WITHOUT OIL

ZOMBIE APOCALYPSE

DUNGEONS AND DRAGONS

LARPING

INSIGHT ENGINE GAMES

HEART TO THE PAST

NUCLEAR DISASTER

HOSPITAL EVACUATION SIMULATION

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

Preparedness (see James + Mark)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

explanation of changes
methodology (mixing kind)

SYNTHESIS MAP CREATION

Learning in the 21st Century

Simulation, gameplay and connectivism: a way forward

Learning today, in either educational or business settings is still largely based on a passive model where a teacher or system imparts knowledge to learners. The learner is expected to listen and retain what is taught; that knowledge used to last for decades.

Digital technology is expanding our knowledge exponentially, decreasing the half-life of knowledge to months and years. This has triggered a need to continuously acquire new information and knowledge in order to keep pace. If today's world, modern technology provides methods to store large quantities of complex data instantly, but it is fleeting and there are limits to the ability for an average human to navigate and assimilate knowledge.

If this issue is not addressed, education as a population, our ability to learn and thereby to remain competitive will be at risk of becoming irrelevant.

LEARNING IN A NEW WAY: PLAY

Can simulation, role play and social games provide a bridgegap to schools and organisations in the 21st century when the "real life of knowledge" is chosen?

We believe that Constructivist Learning Theory (Gagné) paired with experiential and innovative PPG Role Playing Game techniques when enacted in the "real world" is in the digital space, port forward new ways for learning.



DEFINITION OF PLAY

Playing a game is the voluntary attempt to overcome unnecessary obstacles. Play is the free space of freedom within a more rigid structure. Play exists both because it is fun and because it models the more rigid structures of a system.

JANE'S RULES


1. There must be a clear definition of a learning goal.
2. There must be no bias.
3. There must be a feedback system to assess the group's progress.
4. Necessary qualifications.

THE POWER OF PLAYING GAMES

Through reciprocity, the communities find economic impact, safety, and throughout different areas of the town.

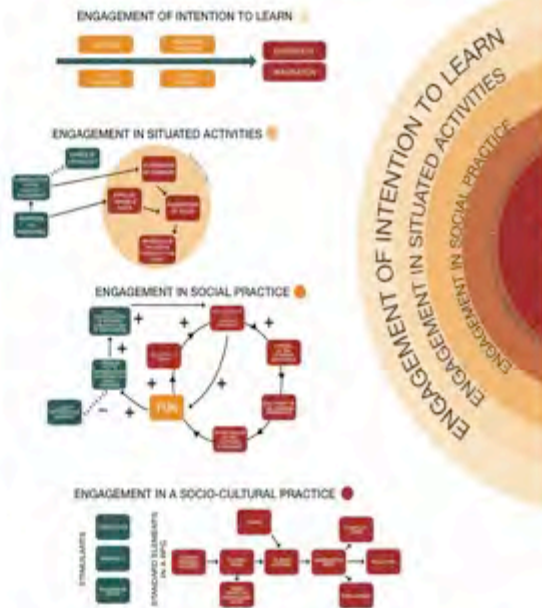


Games teach us problem-solving confidence in our skill set and our ability to solve specific problems of known (artificial) types. We convert our knowledge into effective action. We learn that we have the skills to overcome our problems.

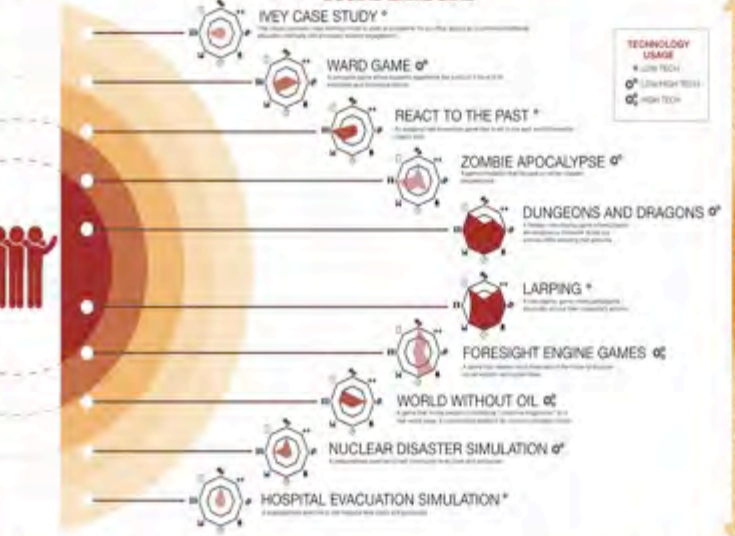
 Two people in love together are synchronized. Their synchronization leads directly to increased empathy, giving you a huge edge, because they will be on the same page.



LEARNING AS A SOCIAL PROCESS



SOCIAL GAME DIAL



LEARNING AS A SOCIAL PROCESS

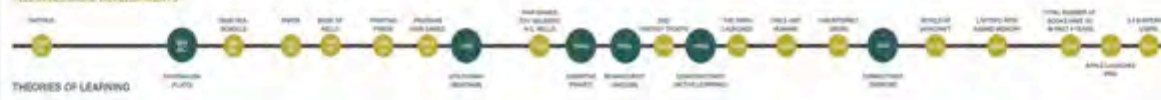
Love and thought have joined working as one force – a solution to pacifist violence, that is, in support of non-violence – working together to become a contrast to a continuing of pacifism. They were built as becoming a kind of power" within each of them, working as and in progress as a continuous, sharing a kind of an attitude, in fact, in reaching into a certain power, between, only a little, and understanding the other, and a possible action of resistance in which they have meaning.

The most common of these observed phenomena have to do with the nature of the engagement itself. Engagement is a process, not a state. It is a process that can be initiated, sustained, or terminated. It is a process that can be initiated, sustained, or terminated. It is a process that can be initiated, sustained, or terminated.

SOCIAL GAME DIAL

The *crs* gene also encodes the chromosomal β gene for the control of lactose operon repressing. The chromogenic lactose operon and repressing activity have as well as some control.

- 1 Place yourself at the helm of a game to change the culture of people (page 8 - See how [Gartner](#) did)
- 2 Games based on 3 steps could provide a framework to improve collective intelligence
- 3 Short on ideas? Use the experts' advice: engagement is critical, with needs of players



CONCLUSION: LEARNING IS A SOCIAL SYSTEM

Constructivist learning is a method of experiential learning. "People will construct their own understanding of their learning through experiencing things and reflection on those experiences."

Connectivist learning builds on constructivist theory and we think that connectivism presents opportunities for new ways of learning such as through game play, simulations, role play, actively engaging learners (or workers) in situations in which, by engaging with others they can store, share and learn knowledge most effectively.

BENEFITS

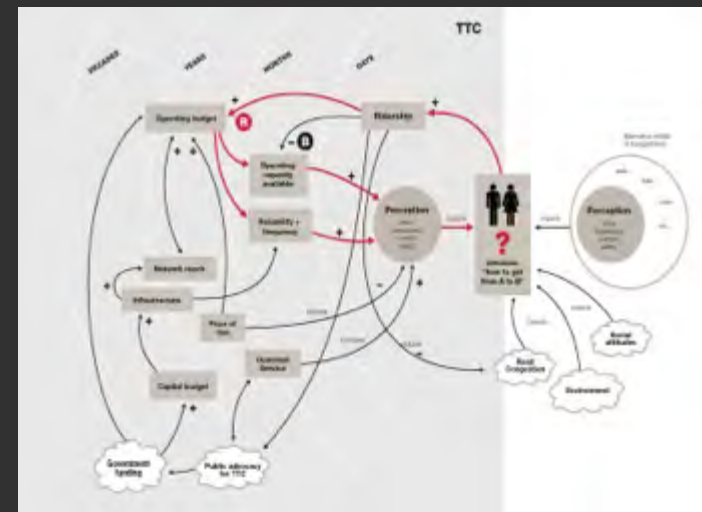
There are many benefits that can be derived from using immersive game-oriented learning approaches.



GROUP MEMBERS:
ANNIE CONSTANTINESCU, DONNA DUPONT,
CHRISTINE MACGLADE, KELLY RHYNE

SYNTHESIS MAP CREATION

- *Sensemaking visualizing the systemic story, and explores the possibilities for design intervention and change – making*
- *Layers and categories / groupings of information, analysis, visuals, stats etc. to describe complexity*
- *Patterns of emergence as possibility, future scenarios, and horizons of possible change and outcomes.*
- *Synthesis map as artefact.*
- *What other challenges or influences affect the narrative vision?*



Top: Birger Sevaldson teaching his GIGAmap technique at an OCADU workshop, and above: students drawing a systemic influence map of TTC ridership factors

Sensemaking: Dialogic Design



CASE STUDIES

WHY DOES THIS MATTER?

- 1. 1 in 5 students report mental health issues (2016 survey)
- 2. 1 in 10 students report mental health issues (2016 survey)
- 3. 1 in 10 students report mental health issues (2016 survey)
- 4. 1 in 10 students report mental health issues (2016 survey)
- 5. 1 in 10 students report mental health issues (2016 survey)

WHO'S INVOLVED?

- 1. Academic programs (e.g., students)
- 2. Financial resources (e.g., staff for transition to campus mental health)
- 3. Physical resources (e.g., community)

- 1. Academic programs (e.g., students)
- 2. Financial resources (e.g., staff for transition to campus mental health)
- 3. Physical resources (e.g., community)

- 1. Academic programs (e.g., students)
- 2. Financial resources (e.g., staff for transition to campus mental health)
- 3. Physical resources (e.g., community)



KEY INSIGHTS

- 1. Mental health issues are a common student experience that is not always recognized or supported.
- 2. Mental health issues can impact academic success and overall well-being.
- 3. Mental health issues can impact academic success and overall well-being.
- 4. Mental health issues can impact academic success and overall well-being.
- 5. Mental health issues can impact academic success and overall well-being.

BOUNDARIES

- 1. Mental health issues are a common student experience that is not always recognized or supported.
- 2. Mental health issues can impact academic success and overall well-being.
- 3. Mental health issues can impact academic success and overall well-being.
- 4. Mental health issues can impact academic success and overall well-being.
- 5. Mental health issues can impact academic success and overall well-being.



THEORY OF CHANGE

- 1. Mental health issues are a common student experience that is not always recognized or supported.
- 2. Mental health issues can impact academic success and overall well-being.
- 3. Mental health issues can impact academic success and overall well-being.
- 4. Mental health issues can impact academic success and overall well-being.
- 5. Mental health issues can impact academic success and overall well-being.

- 1. Mental health issues are a common student experience that is not always recognized or supported.
- 2. Mental health issues can impact academic success and overall well-being.
- 3. Mental health issues can impact academic success and overall well-being.
- 4. Mental health issues can impact academic success and overall well-being.
- 5. Mental health issues can impact academic success and overall well-being.

- 1. Mental health issues are a common student experience that is not always recognized or supported.
- 2. Mental health issues can impact academic success and overall well-being.
- 3. Mental health issues can impact academic success and overall well-being.
- 4. Mental health issues can impact academic success and overall well-being.
- 5. Mental health issues can impact academic success and overall well-being.

How might Ontario University administrators achieve their job requirements while also creating a culture of wellness across campus?

- 1. Academic programs (e.g., students)
- 2. Financial resources (e.g., staff for transition to campus mental health)
- 3. Physical resources (e.g., community)

- 1. Academic programs (e.g., students)
- 2. Financial resources (e.g., staff for transition to campus mental health)
- 3. Physical resources (e.g., community)

What Does "Wellness" Mean?



Business Case for a Culture of Wellness on Campus



It's a university's best interest to reduce student dropout rates since it helps maintain positive perceptions about the campus, which increases recruitment rates and funding in the future.

Why invest in public awareness campaigns are not enough to ensure the wellness culture needed to prevent student dropout. To truly create a wellness culture, university administrators need to invest time and resources into a more holistic mental health system. This would involve more to target the root causes of mental health issues, such as improving public.

ELEMENTARY SCHOOL

Transition Points in a Student's Journey: Could community hubs support students' wellness as they transition into adulthood?

HIGH SCHOOL

UNIVERSITY

GRADUATION + CAREER

Transition Point #1: Entering the School System

Young children (up to 18 years old) make up 21.3% of the province's population.

Young Minds (2012) is an anti-violence campaign that takes a long-term view to focus on early intervention and support for children from the consequences of mental illness and addictions and help them on the road to safe, healthy, and happy futures.

Key Insight

During childhood adolescence, students moving around on diverse support systems: school, family, and community.

When they transition to post-secondary school systems, most or all of these support systems change like actual environment. If students are not living at home, family is not equally accessible and will be replaced by peers, and other community changes as well because students live in a new neighborhood or city.

These support systems are important because they are sources of protective factors and varying levels of risk factors.

Transition Point #2: Elementary/High School to Secondary

Between 181 and 215 of children and youth in Ontario have at least one mental health issue and 101 of children and youth who currently use mental health services are under 18 years old.

This can be an issue for post-secondary institutions because mental health problems and related disorders are associated with lower academic achievement. But since this is a major goal of administrators, more importantly in order for students with mental health issues to thrive, their transition into post-secondary institutions must include the support they need.

Universities can play a crucial role in continuing the safety and support systems that young children enjoy up until they leave high school, including community counseling, and medical services.

These support systems are important because they are sources of protective factors and varying levels of risk factors.

Transition Point #3: Secondary School System to Adulthood

The average undergraduate student is between 17-22 years old and just leaving the responsibility of adulthood's future they are making their own decisions.

A social determinant of health that is strongly connected with mental health because it affects their social network and socio-economic status.

Considering that 100,000 adults are absent from the job every day for psychiatric reasons, it is crucial that post-secondary institutions are creating campus environments that foster wellness and develop confidence. This way students' experience are better developed to handle the transition to work environments.

These support systems are important because they are sources of protective factors and varying levels of risk factors.

Transition Point #4: Adulthood to Retirement

The average undergraduate student is between 17-22 years old and just leaving the responsibility of adulthood's future they are making their own decisions.

A social determinant of health that is strongly connected with mental health because it affects their social network and socio-economic status.

Considering that 100,000 adults are absent from the job every day for psychiatric reasons, it is crucial that post-secondary institutions are creating campus environments that foster wellness and develop confidence. This way students' experience are better developed to handle the transition to work environments.

These support systems are important because they are sources of protective factors and varying levels of risk factors.

RECOMMENDATIONS

The recommendations are designed to be practical, actionable, and to have a positive impact on the campus community.

The first change you can make is to the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

Recommendations

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

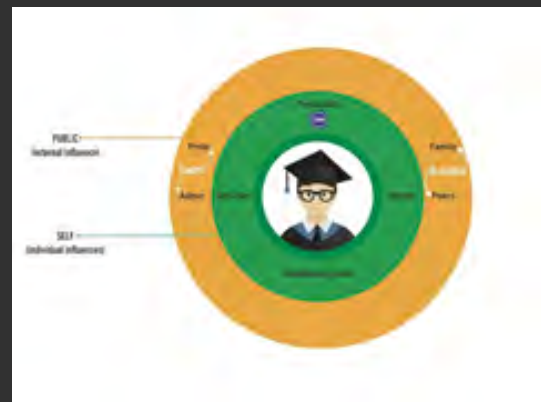
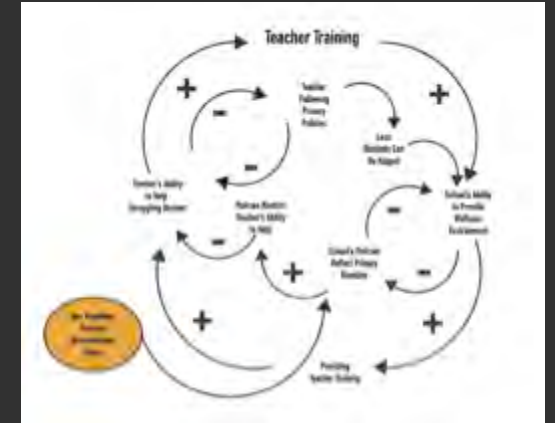
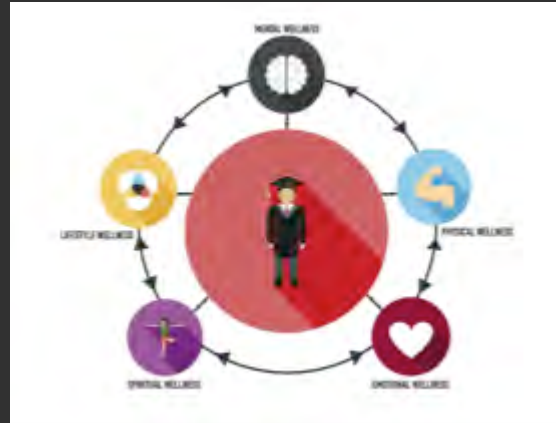
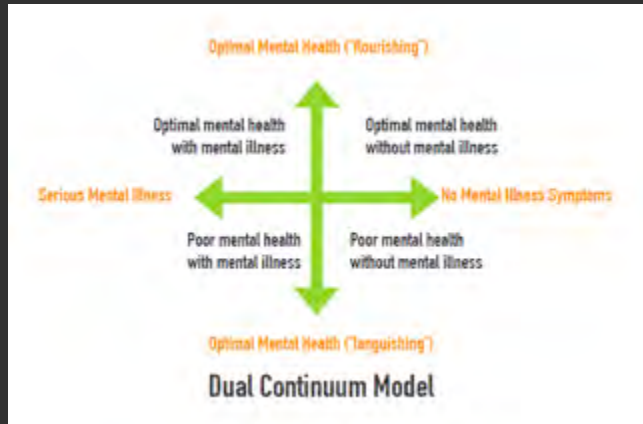
Let your organization embrace the idea that mental health is a community issue.

It's a matter of first intention - change that. Change the way you think about mental health. It's not just a medical issue, it's a social issue. It's not just a personal issue, it's a community issue. It's not just a problem, it's a solution.

Let your organization embrace the idea that mental health is a community issue.

CASE STUDIES

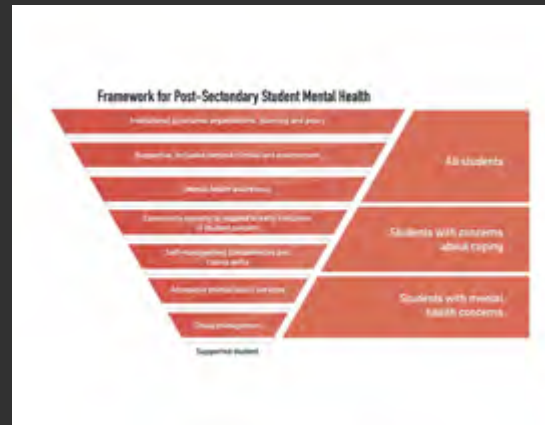
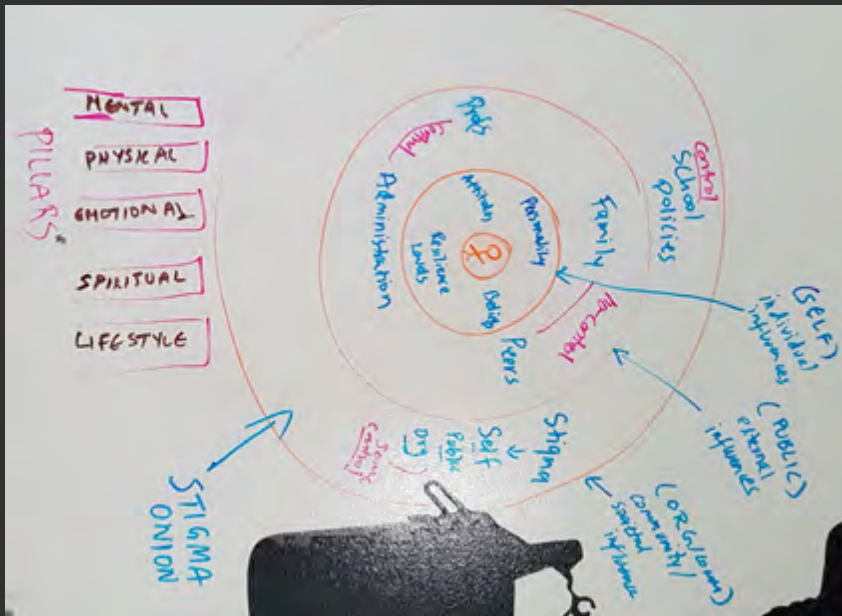
Do Ontario university wellness programs effectively manage and support the mental health of their students?



Culture of Wellness, Melissa Tullio, Stephanie Massot, Sunita Ferrao, Tyler Calder, Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U, 2016

CASE STUDIES

How might Ontario university administrators achieve their job requirements while also creating a culture of wellness across campuses?



Culture of Wellness, Melissa Tullio, Stephanie Massot, Sunita Ferrao, Tyler Calder, Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U, 2016

SYNTHESIS MAP CREATION

Elements of **Synthesis Maps**

Maps that illustrate and make sense of the complex network of elements

Narrative, graphs, behaviour over time graphs

Systemic and organizational diagrams

Photos, illustrations

Timelines and gant charts etc.

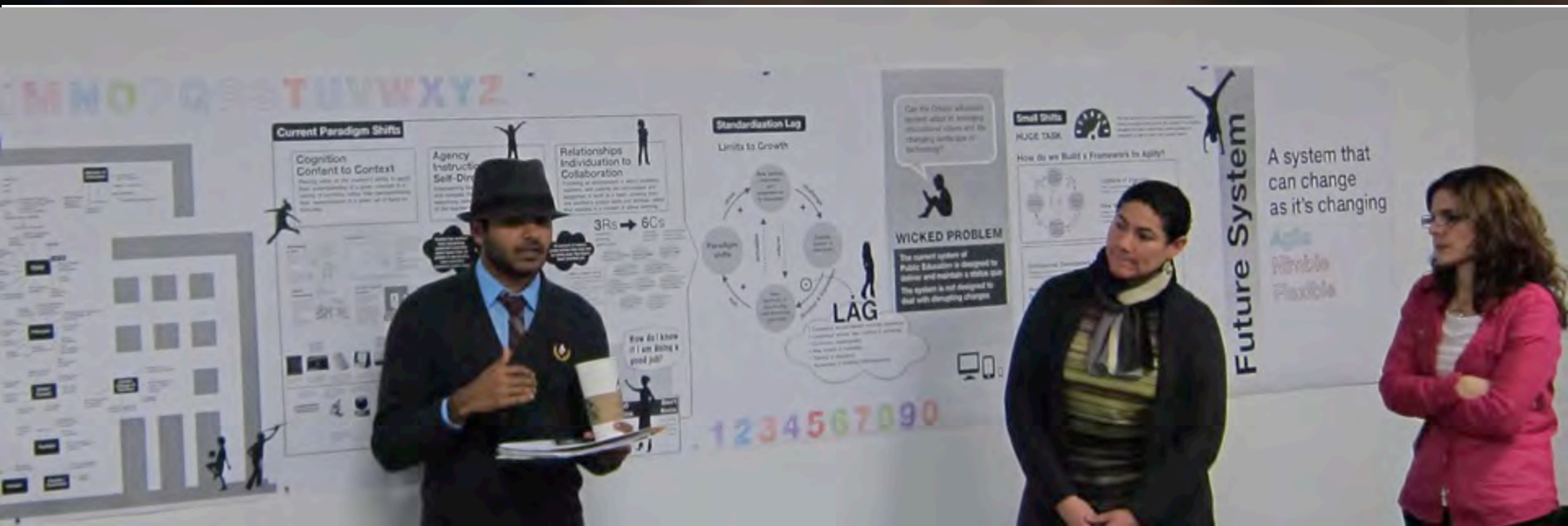
Iconography and symbols

Charts, Graphs, statistics and key quotes

Student team sharing research in a working session for the Synthesis Map project



GIGA Synthesis Map Cases

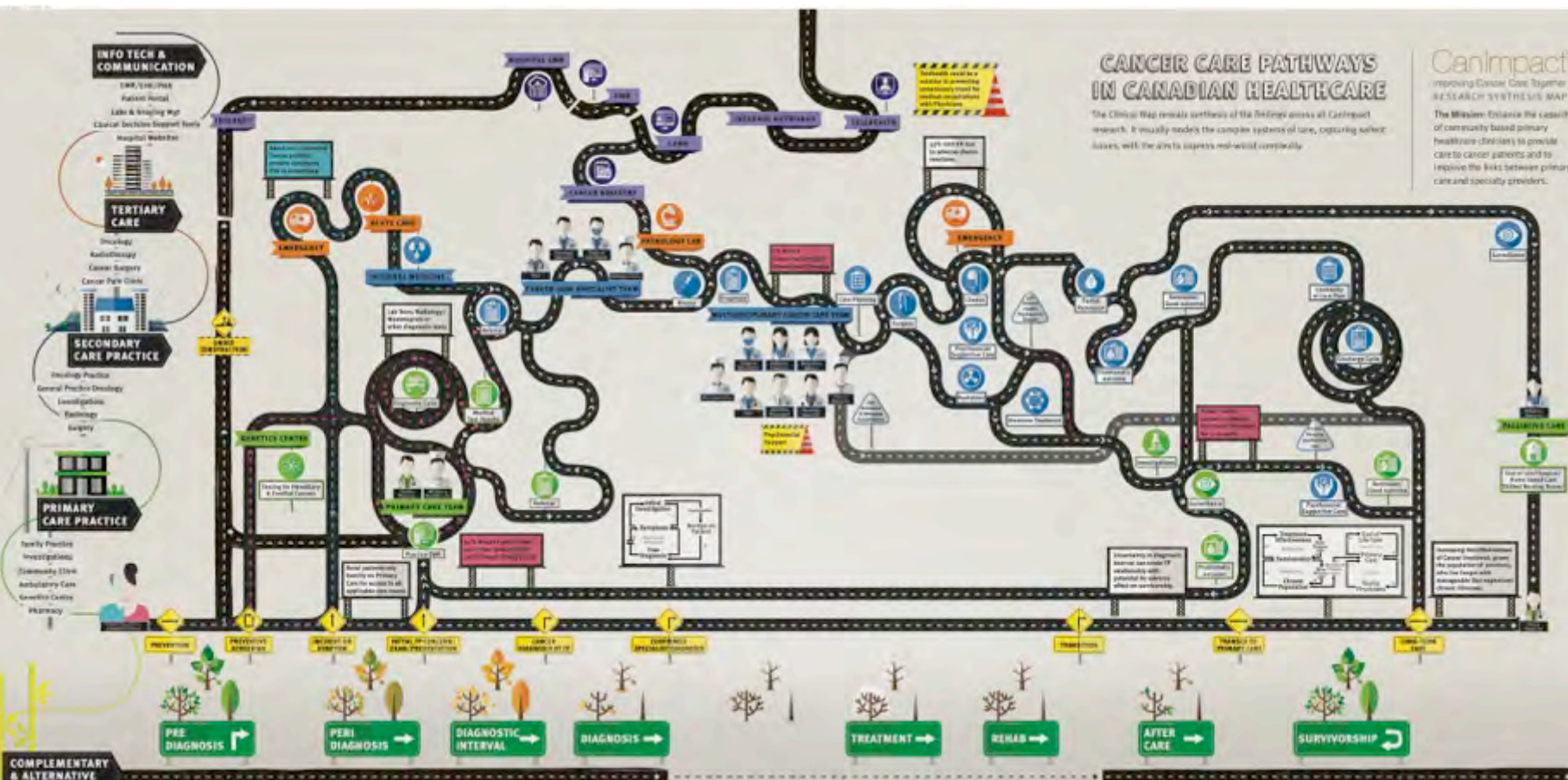


iK-12disRuptU Technology & Innovation in Education, Buajitti, Hastrich, Maxwell, Segal, Roopani, Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U

The Clinique Wag reveals synthesis of the findings across all Carlsquest research. It visually models the complex systems of care, capturing subject issues, with the aim to increase mid-level compliance.

improving Cancer Care Together
RESEARCH SYNTHESES MAP

The Mission: Enhance the capacity of community-based primary healthcare clinicians to provide care to cancer patients and to improve the links between primary care and specialty providers.



COMPLEMENTARY & ALTERNATIVE MEDICINE

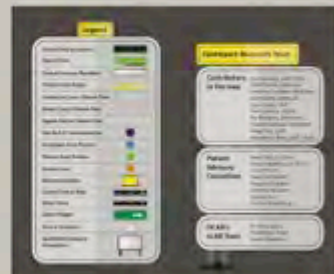
Ancient Healing Systems
 Acupuncture
 Herbalism



TRANSMISSIONS: 1994-1995
STATION: 5.4-5.6

© 2000 Blackwell Science Ltd
 0742-3021/00 \$15.00 + 0.00

- **Imaging primary care & Secondary care support in "connected" systems**
- **Interventional (Telemedicine & Information Systems)**
- **Using "Health Navigator & Advisor"**
- **Business model delivery**





Beth Chen

Cancer Type	BRCA1
Habitation	Urban, Single
Age	33
Health	Good CV & metabolic health, High veg diet
Occupation	Financial services

Physical	Actively healthy, thin, flexible, yoga & regular exercise.
Psychosocial	Emotionally resilient but newcomer in city feels isolating. Left a relationship back home.
Spiritual	Not religious, but meditates. Deeply into arts & culture.
Information Habits	Digital native, multi-device, internet expert.
Household	High income. No car. Condo renter in city centre. Gourmet cook but dines out often.
Personal & Family Costs (Travel/Financial)	Low local travel costs, high work impact. Pays for family back home to cover. Returns to her traditional acupuncture regimen after treatment.

CanImpact⁺

Improving Cancer Care Together

RESEARCH SYNTHESIS MAP

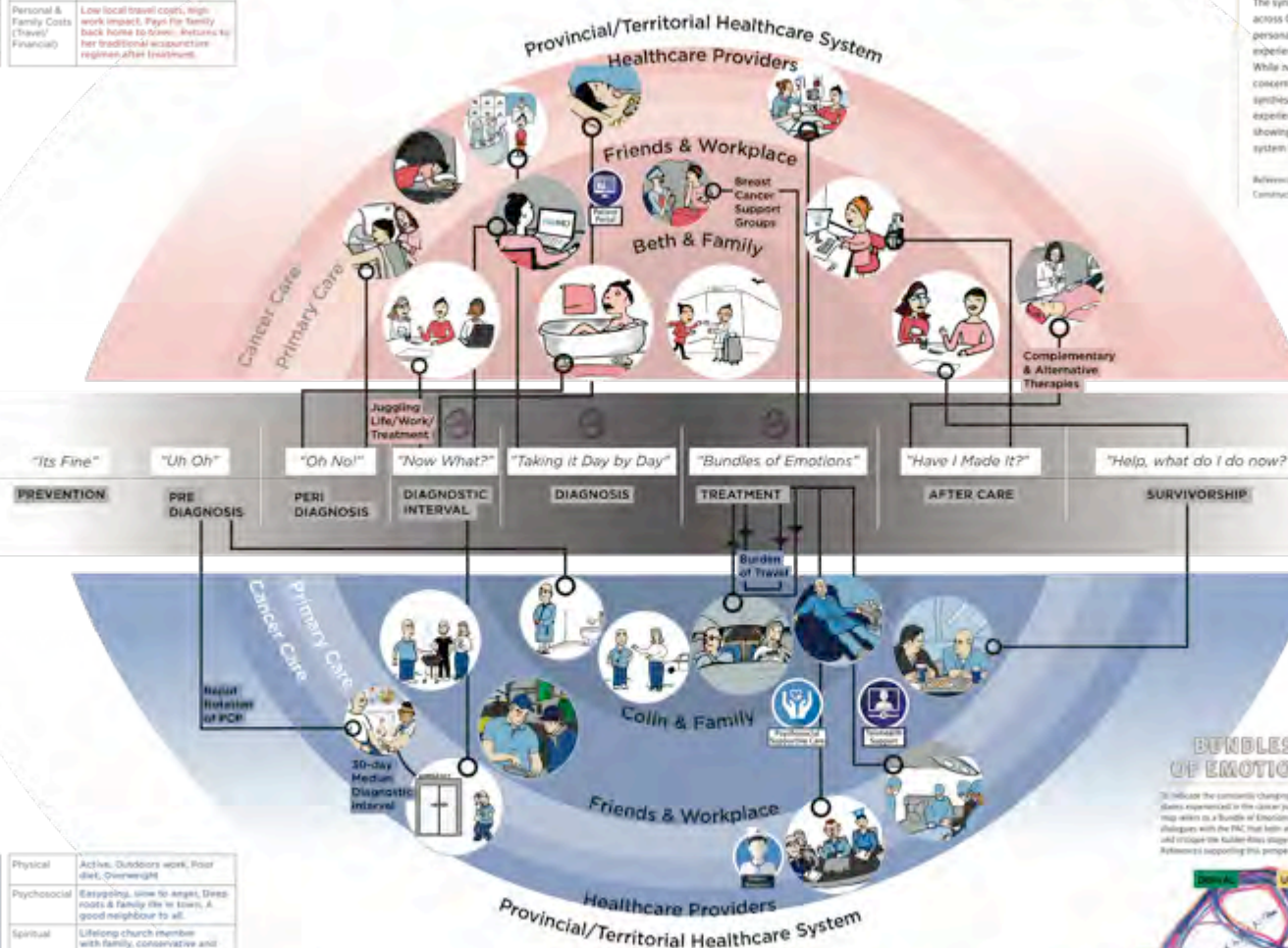
The Mission: Enhance the capacity of community-based primary healthcare clinicians to provide care to cancer patients and to improve the links between primary care and specialty providers.

THE PATIENT AS PERSON IN RELATIONSHIP-CENTRED CARE

The map is presented as a visual knowledge translation of both systemic and human issues informed by the CanImpact team's Patient Advisory Council (PAC). Taking a relationship-centred view of patient-centred care, it presents a balance to the clinical system represented in the CanImpact clinical map (Cancer Care Pathways).

The synthesis map integrates multiple patient perspectives from across CanImpact research with vignettes associated with two personas, Beth and Colin. Their moments as visualized signify lived experiences drawn from breast cancer and colon cancer narratives. While no single mapping can represent the depth of real patient concerns or the range of experiences across all of Canada, the synthesis map captures a range of known concerns in the lived experience of cancer journeys. The map illustrates our aim of showing the kinds of choices, options and difficulties in the current system faced by people with cancer today.

Reference: Bauch, M.C., Inui, et al. (2006). Relationship-centered Care: A Constructive Rehearsal. *Journal of General Internal Medicine*, 21:53-6.



Colin McCain

Cancer Type	Stage II Colorectal
Habitation	Rural, Married, 3 adult children
Age	60
Health	Metabolic syndrome, CV disease with hypertension
Occupation	Owns family farm in Saskatchewan


































Physical	Active. Outdoors work, poor diet, overweight
Psychosocial	Easygoing, slow to anger. Deep roots & family life to town. A good neighbour to all.
Spiritual	Lifelong church member with family, conservative and observant.
Information Habits	Prefer paper. Learned internet and computer skills for family farm.
Household	Large family home attached to farmland in rural area, 80 km from town. Variable income, son lined up to run the farm.
Personal & Family Costs (Travel/Financial)	High family caregiving & travel expenses. Town 160km Round Trip (RT), Clinic 250km RT, Chemo & Surgery 500km RT

BUNDLES OF EMOTIONS

To indicate the constantly changing emotional states experienced in the cancer journey, the map refers to a Bundle of Emotions, based on dialogues with the PAC that both acknowledge and critique the fuller-life stages of grief. Acknowledging this perspective includes:

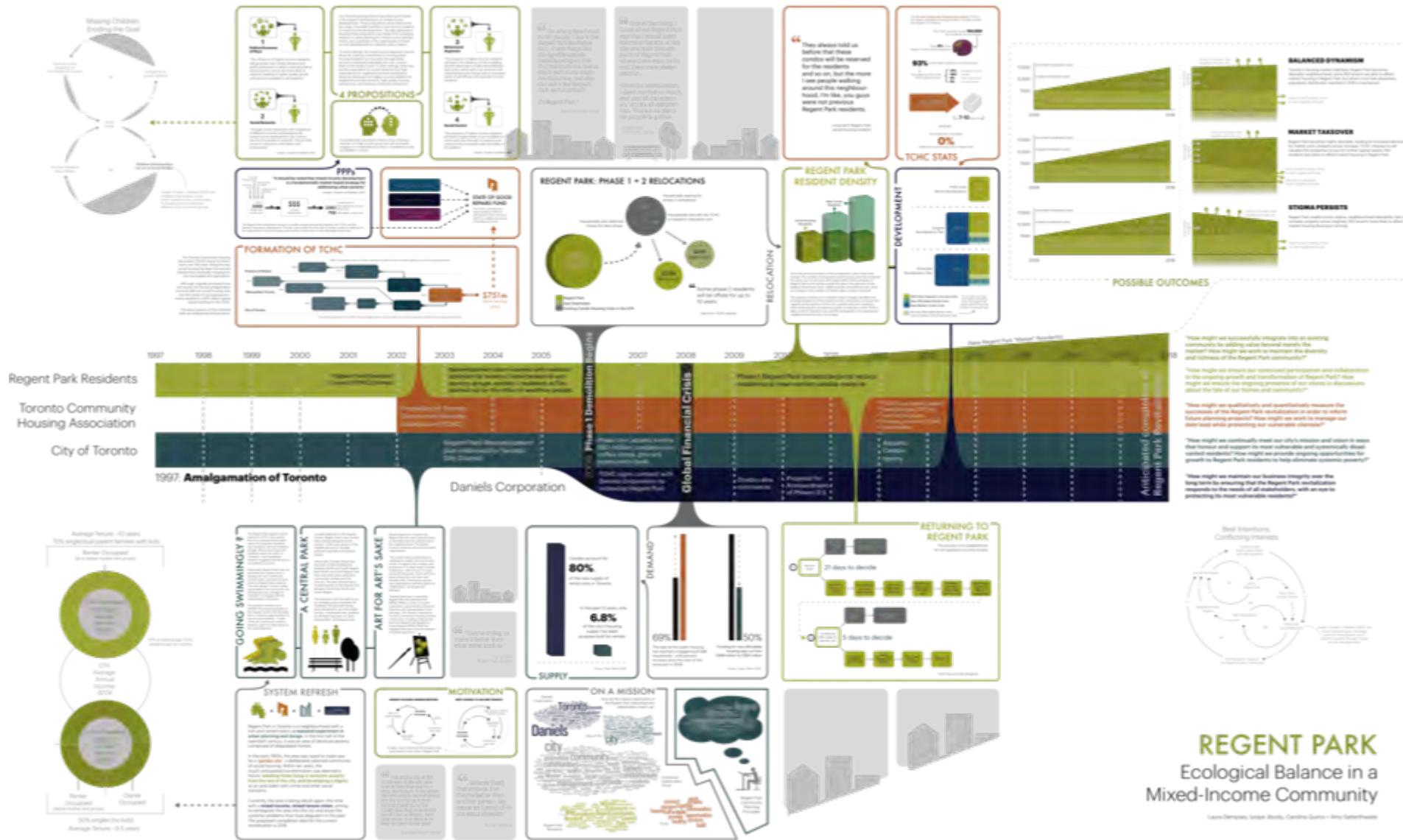


Legend

Color for emotional period was used emotions of people and considering the professional clinical of the cancer journey. emotional representation in the map, we used a color-coded system to represent or evoke a typical experience, but also to show the evolution of these two emotional periods.	
Personal Cancer Patient Care - Grief	
Personal Cancer Patient Care - Hope	
Personal Cancer Patient Care - Fear	
Personal Cancer Patient Care - Depression	
Personal Cancer Patient Care - Anxiety	
Personal Cancer Patient Care - Isolation	
Personal Cancer Patient Care - Loss	
Personal Cancer Patient Care - Longing	
Personal Cancer Patient Care - Hope	
Personal Cancer Patient Care - Faith	
Personal Cancer Patient Care - Trust	
Personal Cancer Patient Care - Distrust	
Personal Cancer Patient Care - Acceptance	
Personal Cancer Patient Care - Rejection	
Personal Cancer Patient Care - Love	
Personal Cancer Patient Care - Hate	
Personal Cancer Patient Care - Care	
Personal Cancer Patient Care - Indifference	
Personal Cancer Patient Care - Concern	
Personal Cancer Patient Care - Worry	
Personal Cancer Patient Care - Relief	
Personal Cancer Patient Care - Contentment	
Personal Cancer Patient Care - Peace	
Personal Cancer Patient Care - Calm	
Personal Cancer Patient Care - Stress	
Personal Cancer Patient Care - Tension	
Personal Cancer Patient Care - Relaxation	
Personal Cancer Patient Care - Comfort	
Personal Cancer Patient Care - Discomfort	
Personal Cancer Patient Care - Pain	
Personal Cancer Patient Care - Pleasure	
Personal Cancer Patient Care - Suffering	
Personal Cancer Patient Care - Joy	

Personal Cancer Patient Care - Grief	Professional Cancer Patient Care - Grief
Personal Cancer Patient Care - Hope	Professional Cancer Patient Care - Hope
Personal Cancer Patient Care - Fear	Professional Cancer Patient Care - Fear
Personal Cancer Patient Care - Depression	Professional Cancer Patient Care - Depression
Personal Cancer Patient Care - Anxiety	Professional Cancer Patient Care - Anxiety
Personal Cancer Patient Care - Isolation	Professional Cancer Patient Care - Isolation
Personal Cancer Patient Care - Loss	Professional Cancer Patient Care - Loss
Personal Cancer Patient Care - Longing	Professional Cancer Patient Care - Longing
Personal Cancer Patient Care - Hope	Professional Cancer Patient Care - Hope
Personal Cancer Patient Care - Faith	Professional Cancer Patient Care - Faith
Personal Cancer Patient Care - Trust	Professional Cancer Patient Care - Trust
Personal Cancer Patient Care - Distrust	Professional Cancer Patient Care - Distrust
Personal Cancer Patient Care - Acceptance	Professional Cancer Patient Care - Acceptance
Personal Cancer Patient Care - Rejection	Professional Cancer Patient Care - Rejection
Personal Cancer Patient Care - Love	Professional Cancer Patient Care - Love
Personal Cancer Patient Care - Hate	Professional Cancer Patient Care - Hate
Personal Cancer Patient Care - Care	Professional Cancer Patient Care - Care
Personal Cancer Patient Care - Indifference	Professional Cancer Patient Care - Indifference
Personal Cancer Patient Care - Concern	Professional Cancer Patient Care - Concern
Personal Cancer Patient Care - Worry	Professional Cancer Patient Care - Worry
Personal Cancer Patient Care - Relief	Professional Cancer Patient Care - Relief
Personal Cancer Patient Care - Contentment	Professional Cancer Patient Care - Contentment
Personal Cancer Patient Care - Peace	Professional Cancer Patient Care - Peace
Personal Cancer Patient Care - Calm	Professional Cancer Patient Care - Calm
Personal Cancer Patient Care - Stress	Professional Cancer Patient Care - Stress
Personal Cancer Patient Care - Tension	Professional Cancer Patient Care - Tension
Personal Cancer Patient Care - Relaxation	Professional Cancer Patient Care - Relaxation
Personal Cancer Patient Care - Comfort	Professional Cancer Patient Care - Comfort
Personal Cancer Patient Care - Discomfort	Professional Cancer Patient Care - Discomfort
Personal Cancer Patient Care - Pain	Professional Cancer Patient Care - Pain
Personal Cancer Patient Care - Pleasure	Professional Cancer Patient Care - Pleasure
Personal Cancer Patient Care - Suffering	Professional Cancer Patient Care - Suffering
Personal Cancer Patient Care - Joy	Professional Cancer Patient Care - Joy

CASE STUDIES



Regent Park, Ecological Balance in A Mixed Income Community, Laura Dempsey, Ioyope Jibodu, Carolina Quiros, Amy Satterthwaite, Understanding Systems & Systemic Design, Strategic Foresight & Innovation Student Project, OCAD U

thank you



Bibliography Resources

Ackoff, Russell. (2001). A brief guide to interactive planning and Idealized Design. Ackoff Library, May 31, 2001.

Boardman, John, Sauser, B., Systems Thinking: Coping With 21st Century Problems, CRC Press, Taylor & Francis, USA, 2008

Dubberly, Hugh. (2010). *Design in the age of biology*. Dubberly Design Office.
Dubberly Design Office <http://dubberly.com> On Modeling and mapping

Gharajedaghi, Jamshid, Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture, Butterworth Heinemann, California, 2006

Kumar, Vijay, *101 Design Methods, A Structured Approach for Driving Innovation in your Organization*, John Wiley & Sons, 2013

Lawson, Brian, *How Designers Think, The Process Demystified*, Architectural Press, London, 1983

Sevaldson, B. (2011). Gigamapping: Visualization for Complexity and Systems Thinking in Design. Helsinki: Nordic Design Research Conference.

Senge, Peter et al. The Fifth Discipline: The Art and Practice of the Learning Organization, Penguin Putnam, 2001