Toward Meaningfully Engaging Children in Futures Work

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Abstract

Despite the fact that many decisions made today will affect our children's tomorrows, there is a general bias that children and youth are incapable of understanding and discussing serious topics. As a result, we typically exclude them on matters of concern that we believe are beyond their capacity. This exclusion has been carried into civic participation wherein children are not given a voice in discussions that involve their current and future experiences as citizens. Foresight methods hold promise for developing skills to help us sense-make and vision in the complexity of today's society. How might we engage children as participants in futures work? We conducted a literature review, consulted foresight practitioners who work with young people, and tested *playshop* prototypes engaging children in foresight methods and techniques. Findings show that although children and adults think differently, both views convey valuable meaning, and inviting all ages to the table can lead to more robust sense-making and visioning.

Keywords: Children, Kids, Foresight, Futures work, Sense-making, Visioning, Participation, Agency

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Dedication

To kids,
the natural storytellers.

Table of Contents

Chapter 1. For the sake of neglected tomorrows 1

Chapter 2. Futures methods for visioning and sense-making 9

Visioning in foresight 13

Scenario development as a tool for sense-making 16

Biases of futures work 17

Including Kids 18

Chapter 3. Our Approach 22

Literature Review 22

Consultations 24

Playshop Prototyping 24

International Futures Forum's World Game 25

Test Runs and playshop Prototyping 30

Test run 1 30

Test run 2: Pivoting From Test Run 1 30

Playshop with Kids: Pivoting From Test Run 2 33

What happened: Playshop with Kids 34

Playshop With Adults: Comparing Kids and Adults 45

Tips for designing and facilitating playshops with kids 46

Facilitating the Engagement 48

Limitations of playshops 52

Extracting Key Insights 52

Chapter 4. Playshop, a tool for sense-making and visioning 55

Adults vs. Kids: a sense-making analysis 55

Adults vs. Kids: a visioning analysis 61

Adults with Kids: Incorporating sense-making and visioning 63

We the researchers vs participants: acknowledging biases 64
Unexpected outcomes 65
Chapter 5. Involving Kids in planning our Tomorrows 67
Further research 71
Other Opportunities 72
Bibliography 73
Appendix 76
Appendix A. Playshop Test Run 1 77
Appendix B. Playshop Test Run 2 80
Appendix C. Final Playshop Design with kids 81
Appendix D. Final Playshop Design with adults 88

List of Figures

Figure 1. Types of Alternative Futures: The “Futures Cone” 10

Figure 2. Causal Layered Analysis 16

List of Tables

Table 1. Scoring grid to compare examined games 29

Table 2. Decks of Shocks, Concerns, and Trends 37

Table 3. The 6 C's incorporated into the playshop 44

Table 4. Engagement comparison chart 51

Table 5. Examples of the analysis of adults' inputs in playshops utilizing Futures Cone and CLA 57

Table 6. List of shocks and concerns that kids identified and their placement in the Futures Cone 60

Chapter 1. For the sake of neglected tomorrows

The source of society's dominant dreams and aspirations today appears to be derived from capitalistic ideals that emphasize winning, progress, economic growth, technocracy and more—but only for the few. In being largely oriented toward corporate strategic planning, visioning for the future often disregards marginalized voices and stories, resulting in future visions that overlook the lived experiences of people of colour, immigrants, indigenous populations, women, LGBTQ populations, people of differing abilities and many others (Son, 2015; Sardar, 2010).

Since the 1990s, futures work has been increasingly focused on inclusivity and engagement with multiple worldviews (Singh, 2019). This has resulted in the development of new methods and techniques to broaden the field, paving the way for visioning that is inclusive, participatory, and co-created with a diverse set of voices. In order to practice futures work that reflects our increasingly diverse societies, we need to engage and include underrepresented groups at the table. If we neglect to do this, then with each generation we risk reproducing the same dominant and exclusive culture, which portends disaster for a sustainable future.

In this paper, we focus on one of these marginalized stakeholders: kids[1]. As change-makers in their own right, kids are denied a huge amount of agency. They are excluded from discussions about the future simply because of their age. Voter age acts as an institutionalized boundary of exclusion, wherein those under age aren't given the opportunity to comment on matters of concern that affect them directly. They are instead forced to live with the decisions that adults make, and endure the consequences of them (without agency). Despite the fact that we exclude them, we know that kids and youth are speaking out on matters of serious concern, making positive changes, and openly asking for people to join them.

> Greta Thunberg is a 16-year-old Swedish climate activist. When she was just *8 years old*, she became actively aware of apathy regarding climate change concerns. She began protesting as a 15-year-old, and has inspired nearly 1.5 million students in more than 125 countries to join her on Fridays in striking and protesting against climate change negligence. Greta has been nominated for the 2019 Nobel Peace Prize.

> As an *11-year-old*, Malala Yousafzai published an anonymous diary about her life under Taliban governance in Pakistan. Her diary went viral. She gained huge attention globally, and began to fight for better education for girls before she was

[1] Throughout this paper, "kids" and "children" are used to refer to those between the ages of 7 and 12. "Teens" is used to refer to those between 13 and 19.

shot in the head as a result of her activism. At the age of 17, she received the 2014 Nobel Peace Prize—the youngest person ever to win. She also appeared on the front cover of *Time* magazine as one of the "100 most influential people in the world" (McAllester, 2014).

Amika George, when 17, decided to fight against *period poverty* in the UK after reading about a charity that provided menstrual products to African girls. She founded the #FreePeriods movement and coordinated a protest of about 2,000 people wearing red dresses and demanding government action. As a result of this movement, in March 2019, the UK government announced that it would provide free sanitary products in all English schools and colleges.

As an 11-year-old, on March 24, 2018, Naomi Wadler spoke at the March for our Lives gun violence protest in Washington, DC Earlier that month, she organized walkouts at an elementary school, speaking out about the disproportionate number of black female victims of gun violence in the United States whose "stories don't make the front page of every national newspaper, whose stories don't lead on the evening news". In her speech she says that although her and her friends are only 11, they know that life is not equal for everyone and they know that they only have 7 years until they, too, can vote.

There is no doubt that kids and teens around the world want to be involved in matters of civic concern. Adults often display an unwillingness to accept that young people are able to contribute to meaningful discussion about serious issues. We can see this in the adult online reaction to the youth activist rallies fighting to stop gun violence after the shootings at Marjory Stoneman Douglas High School in Parkland, Florida. There were a series of accusations that the teen-led protests and online activist tweets were part of some larger plot against President Donald Trump, and led by adults simply puppeteering young people. The implication of this is that young people are incapable of such impassioned and articulate speech on their own.

In addition to this evidence of youth activism, campaigns to lower the voting age have begun in Oregon and Massachusetts, along with a deluge of articles arguing why the voting age should be lowered. Local, youth-led campaigns in Massachusetts have persisted on the matter since 2013 (Astor, 2019). One of the arguments in favour of lowering the voting age is that it improves the lives of young people by giving them a voice in the political process and forcing decision makers to take their interests seriously. When we disenfranchise young people, we are implicitly telling them, and ourselves, that they have nothing of value to add to political conversations (National Youth Rights Association, n.d.).

While there is still a lot of work to do here, teens have been gaining traction globally as activists and agents of change. But kids under the age of 12 face even stronger age

discrimination. We often shield kids from sensitive issues because we think they are too young to hear about them, further denying these stakeholders' agency, and giving them even fewer opportunities to engage. As we should be caring about improving the lives of teens, we should be equally concerned about improving the lives of younger kids.

What if we explore the potential to prepare kids to step into conversations about the future—in the hope that by building this into educational and extracurricular training at a younger age, we are slowly up-skilling and encouraging younger generations to practice engaging in discussions and activities to shape their future? Foresight methods pave the way for participatory, complex problem-solving and action. By exposing kids to these methods we can begin to understand how to meaningfully engage them in critical conversations about the future; and by opening avenues of engagement we acknowledge their agency as stakeholders and changemakers. In addition to acknowledging their agency, we would be instilling them with 21st century skills that will bolster them in helping humanity in the wake of an unpredictable, fast-changing and complex world.

We should care about doing this because, first, we make decisions regularly that affect kids without involving them at any point in the discussion. This denies their agency and categorizes them as incapable, thus undermining their confidence in their own ability to participate in decision making. Second, in addition to advancing the foresight field's inclusivity agenda, in the push for inclusive, participatory and co-created futures, we

cannot justifiably overlook these young stakeholders, who are capable of offering their own observations and opinions. Engaging young people will ensure that sense-making and visioning are equally accessible to our underrepresented stakeholders who cannot make decisions, and yet are fated to live with the decisions we make today. Thirdly, we would actively up-skill young people as change makers of our time by exposing them to tools and skills that will help them grapple with complex problems at earlier ages. Lastly, overall, this will help futures work practitioners and others move away from an outcomes-driven mindset that emphasizes winning over others, efficiency and speed, and towards an explorative mindset that embraces complexity, creativity and ambiguity. An explorative mindset requires and reinforces the habit of continuously reframing complex situations and proposing contingent solutions, along with reflecting on the efficacy of the whole process.

How might we meaningfully engage kids in futures work for sense-making and visioning?

CHAPTER BREAKDOWN

In the next chapter we discuss foresight methods for visioning and sense-making. We discuss how these methods enable participation and inclusive visions; we also examine and acknowledge the limitations and biases of futures work. Lastly, we discuss why we believe these methods are beneficial to use with kids, and how they promote the development of the 6 C's of deep learning, a framework developed by Michael Fullan

that we believe can help prepare young people to navigate today's technology-driven, complex and fast-changing world.

In "Our Approach" we describe our methodology for answering the research question. We begin by outlining our literature review on foresight methods for visioning and sense-making; the 6 C's of deep learning; play and creativity; and education curriculum and engagement approaches that focus on teaching futures literacy to young people. We move on to discuss our consultations with foresight practitioners who have experience facilitating foresight workshops with young people. Finally, we prototype and deliver a series of Playshops based on our learnings from the literature review and consultations. We discuss the inputs to this playshop, including the IFF World Game and the 6 C's of deep learning. We discuss the iterations between playshops and elaborate on the differences between the playshops with kids and adults. We conclude with a discussion of two key insights extracted from the entirety of our research—first, there is a cultural shift away from underestimating the value of young peoples' ideas because of their age. We can activate that shift early by becoming aware of how to have meaningful intergenerational conversations. Second, engagements with kids must be reciprocal. Adults must learn to be active listeners so they can better understand the root of kids' viewpoints on important issues.

In our findings chapter, we claim that including kids in social discussions can lead us into an enriched sense-making and visioning, where both children and adults can benefit from the process.

The conclusion leads us to the next steps in creating a more inclusive and participatory civic process, including areas of further research.

Chapter 2. Futures methods for visioning and sense-making

We use foresight methods as our lens for this project because it enables participation of multiple stakeholders for vision building and sense-making, which helps develop inclusive visions. Foresight evolved over different disciplines and schools of thought (Kuosa, 2011). First, it was a transformation of forecasting and developed as a paradigm shift from a deterministic perspective of the future towards the plurality of futures. Secondly, foresight dominated the discourse that tried to reinforce the notion that research about the future is solely the realm that belongs of professionals, who know the mysterious methods and rituals of predicting the future (Kuosa, 2011). So, foresight advocates started to develop participatory approaches to exploring possible and probable futures.

This plurality which embodied foresight discourse resulted in the development of tools and methods that required the participation of multiple actors, and hence the inclusion of different disciplines at the research. Foresight evolved from mainly focusing on the future of technological advancements (Kuosa, 2011) to tapping into the volatile, uncertain, complex, and ambiguous (Duijne & Bishop, 2018) situations in multiple domains. As foresight evolved, it helped to make sense of those situations by exploring and probing what might happen in the future. Many tools and methods evolved to refine that and one central method for that purpose is scenario planning. In parallel, foresight

also developed concepts and methods for visioning—designing and shaping the desired future. All these characteristics make foresight a comprehensive method for us to apply as an overarching approach in our study.

A key aspect of our research recognizes that kids are missing as an important stakeholder group in social conversations; and they are also, for the most part, missing from problem-solving.

Foresight as the high-level framework of this study warrants more exploration. As noted earlier, foresight can be used for both sense-making and visioning. We can illustrate this claim in the famous futures cone which was introduced by Charles Taylor (1988) and later adapted and extended by multiple futurist.

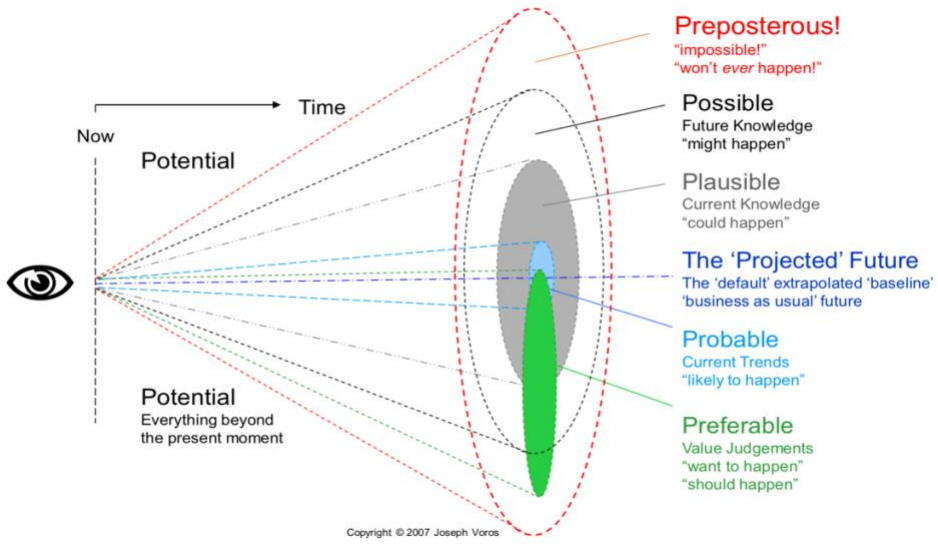


Figure 1. Types of Alternative Futures: The "Futures Cone" (adapted and extended by Joseph Voros).

This Futures Cone introduces three categories of the future which help us make sense of the future: possible, plausible, and probable futures. It also provides us with a normative future— a preferable future which we call *vision*.

Possible futures are those that we think *might* happen, based on the knowledge we don't yet have but might acquire someday. Plausible futures are those that we think *could* happen, based on our current knowledge. Probable futures are those that we believe are *likely* to happen based on trends and quantitative speculations (Voros, 2017). These are theoretical categorizations of the future; but how might we use these theories for sense-making? Scenario development is one major method in futures studies and foresight to explore those possible, plausible, and probable futures. Scenarios help us make sense of the complex and uncertain futures ahead. They provide us with insights about how the future might unfold so we can be prepared for what's ahead.

The preferable futures in the Futures Cone are those that we believe *should* happen (Voros, 2017). Each stakeholder defines their preferred futures which are also called visions of the future.

Foresight is the overarching framework that deals with all these futures in a participatory and inclusive way. European Foresight Platform (2010) defines foresight as "a systematic, participatory, future-intelligence-gathering, and medium-to-long-term vision-building process aimed at enabling present-day decisions and mobilizing joint actions."

This definition draws on some major characteristics of foresight and futures work (European Training Foundation, 2014):

- Systematic: foresight methodology is based on systematic methodologies; it is not a mysterious way to "predict" the future.
- Participatory: it brings together multiple actors and stakeholders to share their expertise, ideas, and insights on the central question.
- Future oriented: speaks to studying trends, signals, driving forces, wild cards, and disruptive events which interact with each other and could shape various futures.
- Vision building: helps stakeholders to draft visions using certain foresight tools.
- Process: foresight emphasizes the process as well as outcomes. The intangible process outcomes are, communication, concentration on longer-term, coordination, consensus, and commitment (Martin, 1995).
- Present-day decision: speaks to drafting present-day strategies, policies and decisions which align with shared visions.
- Mobilizing joint actions: participation of multiple stakeholders facilitates the implementation of designed policies and strategies

Foresight draws heavily on participatory processes aiming for exploring and making sense of alternative futures, designing shared-visions, or making decisions to cope with complex problems.

Visioning in foresight

Fred Polak, an admitted historical idealist, philosopher, and one of the Dutch founding fathers of futures studies—especially in the domain of visioning—has expanded the concept of vision in his famous book, *Images of the Future*. In this book, he asserts that the human mind is capable of categorizing and reordering realities within the self (present reality) and perceptions of the not-self (the Other), and this "enable[s] him to be a citizen of two worlds: the present and the imagined. Out of this antithesis, the future is born" (Polak, 1973).

There is a quite extensive debate about the width and breadth of the human agency on achieving visions. Some of those debates have roots in philosophical schools of thought. We are not going to address theoretical arguments about visioning, human agency, or determinism and free will, but we will shortly introduce visioning as a method in the foresight domain.

In this research, we refer to *vision* and *visioning* in the foresight context; by *vision*, we mean a desirable or preferable future among all other futures or scenarios which are plausible or probable. There are several approaches and methods to design future visions. Some approaches focus on creativity; others draw on data and facts. Some visioning is conducted by subject-matter experts; in other futures work, participatory vision building has been encouraged and developed. Visioning in futures work is a necessary phase in strategic foresight. Peter Bishop and Freija Van Duijne describe

strategic foresight as a method for preparedness in volatile, uncertain, complex, and ambiguous (VUCA) futures that are possible and plausible (Duijne & Bishop, 2018).

Slaughter, a scholar and writer in futures studies, believes that strategic foresight at its broadest level is needed to cope with “civilizational challenge,” which is overcoming some Western worldviews and mindsets. Slaughter believes that strategic foresight can provide a way out of value traps, which we will mention in the biases of the futures work. Finally, he argues that strategic foresight is built on the rationale that the world is changing rapidly (Slaughter, 1998).

Hines and Bishop introduced a six-phase process to strategic foresight (Bishop & Hines, 2006), and we use this framework as a basis to design our focus groups with kids for this study. We paraphrased and summarized these steps to conform our design of focus groups with kids.

1. Framing: Understanding and defining the problem clearly.
2. Scanning: Understanding what is happening right now in the domain of the problem or the issue.
3. Forecasting: Exploring a range of future possibilities (scenarios).
4. Visioning: Deciding about the desired or preferred future
5. Planning: Designing a roadmap to that desired future considering all scenarios.
6. Acting: Translating the roadmap into ongoing actions.

Three Horizons is one of the foresight techniques to draft a shared-vision (Curry & Hodgson, 2008). It helps practitioners to identify a preferred future, based on some shared values, and strategize how to achieve that future. *Three Horizons* enable the futures work analysis to be linked to the underlying systems and structures.

Another method that can be used for visioning and tapping into the underpinning values and drivers of a vision, is *Causal Layered Analysis (CLA)*. *CLA* is a foresight method introduced by Sohail Inayatullah (2003). *CLA* seeks to dive deep into problems, issues, and opportunities to different depths, using different lenses. It has four levels or dimensions. This method can be used to analyze the existing visions and big pictures, as well as drafting new ones, and also building scenarios. We think that *CLA* is a method to analyze the big pictures and shared visions of society, culture, or civilization which are described by Polak. The analysis in *CLA* happens in four different layers. The first layer is Litany, or daily, issues. These include quantitative trends or problems which are mostly reflected in popular media. The second layer is social causes and digs deeper into the systemic roots of social, economic, and political causes. This layer is where most of the academic work is done. Discourse or worldview is the third layer and investigates the cultural and worldview roots of the issue. The last layer, myths and metaphors, taps into the deep unconscious stories.

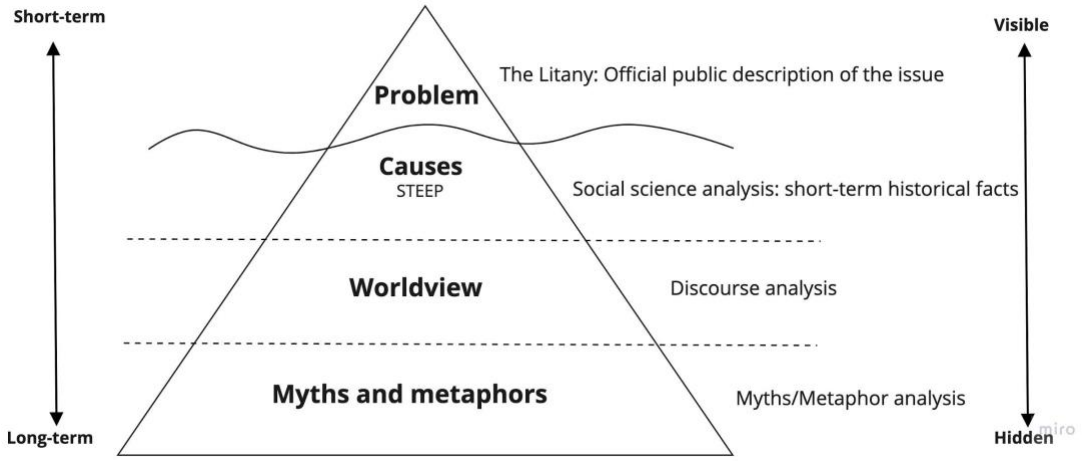


Figure 2. Causal Layered Analysis

We believe that if we engage more people in the visioning process, we can explore various aspects of the issue. Kids could play an especially significant role in the whole process. By involving them in serious social discussions and civic visioning, they learn to practice dealing with problems and issues which could affect the future of society. Kids may not provide actionable insights for the problems; however, they may be able to imagine futures that tap into the worldview and metaphor levels. It is the role of facilitators and other adults to consider the gist of their inputs. Finally, if children are continuously engaged in visioning processes, they will likely internalize their imagined big pictures; that will allow them to act on those visions as they grow older.

Scenario development as a tool for sense-making

Scenario development, as one of the most practiced and well-known methods of foresight, can be used to make sense of complex and complicated futures. In the

futures cone, we discussed that plausible and probable futures can be probed by scenario planning. Based on the domain of the study, those plausible and probable futures carry complexities, ambiguities, and uncertainties.

Hoffman, Klein, and Moon are cognitive psychologists who define sense-making as a motivated, continuous effort to understand complex situations for better anticipation of ambiguous futures (Klein, Moon, & Hoffman, 2006). Scenarios can be used to make sense of those complex situations (Kurtz & Snowden, 2003), because they try to methodologically present narratives of the future. To present those narratives, a futurist should utilize different methods and tools (Bishop, Hines, & Collins, 2007) to make sense out of complex futures.

Biases of futures work

Although some futurists (Galtung & Inayatullah, 1997) trace the origins of futures studies to thousands of years back in Chinese culture and decades back in Arabic culture, there is no evidence of Eastern discourse in the theories and methodology of futures studies. Some researchers believes that part of this domination of Western views in futures work is because of the availability of Western researchers' work in digital media (Singh, 2019). To support this claim, they quote a phrase from Sardar's (1993) essay on colonizing the future, "...but this is exactly the point: availability [of references and material] is a function of visibility" which clearly explains why the Western mindset is more dominant in the roots of foresight and futures studies. One of

the biases of futures studies is the lack of non-Western views, narratives, big pictures, metaphors, or methods.

An example of dominant Western narratives is the prevalence of capitalist values, which have penetrated in worldviews, culture, media, lifestyles, and more importantly, today's governance (Tom, 1990). From another vantage point, for instance, there is a concept in African culture called *Ubuntu*, which encompasses compassion, reciprocity, dignity, harmony, and collectivism. Ubuntu is like a metaphoric pillar of this culture (Gutiérrez Aranda, 2017). If we apply counterfactual reasoning, we might wonder, what would the world look like now if mainstream Western culture had been influenced by Ubuntu values rather than capitalism values? Recently, we are practicing "co-everything", empathy building, human-centred design, and other engaging and inclusive approaches. We assume that inclusion of children could add diversity and enrichment to our civic discussions.

Including Kids

We have already delineated the importance and the capacity of futures work to engage multiple actors and have them work together toward a vision. We then outlined some biases of futures work. What if engaging children and teens as a significant group of previously excluded actors could be a link between the capacities and limitations of futures work?

According to StatsCan, more than 20 percent of Canadians were immigrants in 2017 (StatsCan, 2018); we can anticipate that next generations will be more diverse than today. By promoting values such as diversity and inclusivity, we can hope to embrace new voices, values, and narratives into the underlying dominant mindsets and worldviews in our culture. Foresight provides tools and methods for visioning and sense-making; kids could be the agents of change in an evolving diverse culture. They could be champions of change toward inclusivity and diversity if they had the opportunity to engage in serious talks today.

To provide the means for the kids to flourish and thrive, we and the other stakeholders,—specifically the policymakers—should provide the proper platform. We need to teach children skills they will need in the future. These skills concentrate on personal and interpersonal capabilities. These skills help them thrive regardless of which alternative future occurs. Investigating the learning skills for the future is a hot topic in different domains such as education, pedagogy and futures studies. The reality is that we cannot predict the demanded jobs of the future. There is, however, more of a consensus on some of the skills that will be essential in the future. Among those is the framework developed by Michael Fullan and supported by the New Pedagogies for Deep Learning (NPDL). The framework, called the 6 C's of deep learning, emphasizes skill sets that students need to acquire and excel in, in order to flourish in today's complex world (Fullan & Scott, 2014). The 6 C's are: *Character*, *Citizenship*,

Collaboration, *Communication*, *Creativity*, and *Critical thinking*. These skills help merge learning and life, and enable kids to explore the world using different lenses in multiple disciplines. These skills are frequently acquired and refined through problem-based learning, in which the teacher is a co-learner and facilitator.

The framework has inward and outward facing components. Externally, it asks that students develop the capacity to collaborate with others, but also encourages them to think of themselves as citizens of the world, with the ability to make far reaching, global impact. Internally, it wants to strengthen the capacity for young people to self-reflect and use their natural strengths to create impact and make positive change. Fullan says that the shift today towards helping humanity make Character and Citizenship "turnkey C's" because they foster human connection. Wendell Bell, a well-known futurists and the author of *Foundations of Futures Studies,* validates this by claiming that "the most general purpose of futures studies is to maintain or improve the freedom and welfare of humankind" (Bell, 2011, p. 73).

The other four C's (collaboration, communication, creativity, and critical thinking) bolster the potential impact that the activation of *Character* and *Citizenship* can have. The remaining 4 C's also display overlap with general foresight process-based outcomes. As mentioned earlier, Martin (1995) labels communication and collaboration as a key learning skills of the foresight process. Teach the Future, a non-profit organization, affirms the importance of critical thinking and creativity by claiming that young people

need to learn how to think creatively and critically about the future in order to anticipate and influence it (Bishop, 2011). For these reasons we chose Fullan's 6 C's of deep learning as a framework to understand how to design our focus groups engaging kids in civic discussions.

Foresight evolved to include and embrace multiple perspectives. It heavily draws on participation and inclusion in its methods and approaches. So, in short, we think that foresight is an appropriate platform to facilitate a more inclusive and participatory future—and kids should be involved in this transition as an excluded group of stakeholders.

Chapter 3. Our Approach

To answer *"how might we meaningfully engage kids in futures work for sense-making and visioning?"*, we conducted a literature review, consulted with foresight practitioners who work with children using foresight practices, and developed and tested playshops to help elaborate a series of appropriate methods for engaging kids in Foresight. The literature review and consultations with Foresight practitioners informed the playshop design.

Literature Review

We conducted a literature review on

- Foresight methods for visioning and sense-making.
- 21st century learning skills, with a specific focus on the 6 C's of deep learning developed by Michael Fullan. He describes the 6 C's as a list of crucial skills that young people need to master in order to flourish in today's complex, tech-driven world. Fullan emphasizes strengthening life skills capacity building over mastering textbook learning.
- Play and creativity, with a focus on the terms of play; the role of play in learning; and the importance of structuring play. Here we were largely inspired by Huizinga's (1955) elaboration of the magic circle in *Homo Ludens,* in which play happens in an enclosed circle or space that is separate from the real world; this concept speaks to the boundaries of the game that participants feel themselves

enclosed within. We were also inspired by Katie Salen and Eric Zimmerman's elaboration on "playfulness": a state of mind in which the spirit of play is injected into activities; "play is free movement within a more rigid structure" (Salen, Tekinbaş, & Zimmerman, 2004). By their definition, play is not necessarily the result of moving through more formalized gameplay, as in a game of Chutes and Ladders. This definition of "playfulness" helped us determine the format in which we would inject play into an engagement with kids.

    - Further, we based our focus groups on *play* and tried to engage kids in the process of our design in a playful setting. Rauch, Westecott, Hartman, and Stein, in their study (2016), explore the theories of play and suggest that play is a "rich and vital part of human activity." They further explain that play prompts creativity and collaboration, and argue that improvisation is a blend of play, creativity, and collaboration. As a result, they subtly use *play* in contrast with *work,* and invent the term playshops to describe a workshop series exploring play (Rauch et al., 2016). We borrowed this term from their work and call our focus groups with kids *playshops.*

- Education curriculum and engagement approaches that focus on teaching futures literacy to young people. The majority of this content is targeted to adolescents and teens, although there is content for younger children as well. Examples include *Futures Thinking Playbook* (King, 2018)—specifically its use of *Images of the Future* with young people; and what the World's Futures Society learned by exploring the concept of foresight with groups of children of

elementary and secondary school age (Mack, 2011). From Mack's paper we borrowed the recommendation to have children draw elements of their current life in new contexts and scenarios in order to encourage critical thinking.

Consultations

We consulted with members of the organization Teach the Future regarding their experiences in working with Foresight and young people. We spoke with four members from the Canadian chapter about their advised best practices of engaging young people in a short workshop session; about their experiences using foresight methods with young people; and to receive feedback on our playshop ideas. Our main takeaways were:

- To consider the engagements time horizon when looking to the future or past. Children perceive time differently from adults, meaning that 5 years feels a lot farther away to children than it does to adults.
- To activate a variety of modes and activities to keep energy levels up.
- To limit the overall duration of the engagement to 90-100 minutes.

Playshop Prototyping

Drawing on the literature review and consultations with foresight practitioners, we designed a playshop to engage youth in sense-making and visioning on a central topic. Our purpose for the playshop with kids was to test methods and techniques for engaging kids in discussions and activities that relate to issues that affect them but over

which they have no control or input, such as issues of climate change and public health concerns.

We ran a total of four playshops. The first two were test runs intended to inform the third delivery of the playshop with kids. The final was delivered to a group of adults for comparative purposes and to provide a comparison to the workshop with kids.

International Futures Forum's World Game

The IFF is an international group concerned with taking on complex challenges with partners in business, government and communities, and developing ideas and philosophies about how to make sense of today's complexities.

The IFF World Game allows any group of people who share a common concern to have an engaging conversation about it and learn together what might be done to address it. The question can be as large as the future of the nation over the next 20 years or as small as where to build the new community center. This is a collaborative learning game with an emphasis on shared creative thinking. The competitive focus is on the situational challenges rather than with the other players. The game structure starts off with a review of global challenges that are affecting local communities (and will increasingly do so). It then moves on to challenge the players to find their own shared viewpoint and response on all this.

The final stage is to generate ideas that feel relevant and exciting in developing greater societal and systemic resilience to possible circumstances of the future. The game combines learning about the serious challenges we face while enabling the learning to be fun, creative, and energizing. The game provides an opportunity for a group of people to consider a particular question through a conversation that exposes them to myriad trends, discontinuities, and contradictions of an interconnected and ambiguous world (International Futures Forum (IFF), n.d.). It requires participants to consider how we might prevent undesirable futures from materializing.

We used the IFF World Game as a starting point for the design of the playshop for the following reasons:

- **It's already a game**. Instead of creating a game from scratch, we decided to imagine how we could modify a current foresight game for the playshop. We decided to break the IFF World Game down to its core elements, modify those elements as needed to make them more engaging to our target age group, and negotiate the degree of structure we wanted present in the playshop.
- **It's futures-oriented.** In thinking about how to avoid undesirable futures, participants must think about what a desirable future looks like and what steps we can begin to take to arrive at the desirable future and avoid the undesirable one.

- **It prompts sense-making.** It encourages participants to consider a certain undesirable future, and make sense of that future by narrating what happens in that future based on a limited number of trends, shocks, and concerns.
- **It entails elements of a vision.** The game focuses on an undesirable future and encourages participants to contemplate and collaborate on designing strategies to avoid that future. As people are more loss-averse than gain-seeking (Tversky & Kahneman, 1992), a disastrous future would be more provocative than a promising one: a vision.
- **It encourages critical thinking.** The game requires participants to problem-solve and think strategically about how to avoid the materialization of an undesirable future.
- **It requires a prolonged commitment to a single topic.** The game requires participants to walk the topic through three consecutive phases over the workshop period.
- **The results of a preliminary study on foresight games supported our research goals**. We carried out separate research on foresight games and compared them based on certain factors and parameters. The IFF World Game turned out to be the best fit for our goals in this research. It encourages critical thinking, fosters communication over civic issues, has elements of vision building and coming up with potential solutions related to the vision. Finally, the rules of the game could be applied to both children and adults.

Other examined games

We compared a total of five foresight games, and chose the IFF World game. The other four were, Three Horizons Kit developed by IFF; The Thing From the Future developed by the Situation Lab; ForesightNZ playing Card developed by McGuinness Institute; and IMPACT developed by Idea Couture. We evaluated these games based on the laws of simplicity, designed by John Maeda (2006); and also on a game's contribution to visioning and sense-making. Based on the evaluation, the IFF World Game received the highest score, followed by The Thing From the Future (Table 1).

The Thing From the Future could potentially be modified for kids, which opens the door for further research. IFF World Game is an award-winning game that encourages players to collaboratively and competitively imagine objects from a range of futures. The object of the game is to come up with some thoughtful, exciting, and joyful descriptions of hypothetical objects from different futures. Each round, players collectively generate a response to a creative prompt by playing a card game. This prompt outlines the kind of future that the thing-to-be-imagined comes from; specifies what part of society or culture it belongs to; describes the type of object that it is; and suggests an emotional reaction that it might spark in an observer from the present. Players must then each write a short description of an object that fits the constraints of the prompt. These descriptions are then read aloud (without attribution), and players vote on which description they find the most interesting, provocative, or funny. The winner of each

round keeps the cards put into play for that round, and whoever has the most cards when the game ends is declared the overall winner (Situation Lab, n.d.).

Table 1. Scoring grid to compare examined games

Weight Criteria	Three Horizon Kit	The Thing From The Future	IFF World Game	ForesightNZ Playing Cards	IMPACT
	Score	Score	Score	Score	Score
Law 1/ Reduce	7	9	5	6	7
Law 2/ Organize	6	8	7	7	8
Law 3/ Time	5	8	6	6	8
Law 4/ Learn	9	9	10	9	9
Law 5/ Differences	5	7	9	6	7
Law 6/ Context	8	8	9	7	8
Law 7/ Emotion	5	7	9	6	8
Law 8/ Trust	8	8	8	8	8
Law 9/ Failure	6	5	7	5	5
Law 10/ The one	4	7	6	5	5
Law 11/ Visioning	9	7	8	5	4
Law 12/ Sense-making	8	9	9	7	6
Total Score	**6.67**	**7.67**	**7.75**	**6.42**	**6.92**

Test Runs and playshop Prototyping

Test run 1

The first test run was simply a facilitation of the IFF World Game with a group of adults. The purpose of this facilitation was to familiarize ourselves with the game and begin to think about how we might modify the game for a younger age group. The central topic asked participants to explore the idea of human life on Mars. (Appendix A)

Test run 2: Pivoting From Test Run 1

(See Appendix B for Test run 2 rollout)

The experience facilitating the first test run, as well as the outcomes of it, gave us a baseline from which we could begin to determine how to modify the game for younger age groups. We have explained the modifications we made to the original IFF World Game for Test Run 2 below.

- In modifying the game for its next iteration and thinking about how we might run it with kids, the primary element we focused on redesigning was the medium. We wanted first and foremost to move away from writing as the sole medium through which participants expressed their ideas. The second iteration involved writing on sticky notes in Round 1, a collective drawing in Round 2, and creating with Lego pieces in Round 3. We did not use any of the materials from the IFF World Game.

- We modified the structure of the game to help make the participants' vision of the future more explicit. To do this, we applied the *Three Horizons* framework to the IFF game. Instead of imagining the worst case scenario in Round 2, participants were asked to imagine their collective preferred future. Round 3 thus pivoted to a consideration of how we might achieve this future, as opposed to how we might avoid it, as it is done in the IFF World Game.
- The IFF World Game requires participants to explore a core question from up to 12 different perspectives (e.g., Wellbeing and Trade). For Test Run 2, we decided to use simpler language for the perspectives (e.g., Happiness and Relationships).
- We ran Test Run 2 with a mixed group of teenagers and adults because we wanted to run it with a younger age demographic than previous before running it with children under 12. We felt that the experience of doing this, as well as feedback from participants closer in age to kids, would help us to further, and more appropriately, modify the playshop for kids.

Reflections on Test Run 2

Making/building

- Participants were the most engaged overall when building their ideas with Legos, although we received feedback that Lego pieces may be "too distracting" to use with kids.

Lack of engagement

- The energy level of the group seemed to drop as the workshop progressed. This could have been due to a combination of reasons:
    - Uneven contribution to the discussion: The oldest participants engaged the most in conversation while the youngest participants engaged the least.
    - Lack of bodily movement: participants were stationary for too long
    - Not enough breaks
    - Not fun enough: the workshop was too prescriptive and there was more explanation than was necessary
- Overall, participants felt disconnected and did not engage with each other very much.

Problematic topic

- The topic of “life on Mars” was chosen as a way to provide participants with a clean slate for brainstorming, but the topic ended up stifling creativity for some participants who were concerned with first overcoming basic subsistence issues on Mars.

The perspectives

- Perspectives were distributed with the intention of encouraging collaboration and cross-perspective discussions; but participants did not negotiate with one another from the standpoint of their role in order to

arrive at a preferred future. The mixed-age group may have worked as a barrier to collaboration and discussion.

Playshop with Kids: Pivoting From Test Run 2

- We reverted back to the IFF World Game's construction of a worst-case scenario, because it was clear that participants struggled to arrive at a preferred future through dialogue in a limited timeframe.
- We felt that kids might also be more receptive to this because dystopian futures (worst-case scenarios) typically lend themselves more naturally to storytelling and imagination; as a result of this, imagining a worst-case scenario might be more fun.
- We also changed the topic to "the city of Toronto" for two reasons. First, it would be easier for participants to complete Round 1, in which they are asked to pinpoint potential shocks and concerns that might affect the topic. Second, a playshop concerned with the future of the city of Toronto felt more closely tied to our interest in including kids in civic discussions and activities for shaping the future, since the playshops took place in Toronto.
- We did not use the pre-prepared perspectives from the IFF World Game or a modified version of them. The perspectives are meant to encourage players to contribute from the standpoint of a breadth of topics and issues. Instead of taking this approach, we decided to roll with the ideas the players provided outside of

any predetermined categorization. We felt that by relying on the players' personal perspectives to shape the workshop they might feel a sense of agency during the session, as opposed to forcing them to think from the standpoint of "Happiness" or "Relationships."

- Overall, we facilitated with a greater attention to each participant and asked more questions to clarify participants' comments and contributions. This was not something we initially discussed doing, but something that we felt was necessary as the playshop progressed.

What happened: Playshop with Kids

(See Appendix C for playshop rollout with kids)

This was our most recent iteration of the playshop within the scope of this project. We ran it with 6 kids aged 7-11. The playshop was 100 minutes in duration.

We began the playshop by getting all participants to sit in a circle in the center of the room. While sitting in this circle, we obtained verbal assent from kids, disclosing that we would be recording the session, taking photographs, and writing about the playshop, and that we are asking them for their permission to do this. Gaining an explicit confirmation from each kid that they wanted to participate in the game together helped to create Huizinga's magic circle by enclosing us within the boundaries of the game.

We opened with a 10-minute icebreaker game to help create comfort and familiarity between participants in the room.

Once we completed this, we did images of the future, in which we had kids plot themselves on a 2x2 grid that we demarcated with tape on the floor. On the horizontal axis we had them rank themselves according to how hopeful they are about the future, on a range from *Hopeful* to *Not Hopeful*. On the vertical axis we had them rank themselves according to how much control they believe they have in changing the future, on a range from *Control* to *No Control*. We then told them that we would be building a *Not Hopeful* future together. We explained that we would be traveling into the future, imagining the destruction of the city of Toronto, traveling back to the present, and stopping that worst-case scenario from materializing.

Round 1: Returning to our circle at the center of the room, we placed a large piece of foamcore (acting as a game board) in the center of the circle. On the board, we placed a deck of trends that we had made. We explained to the kids that trends are “things that have been happening for a long time that we can see happening around us”. We went through 2-3 examples together, where we had a participant pick up a card and read it aloud. We talked about what they thought the trend meant, and discussed examples of it and why it might be bad for our city.

We then brought out two different coloured stacks of sticky notes. We explained that both stacks would make up a second and third deck of cards. One we entitled *Shocks* (rare disasters that would affect a lot of people, e.g., How did the dinosaurs die?); the other we entitled *Concerns* (things that you are worried about, e.g., the public transportation in Toronto is slow). We brought a ball into the circle that participants tossed to one another. When a participant caught the ball they would call out a Shock. As facilitators, we captured the Shock on a sticky note and added it to the board for everyone to see. Slowly we co-created the deck of Shocks in this way. The same exercise was repeated for Concerns.

Table 2. Decks of Shocks, Concerns, and Trends in the playshop with kids

Deck of Shocks (co-created)	**Deck of Concerns (co-created)**	**Deck of Trends (provided)**
Dragon attacks breaking buildings	Plastic bags	Fake news
Drowning	Natural disasters	Lack of Clean Water
Demons (something that has no emotions)	Tornados	Autonomous Transportation
Fires	Giant Tarantulas	Sustainable Energy
Evil Cats (they always land on their feet)	Garbage	Smart Cities
Evil Dogs	Duolingos falling from the sky	Online Society
	Thunder storms	Aging Population
	Hurricanes getting worse	Anti-Vaxxers
		Urbanization
		Immigration
		Climate Change

Round 2: In this round we traveled to the future, and imagined a worst-case scenario for the city of Toronto. We stuck all the trends, shocks, and concerns on a wall.
We explained that we would be traveling into the future and randomly selecting the shocks, concerns and trends that were ruining the city. We asked for volunteers: one to stand in front of the concerns, one to stand in front of the shocks, and three to stand in front of the trends. We asked how far into the future they wanted to go; someone yelled out 20 years. To travel 20 years into the future we had them shut their eyes and spin once for every year they were traveling into the future. As they spun we had them count their spins out loud to ensure everyone was spinning together. The purpose of spinning into the future was to create an immersive and embodied experience that simulated time travel. Once they finished spinning, eyes still shut, we had kids walk up to the wall and randomly select a card from the deck they volunteered to pick from.

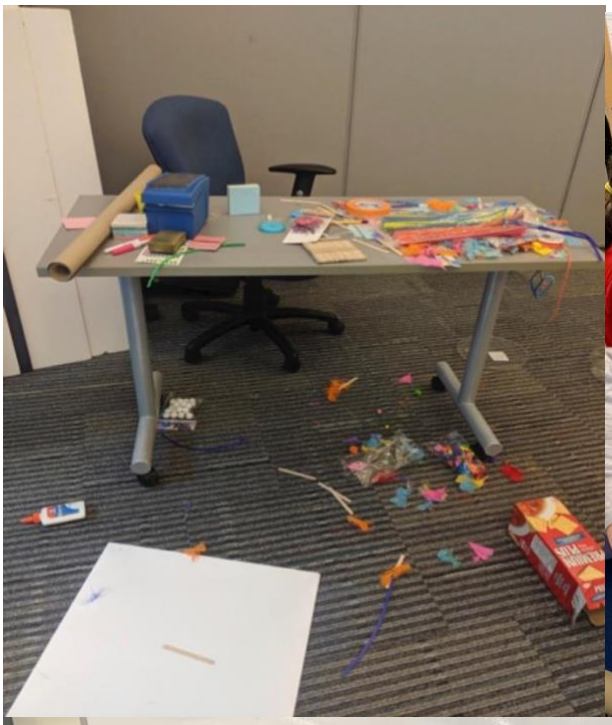
We returned to the circle around the game board in the center of the room. We then used scenario building as a method to make sense of how the potential shocks and concerns would affect the city. We placed the chosen cards on the game board and talked a bit about what each card meant and how it affected the city. We asked participants to think about how each card would manifest in its most negative state, and to describe what they were seeing around them in the future. We made notes of everything they said on the board, and provided them with markers so they could add to the board as well. Through a short conversation we were able to build a general scenario of what the city of Toronto was facing in the future.

Participants had yet to relate to this scenario by placing themselves in it. So we asked them to imagine their life in this world, and to then draw an image or write a story describing a bit about what their life is like. Once finished, each participant explained their drawing to the group.

Round 3: In this round we traveled back to the past, spinning in the opposite direction. As participants were spinning, the facilitators took all their drawings and stuck them to the wall at the opposite end of the room. Once they had finished spinning we explained that now that we are back in the present and we can see what the future might look like (pointing to their drawings at the opposite end of the room). We asked, “what can we make to stop us from getting there?”

We pointed them to the prototyping table filled with materials for them to use as they wanted. Prototyping materials consisted of pipecleaners, modelling clay, feathers, construction paper, tissue paper, markers, tape, small styrofoam balls, popsicle sticks, stickers, rubber bands, and glue. As they were making, we talked to each participant about what they were making, why they chose to make it, and how they thought it would help or hinder the future from unfolding.

Pictures: Kids prototyping



Deep Learning Skills

With each iteration, and as we moved incrementally farther away from the exact IFF World Game structure, we had to ensure we were keeping in mind that we wanted to foster skill-building for kids. It was becoming too easy modify the game structure because we felt it would make the session more fun.

While making modifications to the playshop, and in an effort to think about the intention behind our modifications, we turned to the 6 C's of deep learning to ensure that our modifications were in line with building either Character, Citizenship, Collaboration, Communication, Creativity, or Critical Thinking.

The 6 C's of deep learning were essential to the design of the playshop. It was important that the playshop elicit knowledge from children in a way that benefits both children and researchers. That is, success lies not simply in the attainment of outcomes for the researcher, but also in the learning and personal growth of the participants. We recognized that it is ambitious for a single playshop to feed the development of any or all of the 6 C's in a measurable way, but we wanted to use these as guideposts for the playshop design and delivery. Table 3 displays Fullan's definition of each of the 6 C's, along with a corresponding column of how each was factored into the final design playshop with children.

Table 3. The 6 C's incorporated into the playshop

6 C's	**Fullan Definition** (Fullan & Scott, 2014)	**Playshop Incorporation**
Character	"Character refers to qualities of the individual essential for being personally effective in a complex world including: grit, tenacity, perseverance, resilience, reliability, and honesty."	Encouraged kids to think about how they view the future through an Images of the Future exercise. How hopeful are they about the future? How much control do they think they have in shaping it?
Citizenship	"Thinking like global citizens, considering global issues based on a deep understanding of diverse values with genuine interest in engaging with others to solve complex problems that impact human and environmental sustainability."	Prompted children to think about their experience as citizens of the city of Toronto by getting them to list concerns they have about life in the city, and potential problem that might affect the city in the futures.
Collaboration	"Collaboration refers to the capacity to work interdependently and synergistically in teams with strong interpersonal and team-related skills including effective management of team dynamics, making substantive decisions together, and learning from and contributing to the learning of others."	Co-created the trend deck with kids and gave kids the option to work together or alone when prototyping a solution.
Communication	"Communication entails mastery of three fluencies: digital, writing, and speaking tailored for a range of audiences."	Participants communicated through speaking, drawing and prototyping their solution.
Creativity	"Having an 'entrepreneurial eye' for economic and social opportunities, asking the right questions to generate novel ideas, and demonstrating leadership to pursue those ideas into practice."	Giving participants free reign in the playshop, including the space and the tools to create a preventative solution to a potentially devastating state of the future.
Critical Thinking	"Critically evaluating information and arguments, seeing patterns and connections, constructing meaningful knowledge and applying it in the real world."	Asked participants to make something that can prevent a potentially bad future from becoming reality.

Playshop With Adults: Comparing Kids and Adults

(See Appendix D for playshop rollout with adults)

We ran the same playshop with nine adult participants just as we ran it with kids. This was a way to make the insights and outcomes of the workshop with kids more apparent.

- During the playshop with kids, the effort gravitated more naturally toward drawing and building solutions using the provided prototyping materials; whereas the effort invested during the playshop with adults gravitated more naturally toward conversation while co-creating the decks of shocks and concerns (Table 2).
- Kids appeared to be very comfortable in the room. There were a few kids who initially contained themselves to a corner; but once we entered the magic circle, the energy level of the room increased. Adults, on the other hand, were visibly uncomfortable with the lack of environmental structure (e.g., the lack of chairs and tables). Although most eventually took to the floor, there were a few who decided to stand. Adults didn't sit as closely to one another as kids did, and some opted out of spinning into the future, even though they knew each other in a collaborative context (Table 4).
- Kids threw themselves into the process without hesitation, whereas adults displayed hesitation about certain aspects of the process (e.g., building with low-fi prototyping materials, drawing, and spinning into the future).
- The energy levels during the playshop with adults began to drop when we had them draw and prototype. Energy levels didn't appear to drop with kids at this point in the playshop.

- Adults were compliant and did what we asked them to do, whereas kids were more willing to follow their own inspiration. When asked to make something that would help to prevent the worst-case scenario from materializing in the future, two of the child participants decided instead to make something that would encourage the destruction of the city. This might be because they were still visualizing the worst case to bring it into further clarity, implying that more time or a more robust scenario building process may have been needed.

Tips for designing and facilitating playshops with kids

The tips below are the result of running and reflecting on the outcomes of the 4 engagements we conducted.

Designing the Engagement

- **Use prompts.** As with adults, prompts can be a way of pushing participants' minds to consider ideas or thought experiments they may not have considered on their own. During the playshop we believe this would have been useful to do when building out the scenario. Beyond asking them to draw what their life is like in that future, we might have received more insight had we given them more specific prompts, such as to draw themselves eating food in that future, or going to school, or looking at the list of most-watched videos on YouTube.
- **Limit the number of factors or problems introduced.** It is more effective to clearly delineate a select number of problems or factors so that participants know where to focus their energies. There were a total of 5 factors (1 concern, 1 shock

and 3 trends) that were randomly chosen to contribute to the destruction of the city of Toronto. Throughout the rest of the playshop, participants did not speak to all 5 factors in their drawings and creations. Each participant focused instead on one or two factors.

- **Don't feel compelled to change the topic.** Kids are usually willing to engage in almost any topic. The issue isn't whether they will engage with the topic, it's more about how the engagement is designed.
- **Consider your time frame.** We were able to engage kids for 100 minutes, including a 20-minute snack break during which they shared their creations. Though we believe that the engagement time frame is dependent on factors such as degree of playfulness, gamefulness and variation in medium usage, 80 minutes of structured engagement with kids is the amount of time over which they were able to provide their attention.
- **Use different modes.** Using different modes and getting participants to move and use their bodies differently is a way to maintain engagement and avoid the deterioration into repetitive and mundane movements. We had kids engage in drawing, verbal communication, prototyping with materials, tossing a ball around, and twirling in order to time travel.
- **Consider Nanogames.** According to the Center of Excellence for Youth Engagement, "short and intense engagements often motivate sustained ones." In line with the logic for using different mediums, engaging kids in 10-15 minute nanogames that are designed to prompt response on your topic could be a good

way to break the engagement into several parts to keep it from feeling too long. This may require you to spend more thoughtful time designing the engagement, with, say, one nanogame per topic; but it may also help you elicit knowledge and insight on a broader range of issues.

Facilitating the Engagement

- **Be interested and curious.** Be curious about what they say, even if you think it sounds “absurd” or “childish” or “uninformed.” Ask why they said what they said, and what they meant by what they said. It’s easy to tune kids out sometimes. Part of your role as facilitator is to be alert to what everyone says and to not let peoples’ words or actions go unnoticed. When you dig deeper into someone’s comment by asking follow-up questions and actively listening, you are helping them clarify their thought process.

  Example:

  A participant’s response to the question “What are possible shocks that could impact our city?”

  Participant: “Demons!”

  Facilitator: “What’s a demon?”

  Participant: “A demon is something that has no emotions.”

In this example from the playshop, the participant's clarification helps us understand that a lack of emotion is something that could negatively affect the city.

- **Account for varying expressions of creativity.** Kids are like any other stakeholder we might bring into the design process. We do not expect that stakeholders come prepared to tell us what we need them to tell us simply because we've booked a room and set aside some time. As a facilitator, you should carefully consider how you will engage kids in ways that naturally elicit their creativity, but you also need to be willing to reserve judgement and engage them further on their responses. Doing this well will likely take several iterations and reflections.
- **Become an improviser. Be flexible.** Follow the interests of the room where they seem spirited and unanimous, without completely abandoning your structure. This can help avoid the engagement feeling expert-led and descending into a classroom style, one-way, teacher-student hierarchy. Be willing to adapt your expectations and plans during the engagement itself, as you discover the spirit and character of the room. To prepare for this, know what you're willing to compromise on and what you're not before you walk into the engagement.
- **Reveal the concept.** Everything we say can be broken down into multiple, basic concepts. This mindset can be useful when engaging kids. Distilling their ideas to concepts can help you expose the very basic claim they are making, which is usually more explicitly comparable to what adults might say, simply articulated

differently. Extracting the underlying concepts presents us with a new way of understanding initial statements, which can help us to ask deeper questions. Doing this can also act as a reminder that kids and adults often think about similar concepts and speak in similar language.

A participant's response to the question "What are possible shocks that could impact our city?"

Participant: "Evil dogs."

Evil = does hurtful things to humanity.

Dogs = animal that we consider our friends and are unsuspecting of.

Evil Dogs = something that we previously trusted has now become a threat.

- **Avoid "No."** "No" can easily make participants feel that they have done something wrong, and may stifle their creative process. Make a conscious effort to avoid the word "no" which may come up if participants misunderstand the instruction. In this case it is often more effective to respect and engage with the participant's interpretation of your question. This will give you the opportunity to learn something new about how to interact with that stakeholder, or how to rephrase your language going forward.
- **Create Conviviality.** The more comfortable participants are during the engagement the more responsive they will be throughout its duration, and the more likely they will be to build on each other's ideas. During the playshop, we noticed that kids who brought friends to the engagement fell easily into a collaborative working relationship.

Table 4. Engagement comparison chart

Comparison Factors	**Test 1: IFF Proper**	**Test 2: Modified IFF**	**Playshop: kids**	**Playshop: adults**
Participants	Adults	Mixed: Teenagers and Adults	Kids 7-11	Adults
Number of participants	5	4	6	9
Total time	120 minutes	135 minutes	100 minutes	100 minutes
Format	Ran the original IFF game	IFF + 3 Horizons	Follows the IFF approach but varies in activities and methods employed	Follows the IFF approach but varies in activities and methods employed
Round 1	Identify shocks, concerns and trends in the category of your chosen role.	Identify shocks, concerns and trends in the category of your chosen role.	Co-create two decks of shocks and concerns that could affect our city. The trend deck is provided.	Co-create two decks of shocks and concerns that could affect our city. The trend deck is provided.
Round 2	Imagine the worst-case future by considering how each of the previous, shocks, concerns and trends would manifest at their worst.	Think about what a preferred future looks like in the context of your role. Group draws a collective image of the preferred future.	Travel into the future by spinning; randomly select 1 shock, 1 concern, and 1 trend that will form the basis of the worst-case scenario for the future. Draw a frame of your life in that world.	Travel into the future by spinning; randomly select 1 shock, 1 concern, and 1 trend that will form the basis of the worst-case scenario for the future. Draw a frame of your life in that world.
Round 3	What are preventative and coping actions we can take today?	Make something using Lego pieces that helps us get there.	Make something that can help us avoid getting to that bad state using prototyping materials.	Make something that can help us avoid getting to that bad state using prototyping materials.

See Appendices A, B, C, and D for complete workshop outlines.

Limitations of playshops

Lack of diversity

Participants in all workshops were recruited through the Strategic Foresight and Innovation (SFI) network at OCAD University. This resulted in groupings of people with similar worldviews. The participants in the workshop with kids were potentially homogenized in socioeconomic status, limiting the diversity in outcomes.

Resources

More resources in terms of overall project time, human resources, and infrastructure would have allowed us to partner with other organizations and run the playshops within those organizations.

Time

The 100 minutes playshop was our maximum time for engaging kids in a single-day event. We were not able to recruit the kids for a 2-day event as the logistics were difficult for most parents to organize. More time to execute the playshop would have allowed us to question kids further on some of their comments and ideas.

Extracting Key Insights

From observing participants during the playshop and reflecting on their behaviours, comments and attitudes post-playshop, two key points stood out as essential to bear in mind when engaging young people on serious matters.

Adults often underestimate the value of young peoples' ideas because of their age.

As we reflected on the differences and similarities between the playshops with children and adults, it became clear that we are far more likely to disregard a playful or creative comment made by a child than if it is made by an adult. When co-creating the card deck of potential shocks that could affect a city, a child contributed "demons attacking the city." In the later workshop with adults, someone contributed "alien invasion." In the second instance, the contribution was met with a pause by everyone in the circle waiting for further elaboration of the participant's rationale. There was clearly an expectation that the participant who brought the contribution of an "alien invasion" forward had some reasoning and interpretation for doing so. We surmise that in an intergenerational setting, in most cases a child's comment about demons attacking a city, or even an alien invasion, would not be received with such reservation of judgement.

Our society is in need of a cultural shift away from a belief in the direct correspondence between age and preparedness to learn and engage in certain conversations. The institutionalized presence of this bias is clear in the setting of the voting age, the explicit restriction of kids from spaces and content that adults deem inappropriate, and the restrictions placed on levels of education. These institutionalized biases reinforce the narrative that kids are too young to contribute on certain topics. As parents, guardians, teachers and adults, we are in danger of further reinforcing this belief through our interactions with kids. A cultural shift may begin with a reconsideration of age

segregation in conversations and institutions. At a more basic level, we can begin this shift by engaging in more meaningful conversations with kids, bringing us to the next point.

Engagement must be reciprocal. Carrying through from the “demon” example above, the child participant was asked to explain what a “demon” was. They responded saying that a demon is “something that has no emotions.” When we questioned the participant one step further in this case, we hit upon a claim that made more immediate sense to us - the lack of empathy can pose detrimental to our city. There were other comments made during the workshop that required deeper and more attentive exploration, but we were constrained by time and the number of facilitators.

While it is important that kids are engaged in the process, as adults we have to train ourselves to have and facilitate these kinds of discussions. A large part of this is actively listening to what kids say and being willing to explore further. One of the kids in the playshop did not want to prevent the destruction of the city of Toronto. It may be tempting to conclude that such a participant does not take the topic seriously. But if adults adopt the habit of asking kids why they take the stance they do, they are creating the potential to have new conversations with this young stakeholder from which both parties can benefit and learn. In the short term, kids benefit from being heard and accepted and in the long term, they benefit from several instances of such engagement which can assure them that their opinions matter.

Chapter 4. Playshop, a tool for sense-making and visioning

We designed a Playshop to examine if we could meaningfully engage children in futures work for sense-making and visioning. We assumed that foresight could be a platform that provides us with methods and concepts which encourage the 6 C's of deep learning for Character, Citizenship, Collaboration, Communication, Creativity, and Critical thinking. We hope that more stakeholders, especially children are being included in making sense of multiple futures ahead of us.

In this chapter, we provide a reflection on the overall experience and how the concepts, methods, and approaches that we introduced in previous chapters, manifested in the designed playshop.

Adults vs. Kids: a sense-making analysis

We interpreted the participation results of each group with the lens of introduced foresight methods, and the outcomes were surprising and significant.
We use the Futures Cone and the Causal Layered Analysis (CLA) as the main frameworks to analyze the results and further incorporate other noted concepts, tools, techniques, or frameworks to enrich our analysis.

The Futures Cone[2] was a framework to present alternative futures whether they are desired, unwanted, or neutral. Any scenario that is imagined will land somewhere in the cone, whether it is imaginary or probable. Causal Layered Analysis will help us dig deeper into each of those alternative futures, scratch the surface and explore what might be the underpinning drivers of each scenario.

In our playshops, each stakeholder tried to make sense of the future in their own way. We held two playshops with adults. In both playshops, they consciously investigated complicated and complex futures and ultimately landed in the probable and plausible futures. Even, in the playshop with the topic 'What is life on Mars?,' which is essentially imaginary and science fictional, participants avoided presenting ideas which are in the *possible*[3] zone of the Futures Cone. Incorporating Causal Layered Analysis, we can support this claim by the notion that adults are exposed to daily problems, issues, and trends which are disseminated by different media. So, they are more likely to land into probable futures, which are inherently more short-term rather than long-term. Those who are researching in academia, industry, or government levels, mostly look more systematically and try to incorporate multi-disciplinary analysis for making sense of the future. This group, likely land into the 'plausible futures' of the cone which could be in a range of short-term to long-term. Exploring the 'possible futures' which has a very low probability of happening, or even unimaginable based on the foundations of science,

[2] We may use the term 'cone' and 'futures cone' interchangeably

[3] Possible futures are those that we think might happen, based on the knowledge we don't yet have but might acquire someday.

are mostly narrated by science-fiction writers. Their work which is considered as creative and sometimes inspiring is mainly found in the movies, novels, or art pieces. In short, adults normally tend to think in the Litany and Systemic (Social Causes) levels of the CLA and as a result, design probable or plausible scenarios. Examples of the first playshop with adults are provided in Tables 5, in which the topic was, “What is life on Mars?”

Table 5. Examples of the analysis of adults’ inputs in playshops utilizing Futures Cone and CLA

Trends, shocks, or concerns (scenarios)	**Placement on Cone**	**Placement on CLA**	**Corresponding Actions (vision)**
- 3D printed meat goes wrong and poisons people - Lack of sunlight results in mass suicides - Coping with loneliness on Mars	Probable and plausible	Litany and Systemic	- Bringing adequate light water + air to Mars - Exercise regime for Martians - Adding CBT or similar therapy to education
- Increased population requires more resources - Invasive species entering biosphere due to lack of ozone - Human’s tendency to live beyond biological capacity	Plausible	Systemic	- Need for genetically diverse organisms in excess to allow for a freely increasing population.
- Divide between rich and poor - Childhood poverty/limited access to education - Collapse of government - Martian uprising (immigrants vs. Mars born) - Creation of new myths and stories based on feeling rather than fact	Probable or plausible	Systemic	- Reinvest in public education and support for the poor to ensure that new generations feel empowered to change the future.

On the fourth playshop with adults with the topic “The Future of Toronto,” we briefly provide some examples. However, one can find all the identified shocks, concerns and developed scenarios of this playshop in Appendix D.

In the fourth playshop with adults, each participant drafted a scenario based on the below randomly chosen trends, shock and concern:

- The poor and rich divide,
- Lack of clean water,
- Urbanization,
- Full economic meltdown, and
- Deterioration of the education system

One participant drew her scenario in two extreme conditions. One scenario was describing when her survival mode was dominant. In that scenario, she found a piece of land in which her family started farming on. She taught her son how to protect the land by a weapon. In this scenario, the idea is being independent of all external shocks, concerns, and trends that are collapsing. Her second scenario shows a community, working together and strategizing to find creative solutions for improvement of the circumstances. In both scenarios, she feels that she should be actively engaged in finding solutions to cope with the problem.

Another participant drew the city in which the one percent rich people (with their AI dog in the drawing) had all the wealth. However, across the street, all the poor people live. In the middle of the scene, she is sitting with her solar device, trying to barter water with eggs, as the money does not worth at all in that dystopian future. Also, there is an underground library that people can go there and educate themselves.

These two examples, along with the whole list of adults' shocks and concerns (Appendix D) show what we mean by adults' scenarios are normally narrated in the probable and plausible zones of the Future Cone.

Some of them built devices to teleport the "evil dogs" to space where "nobody lives." Space is another metaphor that shows some kids even do not advocate the idea of killing those demons and merely want to take them to a place where no one could be hurt. These responses provide hints for reframing our social problems and design solutions differently. In short, children tend to naturally explore a wider area of the futures cone than do adults.

To support our claims on our experience in the playshop with kids, we provide some examples. Table 6 shows that kids chose shocks and concerns which cover different futures on the cone. They drafted scenarios considering shock, concern, and trends. Two children drew scenarios of the city, that is under attack by the Evil dogs or Evil duolingos. Another kid who was a few years older than the others drew a frame in which

she was watching the city burning and being under attack. So, their scenarios were utterly different from adults scenarios and were inspired by fictional animation movies and videos.

Table 6. List of shocks and concerns that kids identified and their placement in the Futures Cone

Shocks	**Placement of shock on the Cone**	**Concerns**	**Placement of concerns on the Cone**
Dragon attacks breaking buildings	Possible/Preposterous	Plastic bags	Probable
Drowning	Probable	Natural disasters	Probable
Demons (something that has no emotions)	Plausible/Possible	Tornados	Probable
Fires	Probable	Giant Tarantulas	Possible
Evil Cats (they always land on their feet)	Possible/Preposterous	Garbage	Probable
Evil Dogs	Possible/Preposterous	Duolingos falling from the sky	Preposterous
		Thunder storms	Probable
		Hurricanes getting worse	Probable

Adults vs. Kids: a visioning analysis

For visioning, we zoom into the preferred futures zone of the Futures Cone and try to interpret the results of our playshops with the lens of both, Causal Layered Analysis, and Polak's Images of the Future.

In three out of four playshops, we asked our participants to build a dystopian scenario. Then we asked them to draft strategies and action plans by making prototypes to avoid those scenarios from materializing or help to cope with the materialized scenario. It should be noted that dystopian scenarios seem to work better in a one-session playshop, whether the participants are adults or kids. For adults, it works better because they are more loss-averse than gain-seeking. For kids, however, dystopian futures seem to be more fun and stimulating. The element of a vision in a dystopian scenario is where participants rationally try to avoid that scenario from occurring. The strategies, policies, and actions that participants design to avoid the disastrous scenario, establish the foundations of the vision. So, for a vision to be motivating and encouraging, it should be in the plausible zone of the cone.

In our playshops, adults could easily relate to the vision part. They came up with ideas of preventing or coping with the negative situation. In other words, incorporating Polak's language, adults could easily categorize and reorder the realities within *'the self'* and perceptions of *'the not-self.'* It means that adults can perceive those two worlds and plan how to design from the real world for the imagined. Adding another layer of

analysis from CLA, we can claim that adults imagine scenarios in the Litany and Systems layers and design actions in those same layers, which makes sense to them. For instance, as noted earlier in table 5, adults suggested actions that are relevant to and addressing the shocks, concerns, and scenarios. In the fourth playshop with adults, they created prototypes to prevent the scenario from happening or coping with it if already has happened. All those prototypes were corresponding to one or more negative aspects of scenarios. For instance, participants made a water purifying system to cope with the contaminated water, a syringe of emergency nutrients to help those who cannot find food and a safety zone with food and water capsules. These solutions, however, all coping with scenarios and not preventive, are in the *Litany* or *Systemic* levels of the CLA.

Kids, however, still land everywhere in the Futures Cone in terms of suggesting actions for preventing or coping with negative scenarios. Using Polak's lens, for kids, *'the self'* and *'the not-self'* worlds are intertwined, and they cannot easily distinguish them from each other. They made, drew, or suggested amazing ideas that were imaginary yet needed to be explored further. These ideas could be inputs for brainstorming sessions. For instance, one of them built a hypnotic ball that bounces forever and evil dogs chase them and get lost in the space; or another child built a portal that sends evil dogs to another planet where they cannot hurt anyone. The same portal also changes the stormy weather into a sunny one, and fixes the broken cars!

Adults with Kids: Incorporating sense-making and visioning

The scope of this study did not afford the bandwidth to hold intergenerational playshops; which is an important area of further research. Although we did not hold an intergenerational playshop, we have some assumptions, suggestions, and tips based on our study.

We think that, as adults, we can benefit from this high level of imagination that kids possess. Further, we may equip them with skills to fuse their imagination into *'the self'* domain, so they can benefit from travelling between all layers of Litany, Social causes, Worldviews, and Metaphors and increase their capacity of sense-making and visioning. Futures cone and the CLA framework can also be used to incorporate a child's world, language, and system of thinking with those of adults. We need to remind ourselves that maybe the other party is talking or thinking at another level.

Along with the interpersonal skills that we need to teach children, we adults need to learn active listening and build a common language to relate to what kids express. Creativity and thinking out of the box are two valuable factors for brainstorming and problem-solving. Kids seem to be naturally experts at that kind of expansive thinking; adults could benefit from tapping into their inner kid to bring more flexible thinking into problem-solving conversations.

We the researchers vs participants: acknowledging biases

As facilitators of the playshops with kids and adults and as researchers, we had to address and acknowledge our biases. There were times in the playshop with kids during which they would contribute ideas that were difficult for us, as adults, to immediately take seriously and receive with curiosity. On the other hand, when an adult contributed an idea, even if it breached the realm of fictitious, every adult in the room paused to consider their contribution. As a facilitator, we had to make a conscious effort to remind ourselves of this bias.

When asked to co-create the deck of Shocks, kids contributed fantastical ideas such as “Dragon Attacks” and “Evil Dogs.” When building the deck of Concerns, they contributed more probable ideas such as “Natural Disasters” and “Garbage.” In contrast, adults contributed probable ideas for both the decks of Shocks and Concerns, such as “Flu Pandemic” as a shock and “Populism” as a concern. Kids who were at the lower end of our 7-11 age group distinguished less between ‘Shocks’ and ‘Concerns’ as did the older participants. Younger kids contributed concerns such as “Duolingos Falling from the Sky” and “Giant Tarantulas,” whereas older kids contributed “Plastic Bags” and “Natural Disasters.” The former concerns are fantastical, and the latter ones are probable.

It seems that age plays a factor in determining how participants responded to the word ‘Shock.’ As participants increased in age, they were more likely to contribute probable Shocks, whereas younger kids contributed shocks and concerns that were both

fantastical. There is an opportunity to run the Playshop with kids and remove the deck of Shocks, to see if kids contribute ideas that are less fantastical without the influence of the word ‘shock.’

Unexpected outcomes

There were several unexpected outcomes or changes in the process which affected the whole study, in terms of choosing methods or insights which led to findings that challenged our assumptions.

First major twist, in choosing the methods happened after the first playshop with adults. The playshop itself was an unplanned session. After we chose the IFF World Game, we asked our advisor whether we can practice it with a group of adults to have first-hand experience and become familiar with the dynamics of the game. We were lucky that she allowed us to practice it with a class of hers who were studying experiential futures. The major revelation after that session was adding Causal Layered Analysis (CLA) into the mix of our methods and tools. For instance, since the topic of the playshop was "What's life on Mars?" some participants introduced trends, shocks, or concerns in which they assumed debunking or collapsing some of today's institutionalized beliefs, mindsets, or worldviews, including the collapse of government, religions, or capitalism.

The second unexpected finding was using the Futures Cone and CLA as analytical frameworks to compare children's contribution to that of adults. We believe that this

comparison could be a trigger to open more doors for other researchers and scholars in different disciplines like psychology, anthropology, pedagogy, or parenting to study further on our claims.

Chapter 5. Involving Kids in planning our Tomorrows

This study is our effort to begin to understand how to include kids in futures work for visioning and sense-making. Despite the fact that adults make decisions that impact kids and that render consequences that kids have to live with, and despite the fact that youth activists around the world are asking to be a part of serious discussions, these young stakeholders are excluded from matters of concern. We believe that foresight methods hold promise for developing skills to help us sense-make and vision in the complexity of today's society. The benefit of introducing kids to these methods goes deeper than their inclusion at the table, and also serves to upskill them with 21st-century learning skills that will strengthen their ability to navigate an unpredictable and rapidly changing world.

In chapter 1, we frame our research question around youth activists, fights to lower voting age, the exclusion of kids who are granted no agency over a world they will inherit, and the promise foresight methods hold for sense-making and visioning for the future. We ask: How might we meaningfully engage kids in futures work for sense-making and visioning?

In chapter 2, we designed a conceptual framework of foresight methods and futures studies concepts that enable us to make sense of the volatile, uncertain, complex, and

ambiguous futures, and envision preferred ones. We introduced the Futures Cone as an overarching framework that includes and categorizes all different types of alternative futures. Then, we presented the Causal Layered Analysis, which enables us to interpret each alternative scenario with four analytical perspectives. Images of the Future, developed by Polak, provided us with an insight to realize how our minds can categorize and distinguish the real world from an imaginary one. To put all those concepts, theories, and methods in practice, we utilized the strategic foresight along with the 21-century skills to design the playshops to engage kids. We used dystopian scenarios as the foundation of our playshops which had both elements of the vision and the sense-making.

In chapter 3, we laid out our approach to answering the research question. In our literature review we draw attention to the 6 C's of deep learning, Huizinga's Magic Circle, "playfulness" as a state of mind in which play is injected into activities, and examples of educational curriculum and engagement practices that focus on teaching futures literacy to young people. We used this research along with the IFF World Game and the 6 C's of deep learning as inputs into our playshop design and delivery. We discuss our playshops and include explanations and reflections of each iteration along with photos of the process and its outcomes. We reflect on the commonalities and differences in the playshop with kids and the playshop with adults. We ended this chapter with two key, post-playshop insights: first, that adults often underestimate the ideas of young people because of their age; there is a trend to reconsider age

segregation in conversations and institutions. Second, engagement with kids must be reciprocal. Adults must learn to have meaningful interactions with kids wherein they reserve judgement, and instead engage children further on their comments and contributions.

In chapter 4, we claim that including kids in social discussions can lead us into exploring deeper levels in the Causal Layered Analysis iceberg, and thereby begin to make sense of an unexplored domain. These discussions could also lead to the design of more thoughtful and thorough visions and narrations of the future as well. The other benefit of engaging kids in social discourse is to prepare them to apply this type of thinking when they become adults. Imagine that as children, we were taken seriously and invited into civic discussions; how different would be the level of our commitment and understanding of today's 'wicked problems?' We would respond that we were at least, more tolerant, more empathetic, better listeners with the ability to hold more effective communication with each other.

In this study, we challenged this unwritten assumption and the bias of the adult world that children are uninformed, unaware, or not mature enough to participate in serious discussions about social problems. Our experience showed us that even if we assume that kids are uninformed, unaware, or immature, they still provide valuable insight which should be noted and interpreted. We emphasize that we are not claiming that children can contribute groundbreakingly to social discourse. The point here is that inviting them to the table is simply more beneficial than excluding them. Our study could be a small

step into exploring more about children's potential and how to activate that potential for building a more inclusive and diverse future.

At the onset of this paper, we discussed youth activism as well as the need to include young people in civic participation. The majority of youth activists, especially those we introduced earlier in the paper, are 11 years and older. This study, however, targeted 7-11 year-olds, not knowing how they would respond to the playshop or how much they would engage. There was, however, an interest in learning where this age bracket's engagement levels sit before they grow to become 'youth.' We wanted to learn how 7-11 year-olds would respond overall so that we could provide recommendations for how we can involve them and build capacity in them at a younger age to give them agency and responsibility before they become youth.

This study is the first step in a larger project around including kids in serious civic discussions. In order to do this well, we need first to know how we might begin to engage kids. The findings of this study can be thought of as a way to begin having intergenerational conversations that include kids. The playshop needs to be further developed and tailored, but this paper provides a preliminary understanding of how adults can perceive, understand and position themselves in serious conversations with kids.

This study, being a preliminary investigation into this space, has potential applications beyond futures visioning and sense-making. This research also could be a way to begin making sense of and a barometer of sentiment through myth and metaphor. Abstract storytelling as a means of conveying issues of morality and human suffering and pain has historically been part of religious discourse and extends beyond into political spheres. When adults speak in these terms, it is rhetorically, speaking through gravitas. When children speak within these terms, we often discredit them. But myth, metaphor, storytelling and morality is the stuff of childhood, and how they represent reality.
By genuine and natural ways of articulating hopes and fears of the future, children can enrich civic participation and social discussions. And, as voters, it is incumbent upon us to listen and support them.

Further research

- Examine the playshop with mixed-age participants. An intergenerational playshop would be a prototype of actual engaging kids in social discussions with adults.
- Further research with more kids from broader backgrounds might support the claim that their contribution to social discourse could be happening at another level.
- Partner with an organization or a school to work with kids on a more extended basis around a central question. Get the funding to develop one or more of the ideas so that kids can see the impact their ideas can have in the world.

- Further develop the playshop design, test it and iterate.

Other Opportunities

In our research, it came out that kids may be aware of important issues by listening to conversations that take place in the home. If kids are learning from their parents, guardians or other adults in this way, there is an opportunity to train adults to have more meaningful and inclusive conversations at home, and also to help children build 21st-century learning skills at home. These could be parenting books about having conversations about important issues, or children's books, games or toys that can begin to teach crucial learning skills through play.

Something else that came out during our research was that multiple engagements with the same group of kids would have allowed us to have deeper conversations, and further develop and refine ideas. There is an opportunity to conduct playshops in ongoing engagements such as in the classroom, daycare, camps etc. These settings provide kids to spend a few weeks with each other, giving them the time to keep building on their work. It would also give facilitators more time to elicit knowledge and insight from kids.

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Appendix

A. Playshop- Test run 1

B. Playshop- Test run 2

C. Playshop- Final design with kids

D. Playshop- Final design with adults

Appendix A. Playshop Test Run 1

When February 27th, 2019
Where 230 Richmond Street, Super Ordinary Laboratory
Who 6 Adults

Goal
Play the IFF world game with adults to get feedback on how to modify this for kids.

Means
A foresight game: IFF World Game

Topic: What is Life on Mars?

The IFF World Game is played in 3 rounds. Below is a description of how the game is played.

1. Explore the core question from 5-6 different perspectives (e.g. Climate, Food, Trade, etc.)
2. Build a worst case scenario future
3. Return to the core question and make suggestions for how to prevent or cope with the worst case scenario

- Each of you are representatives of a certain domain and the node lead.
- Each node is considered as a special expert committee on policy design consulting Canadian Space Agency about the topic.

Round 1

Each person gets: a badge of office, a table label, and a briefing card

- Study materials on the briefing cards or provide any material from your own experience or research
- Find trends that are evident in the node
- Identify possible shocks, surprises or wild cards that might interrupt the smooth progress of trends- tipping points, reversals, possible collapse, etc.
- Reflect on the core question for the game in light of the discussion, and describe the most important trend and the most worrying potential shock that could have a significant impact on the question
- Identify the thing that most worries you and you feel the wider group needs to treat as a particular matter of concern

Present:

- Write down ONE trend, shock, and concern as a HEADLINE on the hexagons
- Each node lead, assembles hexagons and presents a trend, shock, and concern for the group
- Reflections of the wider group on the emerged picture

Presentation of trends, shocks, and concerns on the hexagons

Round 2: What might happen

- Divide into two groups
- In each group:
    - Everybody quickly reminds others on their previous conversation advising of the trend, the shock, and their area of concern
    - Assume that the worst future in each node has happened. The shocks have occurred, the concerns have become real, and the trends have got worse. And each one interacted on the others and triggered a crisis.
    - Try to imagine what the world would be like if all that occurred and how it will impact on the issues in question. Create an image or a story or a scenario of that plausible future.
    - Think of a newspaper headline for the story, or a local TV news story, or a typical tweet

    What do we need to make happen?

    Think of what kind of things need to happen TODAY that would:
    - Make your scenario less likely to happen
    - Allow you to cope better if the scenario happened, or
    - Allow you to bounce back and recover more quickly

- Present the scenarios for the group
- Provide reflections

Round 3: The wisdom council speaks

- Everybody return back to their original node.
- Take 5 minutes to reconnect with the meaning of your node and how it now looks in the context of the wider discussion.

- Formulate a statement that expresses your thinking in relation to how best to address the core challenge in your node and in the context of the whole. Write it in the declaration sheet.
- Finally, write down a short, succinct version or headline summary of your declaration on the hexagon

Appendix B. Playshop Test Run 2

When March 14th, 2019
Where 230 Richmond Street, Super Ordinary Laboratory
Who Mixed -Two teenagers and two adults

Goal
Get youth to see themselves as agents capable of shaping the future

Means
A combination of the IFF World Game and 3 Horizons framework

Rollout

1. Intro/Welcome/Icebreaking (5 minutes)
2. Pick a role out of a hat: Work, food, wealth, relationships, happiness, culture, planetary safety, resources (3 minutes)
3. Draw/make a badge that represents your role (12 minutes)
4. Talk about the problems on earth today (30 minutes)
    a. Individually think about major problems in the area of your role
    b. Share
    c. Get feedback (facilitators capture what's said)
    d. Role lead chooses major problems
    e. Put them all up
5. Agree on a preferred future (45 minutes)
    a. Let's get in our time machine and go to our future on Mars
    b. While in time machine close your eyes and think about what the best life on Mars is like in relation to your role (what do you want your role to look like?)
    c. Open eyes
    d. Share/ discuss/ Agree
    e. Draw the preferred future as a big picture
6. How do we get there from where we are now. (30 minutes)
    a. Each make something that will help us get there
    b. Discuss
7. Reflection (5 minutes)

Appendix C. Final Playshop Design with kids

When June 9th, 2019
Where 230 Richmond Street, Super Ordinary Laboratory
Who 6 kids aged 7-11

Goal
To engage kids in the designed playshop and examine their engagement and contribution

Means
A modified version of the IFF World Game for kids

Playshop Rollout
Begin by getting all participants to sit in a circle in the center of the room.

1. Verbal assent (5 minutes)

2. Ice breaker (10 minutes)
Telestrations (what's your favourite activity?). Any 10 minute activity to help build comfort in the room.

3. Nano Game: Images of the Future (10 minutes)
Hopeful vs Control
How hopeful are you about the future, from very hopeful to not very hopeful?
How much control do you think you have over the future?

4. Intro/Context
What do you know about what we're here to do today?
Today we will be building an apocalyptic city together and figure out how we can save it and how we can avoid getting there.

5. Round 1 - Identify shocks and concerns about today's city (20 minutes)
To start, we're going to think about all the things that are happening today or that could happen today in our city that could go wrong and end up creating a bad future.
We have three forces that impact our city.
-In this game, there are 3 things that affect our city:

- **Trends:** things have been happening for a while that we can see happening in the city (run through 2-3 examples)
- **Shocks:** Rare disasters that would impact a lot of people (How did the dinosaurs die?)
- **Concerns:** things that you are worried about (Not enough local coffee shops/ public transit)

-We already have the deck of trends. We will create the decks of Shocks and Concerns now together.
-When someone throws the ball to you name a Shock that you think can impact the city of Toronto.

- Facilitators capture Shocks on post-its and include an image with the help of youth

-Repeat for Concerns.

Decks of Shocks, Concerns, and Trends in the playshop with kids

Deck of Shocks (co-created)	**Deck of Concerns (co-created)**	**Deck of Trends (provided)**
Dragon attacks breaking buildings	Plastic bags	Fake news
Drowning	Natural disasters	Lack of Clean Water
Demons (something that has no emotions)	Tornados	Autonomous Transportation
Fires	Giant Tarantulas	Sustainable Energy
Evil Cats (they always land on their feet)	Garbage	Smart Cities
Evil Dogs	Duolingos falling from the sky	Online Society
	Thunder storms	Aging Population
	Hurricanes getting worse	Anti-Vaxxers
		Urbanisation
		Immigration
		Climate Change

6. Round 2 - Imagining worst case scenarios (40 minutes)

In this round, we build out the worst case scenario. To do this, we imagine how each chosen shock, concern and trend would manifest in its most negative state.
Now that we have Shocks, Trends and Concerns we're going to randomly choose which of these will be the basis of our apocalyptic world.
We're going to spin xx years into the future, count till xx as you spin (Let them decide how many years we will travel into the future)

After spinning, we randomly select one concern, shock and trend
Review selections together
Now we need to imagine what our city would look like if all these things were negatively happening at the same time.

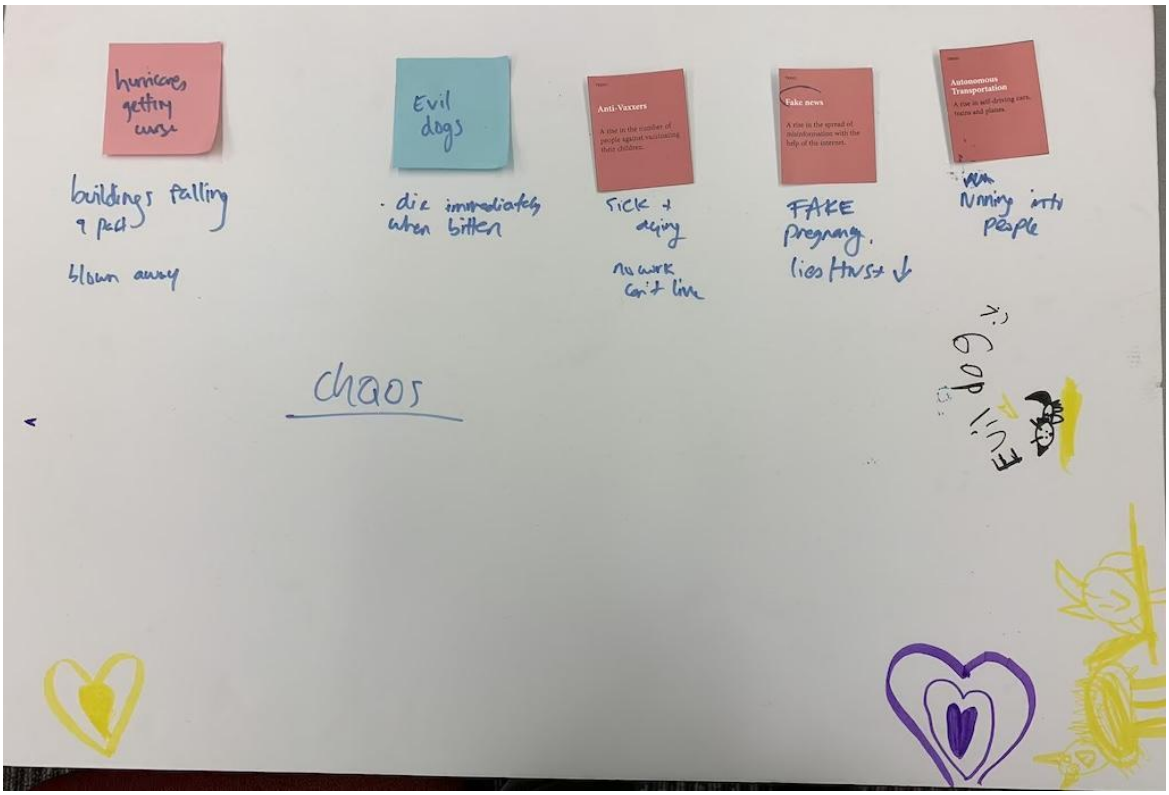
Sitting around the white board:

- Elaborate on each concern, shock and trend: what does it look like at its worst
    - Include drawings as we're talking
- Together determine a name for that city

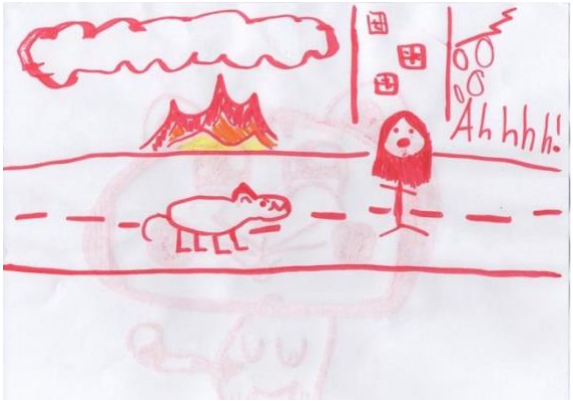
Each write a story/ or draw an image of what does the city like when all that negative things happen all at the same time (individual)

- Share story/image
- Reflect/get opinions/thoughts/feelings

Randomly selected shock, concern, and trends



Scenarios developed by kids



7. Round 3 - Actions (30 minutes)

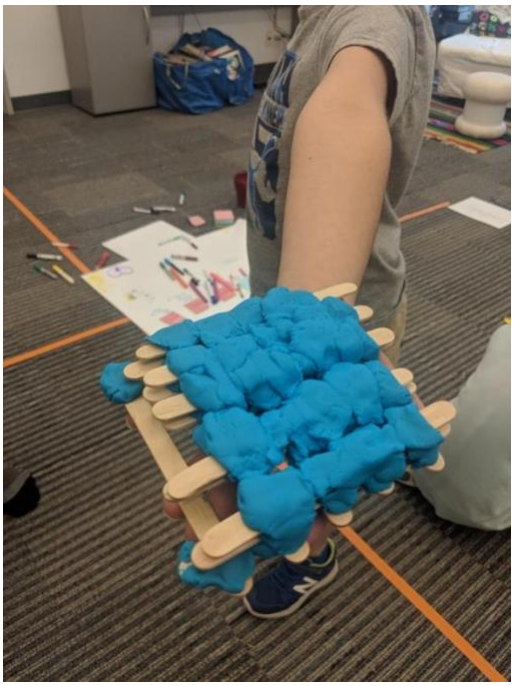
Immerse ourselves in each city - sitting
For each story determine:

- What we do if we're in it
- Go back to past (spinning)
- How did you feel in that future?

Build something that can help us to avoid getting (prototyping table)

Prototypes created by kids to prevent/cope with the scenarios

Hypnotic ball that bounces forever in the direction of space and sends away the *Evil dogs from the Earth.*



Portal that sends evil dogs to a different planet where they can't hurt anyone

Evil duolingo (middle) and their minions who become friends with humans and help to save the Earth

Appendix D. Final Playshop Design with adults

When July 4th, 2019 (adults)
Where 230 Richmond Street, Super Ordinary Laboratory
Who 10 Adults

Goal: To compare the results of their participation with those of kids

Means
A modified version of the IFF World Game for kids

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-When someone throws the ball to you name a Shock that you think can impact the city of Toronto.

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-Repeat for Concerns.

Decks of Shocks, Concerns, and Trends in the playshop with adults

Deck of Shocks (co-created)	**Deck of Concerns (co-created)**	**Deck of Trends (provided)**
Influx of illegal migration to north	Climate change	Fake news
Grid problems	Spread of misinformation	Lack of Clean Water
Water contamination	Number of doctors available	Autonomous Transportation
Sun storms	Decrease in public property	Sustainable Energy
Flooding	Retirement in Canada	Smart Cities
Government upheaval	Increase of life expectancy	Online Society
No device use	Wellbeing of children	Aging Population
Zombie attack (bio)	Increase the rich/poor gap	Anti-Vaxxers
Electronic crash	Role of media in communicating evidence/facts	Gender Equality
Alien takeover	Real estate value	Urbanization
Flu pandemic	Populism	Immigration
Internal revolution	Tunnel vision/Don’t care about other experiences	Climate Change
No air travel	Food insecurity	Short Form Communication
Mass war outbreak	Rate of change too fast for our brains	Women's Health Rights Removal
Dogs becoming extinct	Racism	Poor/Rich Divide
	All we do is work	

6. Round 2 - Imagining worst case scenarios (40 minutes)

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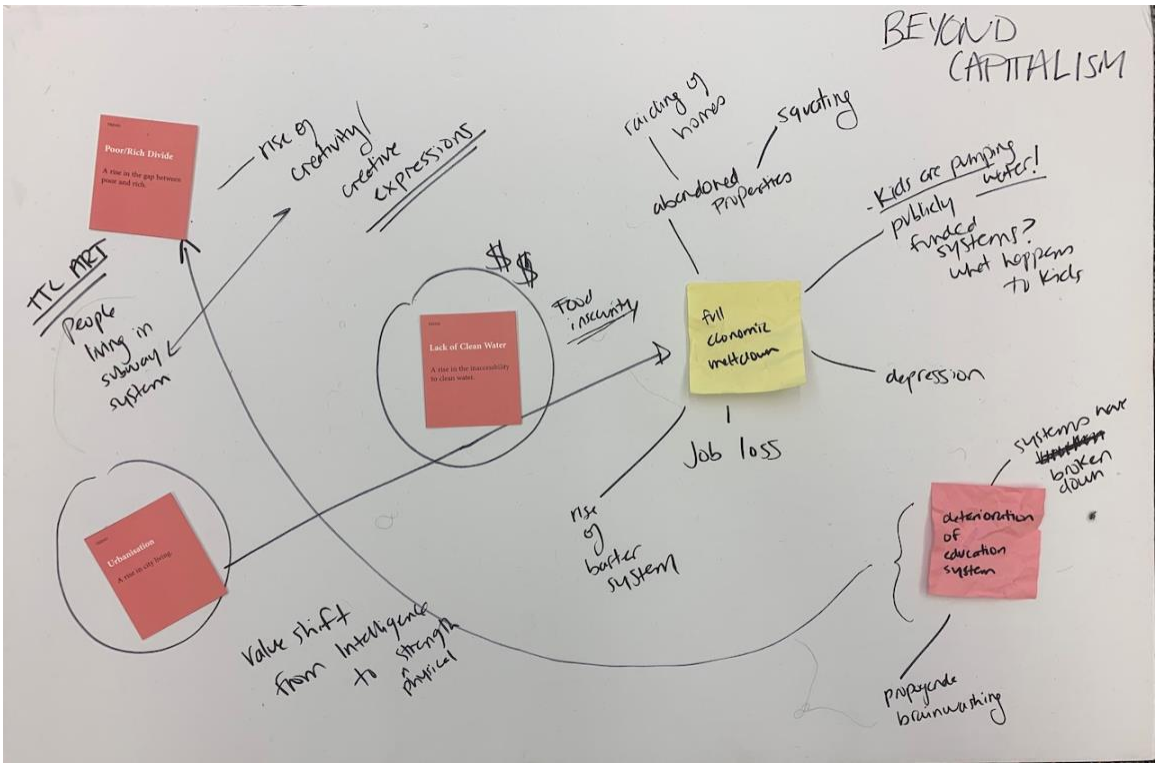
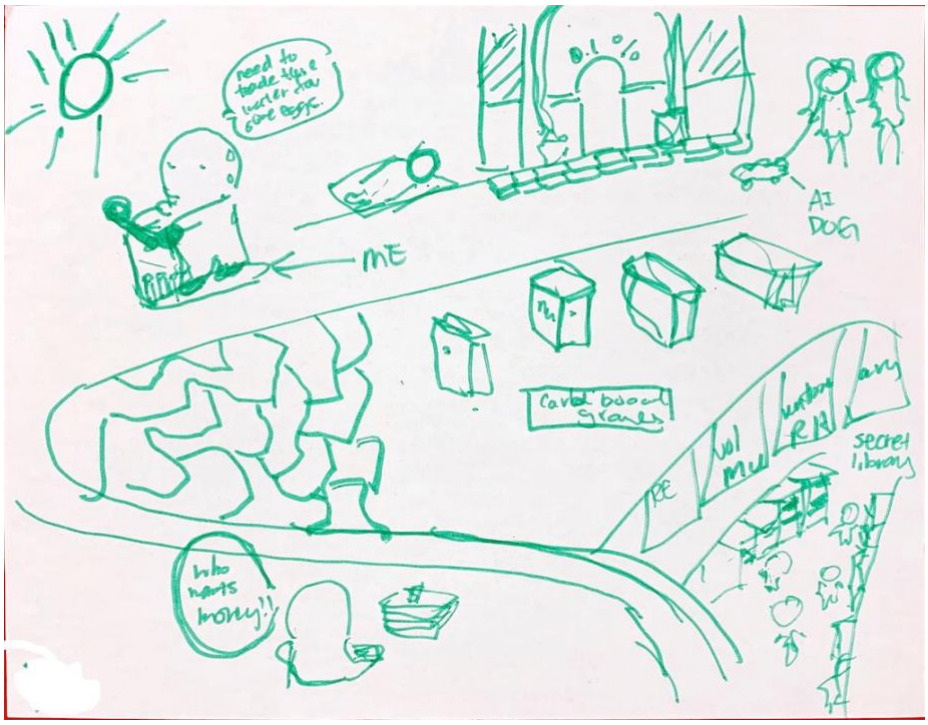


Scenarios developed by adults



Full Economic Meltdown:

(personal future: 20 years)

- I would be living in an abandoned house ~~in~~ the outskirts of the city because I found that this area was less likely to be raided/pillaged by others + ~~my~~ my safety/peace of mind are important to me.

- My daily routine consists mostly of securing food + water, but I also devote quite ~~a~~ a ~~bad~~ bit of time to exercise because there was a breakdown of law + order + the physicality of people has become more important + given them more power (+ ability to secure food/shelter + water for themselves). I will be middle-aged by this time + more vulnerable to disease and ~~frail~~ frailty, so I have to watch what I eat + devote a lot of time to exercise.

To get food for myself I pretty much have to ~~barter~~ barter with people in the shanty town that exists close to the core of downtown Toronto (all the food from abandoned supermarkets have been long pillaged + cleared out). Personal items like jewelry have close to no ~~value~~ value anymore. To barter things like scrap metal/tires/gasoline/clean water have become valuable.

While this is a negative projection of the future, I also feel that I would be successful/thriving + one of the people "better off" and/or ~~surviving~~ surviving within this futuristic society.

2039 - Toronto:

It's Thursday afternoon and the temperature is nearing 40°C. My water bottle is almost empty, so I need to find something to trade for a refill.

I'm a harvester so I have some seeds and corn and soybeans and ~~powdered~~ protein powder w/ me.

I head to Richmond + Spadina b/c that's where the water traders organize. I see the guy that I traded w/ last time.

As I approach him, he sees me and turns the other way.

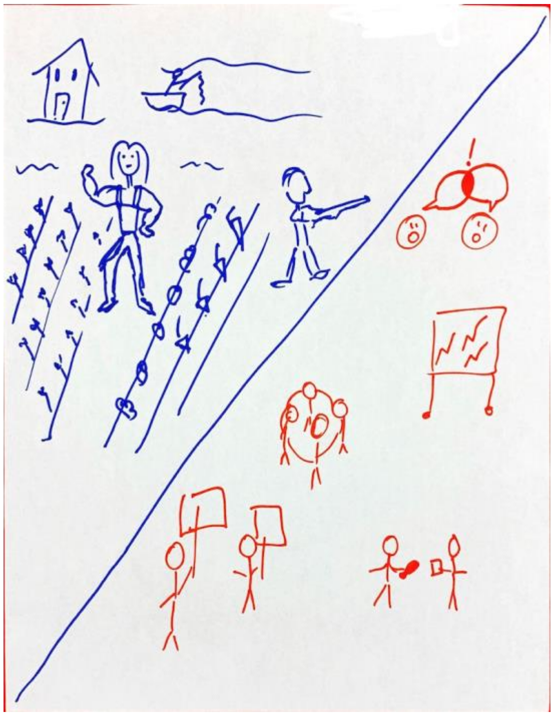
"Don't talk to me. They're watching. Go to St. Andrew station and ask for Jack. Tell him Michaelangelo sent you."

W/o stopping, I keep walking. I have to find Jack. It's so hot and I'm so thirsty.

I remember a few years ago before the economic collapse when things were a bit more "normal".

Water was expensive but now it's getting harder to find.

As I approach St. Andrew Stn., no one is around. I make my way down the stairs but I'm worried I won't find Jack before I pass out from heat exhaustion.



I decided not to have any baby 10 years ago and today I feel like that was a wise decision. With no water and electricity now for days it would have been so difficult to take of that little kid. My husband and me have both lost our jobs, and we do not go to work anymore. The money we have saved for so many years of our service have been a waste 'coz the currency has siezed to exist and they only way you can get anything now is buy giving something else.

We have almost finished the last packs of cereals & energy bars that we had in storage. Yesterday, while I was going with my husband a random guy threatened to rape me if we didn't share food with them.

There was no hope of help coming from government as the government is busy guarding the borders from illegal immigrants. People are using transistors to stay connected to outside world & know when the aid is arriving in their town. A van to collect dead bodies is coming

Harman

- ~~To~~ Reconnect with family!
- Walk from Toronto to the coast, try to find a boat?
  ↳ sailing boat
- Do I have kids? -> No
- What can I trade?
- Moving from urban to rural?
- Walking to New Brunswick
- ~~What do I~~
- Why am I even in Toronto?
  ↳ SFI graduation anniversary?
-

- I am in Toronto for the 20th anniversary of my graduation from SFI. Once the collapse occurs I try to establish communication with my family at home in Europe. ~~As~~ As global air traffic has collapsed, I make my way up north avoiding the US. border, trying to get on a boat from the east coast towards europe.

[redacted] 2039 // I am 50 / living in Toronto out of necessity (?) //
pop. of world = 25? billion // pop. of Canada = 1? billion // pop of TO = 8 mil.

- all available space used for growing/raising food: eg apt. green walls, balconies; Roadway medians.
- education = informal; homeschooled; farmers' + gardeners' + handyperson knowledge in high demand
- I "own" my own "condo" a.k.a. apartment, have no kids but have pet crickets. We share this apartment with friends from southern USA who are climate refugees; my parents, my brother + his kids. They go to school downstairs in a neighbour's apartment who runs a homeschool, paid by collective parents of their students, with food stuffs + other services/resources that the teacher needs.

7. Round 3 - Actions (30 minutes)

Immerse ourselves in each city - sitting
For each story determine:

- What we do if we're in it
- Go back to past (spinning)
- How did you feel in that future?
- Build something that can help us to avoid getting (prototyping table)

Prototypes created by adults to prevent/cope with the scenarios

Adult participants created:

- a water purifying system. (blue cups)
- a syringe for emergency nutrients. (yellow feather and pink tissue paper)

- a safety zone with food and water capsules. The enter the zone, you must have a passport which only allows you 5 entries. To earn an entry you need to contribute to the collective good of the community. (*Safety zone: boundaries marked by* vertical popsicle sticks with a single ball at the top. *Passport:* rectangular pink tissue paper with green stickers along the left side representing the number of entries)
- a Home Alone- style home security system that drops a heavy load onto people who try to break into your home (pink pipe cleaner with green clay at the tip)
- A universal logo for 'peace'. (circle object made of green and purple pipe cleaners)

To mitigate the rising gap between rich and poor, people would make exchanges with different parts of the country to offer support and take action to help people