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TOWARDS A PRACTICE OF COLLABORATIVE SUSTAINABLE INNOVATION DESIGN

FORESIGHT ENHANCEMENT + THE DESIGNSHOP PROCESS

by Dee Brooks

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ABSTRACT

This study proposes that the DesignShop process, a well-established innovation method in which the author is an experienced practitioner, might serve as the foundation for a practice of Collaborative Sustainable Innovation Design.

By simultaneously exploring the DesignShop methodology and enhancing the Strategic Foresight aspects of DesignShop, 3 questions are addressed: In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight?; In the context of the broad field of innovation design, what is different or unique about the DesignShop approach?, and; How might the DesignShop process be used to develop a collaborative approach to foresight?

A literature review explores contemporary perspectives on complexity and wickedness, strategic foresight, and two different methodological context lenses: that of Innovation Methods, and; Dialogic Organizational Design and Large Group Interventions. A detailed summary of the DesignShop approach is provided.

The research questions are explored through a real-world case study DesignShop engagement. A series of conjectures describing what makes DesignShop work, and what makes it different from the methods in parallel niches, are proposed. A proof-of-concept exploration of the integration of enhanced foresight into DesignShop is also explored, and a model for DesignShop-based collaborative foresight is proposed.

The research might contribute to innovation design and foresight discourses in several ways, including: improved Strategic Foresight through the use of DesignShop techniques; improved innovation design, especially that of DesignShop practitioners; the opportunity to bring DesignShop to the attention of scholars, which may be of particularly significant value, and; to help lay a foundation for best-of-breed practices of innovation design.

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1. INTRODUCTION

Despite concerted and sustained effort in many disciplinary contexts, we are still not very good at addressing wicked problems through systemic change. In the 5 decades since the founding of the Club of Rome (Club of Rome, 2018), would-be change makers have produced a vast array of models, tools, methodologies, and frameworks intended to help facilitate systemic change.

Each year, this toolbox seems to grow larger (e.g. Van Patter and Pastor, 2016; Holman et al, 2007). Yet—as measured by our societal sustainability, for example—real, tangible progress is falling far short of our mounting needs. According to the IPCC's recent special report (Intergovernmental Panel on Climate Change, 2018), we have less than 20 years to make massive changes to the global economy if we are to minimize the degree of expected climate change disaster, and climate change is only one of the wicked systemic messes in which we find ourselves.

This should come as no surprise. Wicked systems are incomprehensibly complex, global in scale, and highly resistant to change. It might be easier to boil the ocean than to make wholesale changes to wicked systems.

Given that we cannot expect to boil the ocean, we might seek to make progress by breaking the problem down into manageable pieces. However, this is only effective up to a point. In simplifying or bounding the problem, we sacrifice the ability to appreciate the nuance and complexity of the system in which we are seeking to intervene.

Too often, according to complexity theorist Nora Bateson, such simplification inadvertently opens the door to reductionism. "Systems theory is struggling inside a system [academic and scientific research] that doesn't actually accommodate it...the result is that we get strategic methodologies and defined models for fixing isolated issues

within complex living interactions that have a living context" (2016, p. 96).

Bateson makes a crucial point: research context can be reasonably expected to include assumptions that, from a systems perspective, amount to boundary conditions. Such context-embedded assumptions are received in the course of becoming a specialist, and are too-often left unquestioned in specialized work.

That point that applies to more than just systems theory in the context of academic and scientific research. It applies to all systemic work. Thinking—and designing—cannot be truly systemic if it is contextualized in non-systemic frames.

1.1. TRANSCONTEXTUAL

In her poetic (2016) clarion call for appreciation of complexity, Bateson addresses this by suggesting we adopt a *transcontextual* lens.

> There was a time when I would have said that the context is what is missing in our current research practices. I might have said that we have a methodology in academic and scientific research that allows for an imbalanced attention to 'things,' rather than their contextual relationships. But I have come realize that even context is not enough. Living systems especially require more than one context of study if we're to get a grasp of their vitality. Transcontextual description as a starting place opens the possibilities of better understanding the interdependency that characterizes living (and arguably many non-living) systems... (2016, p.79)

In other words, complex systems, such as those in which wicked problems are found, cannot be properly appreciated (and hence effectively researched) from the vantage point of a single academic, scientific, or, I argue, professional context. Wicked systems are larger than the contextual boundaries that we use to organize our thinking and work. To what extent might the limitations imposed by contextual assumptions be responsible for our seeming inability to address wicked problems effectively?

Bateson proposes a collaborative approach for transcontextual research:

> With a transcontextual lens I find interfaces of mutual learning. This lens opens up entirely new dimensions of information where the data has otherwise been flattened into a single plane or a single context. I also find that the multiplicity of the descriptive perspectives demands that I never lose sight of the many perspectives that are integrating. There is no lack of rigor in this research. It is not to be done alone; a multi-headed research group is needed." (2016, p.79) (emphasis added)

Bateson envisions conducting research that transcends a single context by bringing a transcontextual multiplicity of perspectives to bear through collaboration. This transcontextual collaborative mode that Bateson argues for could open new possibilities for systems theory and research. She asks: if we can successfully collaborate with people drawn from a variety of contexts, might we transcend the reductionist framing implicit in the contexts of academic and scientific research, and develop new, more broadly systemic means of inquiry? This study seeks to respond with a methodological means to collaborate at a transcontextual scale, and to pragmatically link that collaboration to actionable outcomes.

1.2. INNOVATION NEEDS DIRECTION

Transcontextual collaborative inquiry may indeed be a good starting point for essaying wickedness and complexity, but, at best, it is only part of the puzzle. If we are to make real, tangible progress on wicked problems, we will need more than research collaboration and mutual learning. We will need a means to implement the fruits of transcontextual collaboration—a transcontextual means of innovation.

Innovation can be defined as "the process through which value is created and delivered to a community of users in the form of a new solution" (Toddhunter, 2009). We will use Toddhunter's definition, which is concerned with innovation as a process (as opposed to an outcome), because this study is about a process methodology, and this definition helpfully draws our attention to the requirement that innovation, as contrasted with ideation, must meet the test of pragmatic utility. An innovation must allow its users to *do* something that they find valuable.

Until recently, it has been safe to assume that value could be defined in terms of economic growth. Innovation has thus been guided by the 'invisible hand of the market'. In general, innovators have integrated and applied research insights to create economic value.

In the context of wicked problems, where growth and value have fallen out of step, the assumptions that underpin our existing innovation paradigms are no longer reliable. Without the unidirectional pull of progress and economic growth, the process of innovation needs another source of guidance. Somehow, we must learn to reliably imbue our innovation with intent that reflects the futures we wish to create. We must be able to innovate for sustainability, by design. We will call this sustainable innovation design.

Much as is the case with systemic change, innovation design is not new ground. Recent decades have spawned a wealth of perspectives on and methods for harnessing innovation. VanPatter and Pastor (2016) profiled 63 innovation process models drawn from a variety of disciplines.

Though their analysis is far from comprehensive, and necessarily surface-level in its exploration of each method, they identified a number of findings that are salient in respect of innovation design.

Key among them: VanPatter and Pastor noted a tendency towards context-derived methods, which they describe as "numerous community of practice streams" (ibid, p. 37). According to their analysis, the history of niche communities of practice has led to a siloing of knowledge within method streams. As a result, many methods were developed without benefit of the wisdom accrued in other communities of practice. This blindness to adjacent methods—the methodological equivalent of Bateson's struggles with contextual boundaries—persist today, leading to parallel streams of thought, the majority of which seem largely ignorant of what other streams might have to offer.

In the context of systemic challenges, this disciplinary myopia is a bigger issue than it might otherwise seem. Critically, VanPatter and Pastor (ibid) note, practitioners in these methodological niches seem mainly content to remain ignorant of the knowledge available in parallel niches. Like Bateson's researchers, these communities of innovation practice seem to be implicitly accepting the reductionist assumptions that bound the disciplines from which they emerged. Innovation methods, then, might also benefit from adopting a transcontextual perspective.

1.3. DESIGN

Design, which has been mooted as a means for creating systemic change since at least the (1973) publishing of Rittel and Webber's landmark paper, has solutions to offer from its contextual silo as well.

Liz Sanders and Pieter Stappers (e.g. 2008, 2012) have described a shift in design practice toward the "fuzzy front end" of the design process. In recent decades, the user-centered and participatory design paradigms of the late 20th century have been superseded by human-centered approaches, which engage the user in the design process (Sanders and Stappers, 2008). Sanders and Stappers define this as co-design, a sub-set of co-creation which engages "collective creativity as it is applied across the whole span of a design process," and "refers to the creativity of *designers and people not trained in design working together* in the design development process" (ibid, p. 6, emphasis added). Sanders and Stappers definition of co-design is a good one for our purposes, since it too calls for collaboration that spans disciplinary boundaries. Co-design, so defined, might be used to coordinate the creativity of a transcontextual group in pursuit of systemic transformation.

Indeed, Sanders and Stappers envision designers facilitating the collective creativity of diverse teams, giving the anticipated users of design outputs "appropriate tools for

expressing themselves" (ibid, p. 13). They see these teams tackling complex challenges that require foresight:

> In the near future, designers will find themselves involved not only in the design of stand-alone products but in the design of environments and systems for delivering healthcare, for example. The design of a new community hospital may be completed 8–10 years before the hospital itself is opened. What will the technology be 10 years in the future? Who will be the patients? What will the needs of patients be? Who will be the healthcare workers? How will the transition into the new facility be staged? How will the healthcare workers learn to work in the new facility? (ibid, p. 15)

Moreover, "Future co-designing will be a close collaboration between all the stakeholders in the design development process together with a variety of professionals having hybrid design/research skills" (ibid, p. 16). Though they credit the business literature for rising market interest in co-creation, and they envision future teams being trans-disciplinary, Sanders and Stappers (2012) nevertheless articulate a vision for future co-designing that can't see past the boundaries of design's contextual silo, and fails to acknowledge that practice-based knowledge from other disciplines might contribute to designers wishing to facilitate co-design.

Sanders and Stappers explain that they describe the front end of their design process as "fuzzy" because it must deal with ambiguity: "In the fuzzy front end, it is often not known whether the deliverable of the design process will be a product, a service, an interface, a building, etc." (2008, p. 7). In VanPatter and Pastor's language, including the fuzzy front end amounts to a shift to an "upstream" starting point (2016, p. 48). According to them, whereas methods from design traditions have tended to assume a framed or semi-framed challenge (i.e. a brief), methods from other niches, such as those from the Creative Problem Solving tradition—and saliently, the MG Taylor DesignShop process—have practical experience derived from decades of working with an upstream starting point. If design is new to starting upstream, designers might do well to learn from methods with experience in upstream orientations.

1.4. SUSTAINABLE INNOVATION DESIGN

For a practice of sustainable innovation design to reliably address complex challenges, it must be able to: incorporate new definitions of value and harness our best intentions; integrate across a transcontextual range of specialized perspectives without losing the depth of detail included in those perspectives, and; include sufficient foresight to allow decision-makers to anticipate consequences of their decisions and lead us toward a preferred future.

Included among the methods analyzed by VanPatter and Pastor is the DesignShop process (listed as MG Taylor, p. 106-7), a well-established innovation method in which I am an experienced practitioner.

The DesignShop process is a systems-based high-variety social tool (Taylor, 2008). It is a method-of-methods—a uniquely modular approach that practitioners use to design and facilitate bespoke large-group collaborative design interventions. Thanks to that modularity and flexibility, DesignShop might serve as an integrating fabric for the diverse array of tools and frameworks available to practitioners in the emerging, necessarily transcontextual, field of sustainable innovation design.

In my view view, DesignShop could serve as the foundation for a practice of **Collaborative Sustainable Innovation Design** (CSID). Driven by intent that reflects values beyond economic growth, supplemented by the best methods and tools that can be drawn into its modular structure, and guided by rigorous alternative-futures foresight, it could serve as a practical means of facilitating transcontextual innovation design in complex contexts.

This study aims to serve as a proof of concept, and explores a prototypical application of CSID. In order to validate that updated foresight can be incorporated into the DesignShop process, it asks: **In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight?**

In the course of the research, some additional questions are explored, including:

- In the context of the broad field of innovation design, what is different or unique about the DesignShop approach?
- How might the DesignShop process be used to develop a collaborative approach to foresight?

1.5. WHY DESIGNSHOP?

The DesignShop process is a category-defying methodology for addressing complex challenges. From the perspective of Organizational Research, it is a Large Group Intervention (LGI) method. In VanPatter and Pastor's (2016) language, it is an innovation method. It incorporates elements of 2nd order systems thinking and cybernetics, organizational development, complexity science, architecture, learning theory, strategic foresight, generative design, business management, and more (Taylor, Evans, & Bird, 2018).

DesignShop has much to offer to aspiring complexity tamers. Refined over 40 years of continuous practice, DS is

not a fad. It is a vital, growing methodology. Thanks to a global community of practice that includes several major professional services firms, DS is widely used.

According to Taylor, Evans, and Bird (2018, p. 206-7), "there is currently no other approach that produces emergent innovations as reliably as this one." Since Taylor and Evans are synonymous with DS, it's hardly surprising that they would make positive claims, but their lack of equivocation is remarkable nevertheless. Readers of the academic literature might understandably wonder what they've been missing.

It's not possible to quantify the rate of emergent innovation stemming from any innovation process methodology, so this claim cannot be properly tested, but my experience dovetails with Taylor, Evans, and Bird's claim. In the best DesignShop sessions, there is a moment of release that is palpable, when the dozens of participants in the room seem to self-organize into an autocatalytic whole. In those moments, in my professional estimation, DesignShop groups are indeed functioning at 6 or greater on the Gibb's trust scale[1]: emergent collaboration. Taylor, Evans, and Bird argue that this is reliable, repeatable innovation—the "result of focused human effort" (Taylor, Evans, & Bird, 2018, p. 202).

DesignShop practitioners' track record of success and growth is inarguable. Since the first DesignShops were delivered in the early 1980s (ibid), the practice has found its way across the world. DesignShop practitioners facilitate innovation within major management consultancies such as PwC, KPMG, Olliver Wyman, and Capgemini. Since 2000, DesignShop has been a fixture within the World Economic Forum (ibid, p.350; Aaron Williamson, personal communication). In recent years, leading practitioners such as Evans (2016; 2017; with Taylor & Bird, 2018), Newman (2015; with Klein, 2017), and Coullomb and Collingwood-Boots (2017) have begun to publish, and a more coherent picture of DS history and contemporary practice is beginning to emerge. These recent publications open the door to studies such as this one.

1.6. WHY DOES DS NEED BETTER FORESIGHT?

The DesignShop toolbox already includes foresight methods, but it appears that the foresight within the method has not seen a significant update since the DesignShop process was developed in the 1980s and 90s.

Common DesignShop practice calls for the establishment of a problem frame during the sponsor co-design process. DS practitioners call this "creating the problem" (Evans, 2016, p. 284).

1 For more on Jack Gibb's Trust Theory, see Sutherland, 2012, pp. 33-50

In general, in order to "create the problem," a DS practitioner team will work collaboratively with a Sponsor Design Team to articulate a vision, scope, and purpose for the proposed DesignShop(s). This initial level of problem framing is supplemented by a second iteration that establishes outputs and outcomes to be generated in the session, inputs (i.e. fact base) required for the session, the participants to be invited, and, optionally, more detailed objectives.

Though it is revisited and sometimes modified in subsequent iterations of work (including during the DesignShop itself), the problem frame serves to bound the scope of the DesignShop. Problem framing is a necessary and valuable step in taming the complexity of the challenge, but there is a corollary: by developing an agenda and exercises that focus on the framed problem, DS practitioners allow their clients to make decisions while assuming that the contextual environment—the scope outside of the problem frame—will remain more or less constant.

This may have been appropriate for the late 20th century, when the pace of change in the contextual environment was slower than it is today, and it may even be appropriate in some cases today, but when applied to decisions with futurity, it is tantamount to assuming a "growth future" (Dator, 1979), a continuation of business-as-usual and attendant assumptions, for the contextual environment and the portions of the client organization(s) not in scope of the problem frame. If all the DesignShop practitioners working across the economies and societies of the world leave such growth-future assumptions implicit, and thus unchallenged, the practice might—albeit unintentionally—be helping clients reproduce unsustainable systems.

This represents a significant gap to be filled. A practice of sustainable innovation design needs to include sufficient foresight to allow decision-makers to anticipate consequences of their decisions and lead us toward a preferred future.

1.7. WHY ALTERNATIVE FUTURES SCENARIOS?

Scenarios are, according to Bishop et al (2007, p. 1), "the archetypical product of future studies." DesignShop practitioners already use scenarios regularly to help clients conceptually prototype potential future states (see Evans, 2016 for examples). Including alternative futures in the form of scenarios is not a case of adding something foreign to the DS toolkit so much as broadening and deepening the use of a tool that is already familiar to practitioners.

Leaders, strategists, and decision makers already use DesignShop to design models for organizational and systemic target future states and change roadmaps to achieve those target states. Within DesignShop practice (Gronsky, 2004), and in other LGIs such as Future Search (Weisbord

and Janoff, 2010), this "collaborative futuring" has been positioned as the co-design of a desired future.

Futurists might take issue with that characterization. Foresight scholars, such as Inayatullah (2015), have long recognized that the design of preferred futures is most effective when preceded by the exploration of a range of alternative futures. When mapped against Inayatullah's (2015) 6 pillars, the most notable gap in the DesignShop model for the design of a preferred future is that it skips over alternative futures. As the first step in building a practice of CSID atop a DesignShop foundation, this study proposes to close that gap.

1.8. CONTRIBUTIONS

This study explores the synthesis of two widely-employed classes of methods, and could make contributions in a number of areas.

1.8.1 Improved Foresight

Though a movement to democratize foresight is underway—and OCAD U's SFI program is part of that (Greg Van Allstyne, lecture to SFI students, January 8, 2016)—foresight is still largely an expert discipline. For most of its history, strategic foresight practice has consisted of small teams of specialists developing portfolios of scenarios. These portfolios typically include a relatively small number of scenarios (e.g. between 4 and 9), and are focused on wide arenas (futures of education; futures of work) and longer time-horizons. To many foresight specialists, 25 years is a short time horizon!

For leaders and strategists charged with making decisions in the present, these "100,000-foot view" scenarios might be valuable, but their relevance in supporting decision-making is limited by their lack of granularity and specificity.

This study proposes that by putting alternative futures in the hands of DesignShop participants, we can engage a much larger number of perspectives and intellects in the work of creating a portfolio of scenarios, opening the door to greater granularity and specificity, and we can create that set of scenarios in the dramatically accelerated time frame of a DesignShop. What's more, we can engage the participants—ideally, the decision makers and influencers themselves—in a powerful process of collaborative sense-making, and we can tightly couple the scenario creation and strategy wind-tunneling into an accelerated iterative design cycle by including wind-tunneling (van der Heijden, 1997) in the activities of the same DesignShop.

This would effectively amplify the variety of the scenario tool, which would make it a better fit for the complexity of the future itself. DS is used to tackle complex challenges

because it is a high-variety tool; exploring a range of alternative futures is always a complex task, and would be better undertaken by a large group than by a small team.

In recent years, foresight scholars such as Candy (2010) have looked to design for tools to make foresight more tangible and multisensory. Building on this, Candy and Dunagan (2017) envision a future where foresight practitioners focus their efforts on designing "structures of participation" (p. 150) to facilitate the collective creativity of groups seeking to design preferred futures. Foresight practitioners interested in this vein of inquiry might gain a boost from DesignShop practitioners' experience in the design of structures of participation.

1.8.2 Broader Scholarly Knowledge of DesignShop

Despite a handful of recent publications (e.g. Evans, 2015, 2016; Coullomb & Collingwood-Boots, 2017; Klein & Newman, 2017) DS is still not well-documented in the literature. Moreover, what literature does exist contains critical gaps.

For example, there is no history of published peer-reviewed research focused on DS. Though VanPatter and Pastor (2016) correctly place DS among methods with a history in organizational innovation, researchers in the Organizational Development (OD) field, such as Bushe and Marshak (2009), have not included DS in their evaluations of Large Group Interventions (LGIs). It may be hoped that this paper and others like it will begin to bring DS to the attention of scholars.

The lack of scholarly attention may be due in part to the unclassifiable nature of DS, and might also be attributed to some DS stakeholders viewing the methodology as a proprietary "trade secret." The existing literature tends to be highly focused on application. Apart from VanPatter and Pastor's (2016) surface level-analysis, there is no literature that attempts to place DS within the context of the broader innovation design discourse.

In order to conduct this study, it was necessary to describe DesignShop in the language of innovation design. Given that there are no succinct descriptions published in the literature to date, this may be of significant value.

1.8.3 Improved Innovation Design

DesignShop practitioners routinely trade jokes about the challenges of describing what they do to the uninitiated. The practice has its own language, and perhaps more importantly, its own assumptions about ways of thinking and working. In many cases, there can be no simple translation. Readers familiar with the language of 20th century cyberneticists such as Stafford Beer (e.g. 1973) might feel more at home in a DS circle-up than those used to the contemporary language of innovation. Yet the practice remains vital and growing, and DS adherents—myself

included—believe that there are, at a minimum, elements of DS practice that remain best-in-class despite the process being nearly 40 years old.

My fear, which has been echoed by colleagues in recent conversations, is that the kernels of differentiated value in the DesignShop body of knowledge will be lost in the noise created by the burgeoning interest in innovation design. There is no guarantee that the best ideas or most effective techniques will become the standard upon which next-generation technologies are based. As Inayatullah (1994) points out, economies are complex systems—wicked, in the parlance of Andersson and Törnberg (2018)—and patterns of lock-in may sometimes favour the known over the innovative. The market triumphs of the QWERTY keyboard and VHS VCR provide late-20th century examples of this phenomenon (Inayatullah, 1994). We will undoubtedly see some technologies of today in similar lights from the hindsight of the future.

Jones and VanPatter (2009, referenced in Jones, 2014) point out that designers working at the cultural and systemic scales must amass larger toolkits than their counterparts in more traditional arenas of design. If we are attempting to move beyond methodological myopia, and working toward a unified field of innovation design, then our goal should be to assemble best-of-breed approaches from the toolkits of the current generation of methods, and we should be eschewing parsimony and simplicity to assemble the most inclusive, extensive, and nuanced array of possible tools for designing interventions at these more complex scales. By describing DS in the contemporary language of innovation design, this study endeavours to support this broader process.

1.8.4 Towards a Best of Breed Practice

Above all else, this study seeks to strengthen the innovation design methods toolkit with a view to facilitating real, tangible progress on wicked problems through systemic change. Given the scope and nature of complex challenges, methods need not compete for primacy. As Andersson and Törnberg explain, "wicked systems will... rarely repeat themselves, with instances of what seems to be 'the same' problem or system differing treacherously" (2018, p. 125). If all wicked problems are unique, a diverse array of approaches would seem appropriate.

The methods literature concurs. VanPatter and Pastor found many similarities across the range of niche-derived methods they analyzed, and also many differences, and concluded that "no one unified theory of innovation process exists today" (2016, p. 36). Approaching collective creativity from an Organizational Design vantage point, Bushe and Marshak (2009) note that the shape of an effective stakeholder dialogue cannot be prescribed. Jones (2014) advises designers seeking to work at organizational

and systemic scales to enlarge their toolboxes substantially.

Faced with a bewildering array of wicked challenges, aspiring complexity tamers and innovation designers might—to borrow a term from the technology context—adopt a "best-of-breed" approach. According to Gartner: "Enterprises often purchase software from different vendors to obtain the best-of-breed offering for each application area" (www.gartner.com/it-glossary/best-of-breed/).

A best-of-breed approach to innovation design methods would give us a portfolio of tools and techniques that could be assembled into bespoke interventions to suit the specifics of the challenge-in-focus. It is my fervent hope that a best-of-breed practice of innovation design could help catalyze the real, tangible progress toward systemic change that we will need to make if we are to build a preferred future for generations to come.

1.9. GUIDANCE TO READERS

The argument presented in this paper runs the gamut from the conceptual language of complexity theory to the methodological tactics of co-design. As will be explained in greater detail in the next chapter, this breadth is necessary to properly cover DesignShop, which has not been previously documented in published research.

Though DesignShop practitioners are accustomed to juxtaposing theory drawn from multiple disciplines with methods nuts-and-bolts, readers from other disciplines, especially scholars seeking a high-level overview, may be surprised by the amount of methodological detail presented.

Though the practice detail may be of significant interest to co-design practitioners, it is not required to make overall sense of the study. Readers seeking a high-level overview are advised to consider skimming or skipping over two sections: 2.2.2. DesignShop Methodological Context, and; 3.2. Case Study Consulting Engagement.

1.10. SUMMARY

In the next chapter, I will explore the context and contemporary practice of the DesignShop methodology, and also that of Strategic Foresight, paying particular attention to Inayatullah's Six Pillars framework, which maps well to the DesignShop approach. Establishing the methodological context of DesignShop will require a fairly broad and deep exploration of two different fields: Innovation Methods, and; dialogic Organizational Design and Large Group Interventions. The systemic context exploration, which opens the context chapter, directly after this section, endeavours to situate contemporary DesignShop

practice in the System of Overwhelming Systems framework (Andersson and Törnberg, 2018).

Once the context has been set, the remainder of this paper will focus on a proof-of-concept exploration of the integration of a foresight enhancement (FE) into the DesignShop approach. This research was conducted as an exploratory single-case study, which facilitated the exploration of the DesignShop process and the FE in the context of a real-world project.

In Chapter 3, the methodology used in the case study will be described. An embedded design was used for the case study approach in order to simultaneously explore the DesignShop process, which has not previously been documented in published academic research, and the Foresight Enhancement, the headline innovation proposed in this study.

In Chapter 4, the findings of the case study are analyzed based on participant reflections and interview responses. I take a position as to what differentiates the DesignShop approach from its peers in Innovation Methods and Dialogic OD in the form of a series of conjectures that might be tested in future research. The participant experience of the Foresight Extension is also analyzed, and a model for the integration of DesignShop and 6 Pillars is proposed for future use in the pursuit of a collaborative co-design approach to Strategic Foresight.

In the 5th and final chapter, some reflections and conclusions are presented, and future research directions summarized.

2. CONTEXT

The classes of methods explored in this study are not new: DesignShop has a history dating back nearly 40 years; Strategic Foresight and the use of Alternative Futures dates back further still, to the mid-20th century.

Over their decades-long courses of evolution, both methods have grown and adapted significantly. While the development of SF has been documented in the literature, that of DesignShop has largely gone un-remarked. As a result, the task of contextualizing the contemporary practice of DS in the broad field of innovation design will require a comparatively deep exploration of more than one body of scholarly literature.

2.1. COMPLEXITY AND WICKEDNESS

Both DesignShop and Strategic Foresight endeavour to tame complexity and wickedness—a topic that is, by definition, challenging to make sense of.

Andersson and Törnberg's (2018) anatomy of complexity and wickedness provides a contemporary meta-ontological framework for categorizing types of complex problems and systems. They point out that understandings of, assumptions about, and language for complexity and wickedness varies substantially between disciplines, and without a shared ontological basis, one's ideas may be "treacherously different than other people's ideas" (2018, p. 1). To mitigate this risk, they propose their System of Overwhelming Systems framework as a meta-ontological map of wickedness and complexity (ibid).

We can employ their SOS framework in order to explore where the contemporary practice of DesignShop fits into contemporary perspectives on complexity. Andersson and Törnberg (ibid) argue that overwhelmingness can stem from two different modes of organization: complicatedness, and complexity. Complicatedness is *assembled* from large numbers of sub-components (e.g. as in technology), whereas complexity *arises from the interactions* of large

numbers of independent agents (e.g. as in herds or flocks). By placing these two modes of organization on different axes, the authors create a framework that divides overwhelming systems into 6 subcategories.

Three of these system subcategories—trans-complicated, trans-complex, and sub-wicked—are of particular relevance to this paper because they are the domains in which DS aims to effect change, and are surrounded by a dashed line on the SOS diagram.

1. Complicated systems, such as technology and organisms, are comprised of a great many components of differing types. The sub-components are generally subsidiary[2] to the complicated system of which they are parts—they lack autonomy, and do not make sense on their own.

2. Complex systems, by contrast, are comprised of large numbers of independent entities. Central examples include herds of animals and flocks of birds. Sub-components are generally autonomous agents that set their own agendas (e.g. a single bird does not need to be part of a flock to make sense). Emergent patterns may arise from the interaction of subcomponents in complex systems.

3. Trans-complicated systems are systems comprised of multiple complicated sub-systems. The examples we're most familiar with would be organizations comprised of humans. In essence, "trans-complicatedness represents the complicated organization of components with separate agendas" (ibid, p. 6). In other words, trans-complicated systems are *assembled* from complicated subcomponents.

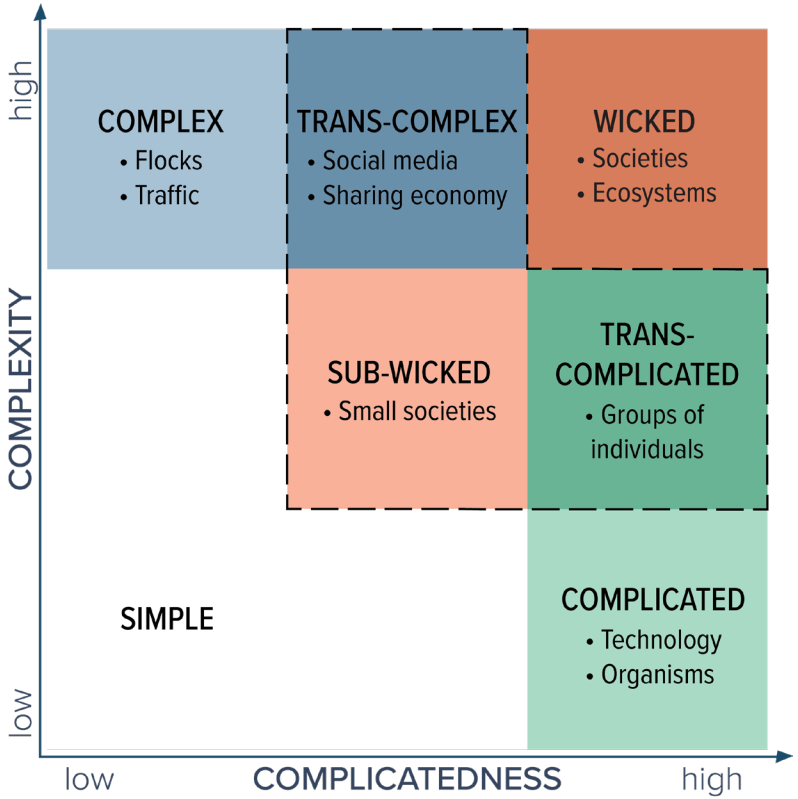


Figure 1. System of Overwhelming Systems (SOS) diagram, adapted from fig 2 in Andersson and Törnberg, 2018

2 Andersson and Törnberg use the term "slaved" here, presumably seeking to invoke the technological definition, which connotes control by a "master" component.

4. Trans-complex systems exhibit the affordances (e.g. emergent behaviour) of complex systems harnessed by persistent elements of complicated systems (ibid). Examples cited by Andersson and Törnberg include contemporary distributed, often digital, human systems such as "sharing economy" organizations (e.g. AirBnB, Uber) and activist networks (e.g. Avaaz). These are complex organizations "based on disseminated designs, shared views, norms, etc" (ibid, p.7). Trans-complex systems, then, by contrast, are cases where people/organizations are harnessing the complexity arising from the interactions of large numbers of independent human agents.

5. Wicked systems are "arenas where adapting systems interact and compete over limited resources" (ibid, p. 7). These are the largest systems with which we are familiar: ecosystems over evolutionary time and large human societies. The interaction of multiple complex and trans-complex systems under resource pressure produces systems which are far beyond our ability to predict or comprehend.

> Wicked systems are so strongly and heterogeneously connected that it is impossible to exhaust even small portions of them empirically to produce a 'realistic picture.' 'Pictures' must therefore be perspectives, rarely subject to universal agreement. Even if we could obtain a "realistic picture," this would frequently not help much since the system changes unpredictably over time – including as a direct result of us interacting with it. Uncertainty includes not only foresight but also e.g. what the problem consists in, what tools are available, what actors to include. (ibid, p. 10)

To Andersson and Törnberg (ibid), wickedness manifests as an almost perverse resistance to change. To attempt to intervene in a wicked system is like trying to divert a river with a canoe paddle: overwhelming in the extreme.

6. The final subcategory are sub-wicked systems. These are systems which exhibit wickedness, but at a scale we can comprehend. Central examples include small human societies and, arguably, contemporary large organizations and value chains. Given that they exhibit wickedness at comprehensible scales, sub-wicked systems are of specific interest. We may hope that they can serve as models for testing approaches for intervening in wicked systems.

2.1.1 Where DesignShop Plays

According to Bryan Coffman, a senior DS practitioner who has been involved with DS since at least the 1990s (MG Taylor Corporation, 1997b), DesignShop was conceived at the close of the cybernetic revolution in scientific thinking. Guided by fresh insights into complexity science (e.g. Kaufman, 1996), early DesignShop practitioners sought to incorporate the principles of complex adaptive systems into their approach (email communications, July 25, 2018).

The contemporary view of human systems sees them as dialogic (Bushe and Marshak, 2009), and thus fundamentally different from the biological open systems models that informed the complexity theory of the 1990s (e.g. Kaufmann, 1995; Lewin, 1992), and in turn guided DS practitioners' efforts to make DesignShop into a trans-complex approach.

This is not to say that we cannot apply complexity theory to human systems—we can, and there are plenty of examples of trans-complex systems forging significant changes in our world. Indeed, it can be argued that DesignShop itself is trans-complex. A DesignShop is a bespoke architecture of participation (complicated/assembled) in which participants authentically represent their own stakeholder perspectives and work in self-facilitated teams (complex/emergent). Most DesignShops[3], however, are not highly distributed, since they require in-person participation and the guidance and governance provided by the facilitation team.

What is less certain, however, is whether systemic change through innovation design should be pursued through algorithmically governed trans-complex means.

Anecdotally, algorithmically governed trans-complex systems such as digitally distributed sharing economy platforms and social media have proven very poor indeed at supporting productive dialogue among stakeholders. In light of the perceived risk of filter-bubble polarization resulting from delegating news media distribution to distributed bottom-up systems, it seems far from clear that distributed, algorithmically governed approaches should supersede centralized and dialogically governed ones in the facilitation of stakeholder dialogue in essaying wicked problems. Though some DesignShop practitioners are attempting to use the Patchworks Architecture and Type I DesignShop (Taylor, Evans, & Bird, 2018) to explore distributed collaboration (Charlie Ursell, 2018, personal communications), the focus of this study is the use of the more traditional Type II and III DS applications to design structures of participation and dialogue.

These more traditional DesignShop approaches are arguably very well-suited to be effective in trans-complicated contexts such as organizational change and transformation, where Andersson and Törnberg (2018) note a persistent need for maintaining alignment. The generation of alignment in these systems has been the bread-and-butter of the DesignShop practices in major management consultancies, and this sort of work seems likely to continue to be of significant value so long as humanity makes use of large institutions that are organized in complicated ways. Indeed, trans-complicated systems such as government institutions need all the help they can get if they are

3 The exception being Type I Patchworks DS, discussed below in section 2.2.1.1

to remain effective amidst the roiling change caused by a proliferation of trans-complex innovations.

In addition to assisting in trans-complicated systems such as large organizations, DesignShop can be of value in sub-wicked systems, which Andersson and Törnberg (2018) identify as the prime candidates for honing approaches to address wicked problems through systemic change.

Sub-wicked systems are defined as smaller subsets of wicked systems, which exhibit the behaviours of wicked systems, but are not so large as to lie beyond our comprehension. The chief factor that Andersson and Törnberg use to separate trans-complicated from sub-wicked systems seems to be that agents in sub-wicked contexts are competing under resource pressure (ibid), and—as anyone who has worked in contemporary large organizations would likely agree—some degree of competition for resources is the norm even in cases where stakeholders are nominally part of the same organization and pursuing shared goals. In a practical sense, the dividing line between trans-complicated and sub-wicked systems is blurry in the extreme.

Moreover, it is not difficult to find examples of DesignShop applications in sub-wicked contexts. In 2016, in my professional practice, I designed and delivered a DesignShop focused on the development of a digital strategy for a medium-sized Canadian city. Invited stakeholders were drawn from more than a dozen organizations: 3 levels of government (federal, provincial, and several municipal bodies), multiple higher learning institutions, several global enterprises with interests in the municipality, the public service, and management consultants hired for their knowledge in the area. The challenge required the group to consider the needs of 3 stakeholder groups—citizens, businesses, and public servants—and to allocate limited resources across a range of competing needs. While the co-design of a municipal digital strategy is not a particularly wicked problem, the context in which the problem was situated clearly falls into Andersson and Törnberg's sub-wicked category.

Accordingly, for the purposes of this study, we will consider DesignShop to be of potential value in trans-complex, trans-complicated, and sub-wicked contexts.

2.2. DESIGNSHOP

The value of diverse perspectives is well-documented (e.g. Page, 2007). Less top-of-mind today are the lessons of the Systems and Cybernetics revolution of the 20th century. The insight implicit in Ashby's Law, that only variety can absorb variety (Beer, 1973), seems to have been largely forgotten. We still tell stories of lone genius innovators, or small teams of plucky entrepreneurs changing the world and "solving" ostensibly complex problems. Few commen-

tators seem to be aware that there are well-established, evidence-supported alternatives to relying on small teams to tackle prodigiously complex problems.

2.2.1 DesignShop Overview

According to Matt Taylor (e.g. 2008), DS was developed to meet the requirements implicit in Ashby's Law. Through the coordination of the activities of dozens of participants, a DesignShop becomes a high-variety tool that can tame the complexity of high-variety challenges.

2.2.1.1 Definitions

According to Taylor, Evans, & Bird (2018, p. 347), DesignShop is only one part of the Taylor System and Method, and it has evolved into 5 sub-classes since its inception:

Type I PatchWorks

Type II Strategic-Transformational

Type III Tactical

Type IV DesignShop Inside

Type V Augmented Meetings

Type I is the focus of Matt Taylor's most recent work, and employs the Patchworks Architecture (ibid, p. 349), which was based on the complexity science insights of Kauffman (1995), to coordinate the action of geographically distributed autonomous agents. In the language of Andersson and Törnberg (2018), Type I aims to take DS further into trans-complexity.

Type II is the classic 3 or 4-day intensive LGI, intended to enable whole-system change and transformation in trans-complicated and sub-wicked systems such as corporations, governments, and value chains by engaging a representative sample of stakeholders in a collaborative dialogic design process.

Type III employs the approach from type II to effect more "tactical" ends (ibid, p. 350). This can be quite valuable in cases where the complicatedness of tactical concerns requires variety of perspectives on the scale of a DesignShop. I have used Type III in professional practice for practical complicated challenges such as the planning of large IT projects for enterprises.

Type IV was created in 2000 for the World Economic Forum (ibid, p. 350), where it saw use as a design workshop inside the larger Annual Meeting conference. Though there is little to no publicly available documentation on this type, colleagues such as Aaron Williamson (personal communications) have described the sessions in the WEF annual meeting as much shorter in duration (e.g. hours,

not days), and having substantially modified approaches to sponsor co-design and problem framing.

Type V is a catch-all to capture applications of the methodology that do not fit into the other 4 types, and refers to meetings augmented by techniques and ways of working derived from the DesignShop toolkit.

The typology in Taylor, Evans, & Bird (ibid) marks a shift in language within DS practice. Historically—within the broad community of practitioners, at least—the DesignShop label has been reserved for full 3-day collaborative design events that are strategic or transformational in nature (i.e. Type II above). All other types of DesignShop have been described using a variety of labels such as DesignSession ("Accelerated Solutions Environment (ASE)", 2019) and Design Forum (PricewaterhouseCoopers).

Though all types are of interest and potential relevance to designers and foresighters, Types II and III are our focus here because they have been and continue to be the focus of the vast majority of work within the practice.

I applaud the expanded and inclusive use of the term DesignShop. However, there is a notable gap in the new typology. Though some senior practitioners might argue with the notion of labelling a two-day event a "DesignShop," applications that fit into the Type II or III categories but are of shorter duration than 3 days are common in many professional practices including mine. Under the new typology, these would only fit into Type V (augmented meetings). Yet, in practice, the difference between a 2-day session and a 3-day session is one of magnitude, not category. Moreover, the distinction between "tactical" and "strategic" is subjective, and fuzzy to say the least.

For the purposes of this paper, we will define DesignShop as the practice tradition based on the application of the MG Taylor System and Method to large-group (20+ participants) collaborative design, and we will focus on types II and III, modified to include interventions of any duration.

2.2.1.2 History

It lies well beyond the scope of this paper to describe the history of the DesignShop process in great detail, but it nevertheless seems important to provide some context for readers, especially since it appears that no peer-reviewed literature covering DS exists.

According to Gail Taylor, writing in Coullomb and Collingwood-Boots:

> In 1980, my husband and partner Matt, and I set out to change the way people worked together. As futurists, teacher and architect, we saw the world undergoing dynamic, chaotic, exponential change that would forever

> change the course of history. Unless we, the people, found a way to stay requisite with this rate of change, we had little hope of living in a just and equitable world. We recognised that the structures in place, the way of working in stove pipes and hierarchical control and status quo were an invention to serve the great industrial economy, not a natural way of being and working together. We dreamed of opening opportunities for people and organisations to come to know that they could become part of rebuilding Earth as a work of art. "The future by design, not default" became one of our core mantras, later adopted by the World Economic Forum. We modelled what the emerging of a new paradigm could look and feel like, one where all of us were engaged in working for a more equitable world for all life. Today, almost 40 years later, we realise that our dreams were too ambitious in time, but not in possibility: a new paradigm is currently emerging, still overshadowed by the old guard of power and control, and separation, yet clearly finding loopholes and possibilities. (2017, p.7)

There is much to unpack here. The breathtaking ambition of the Taylors' vision is striking. Their respective backgrounds as an architect (Matt) and a teacher (Gail) and their self-identification as futurists are notable, as is the vision of "rebuilding Earth as a work of art," which is language that has endured to the present as a touchstone within some corners of the DS community of practice.

Matt Taylor's personal website provides some more context on their early work. Matt Taylor (1998) reports becoming a futurist through reading, being influenced by the writings of Kahn (e.g. 1962) while he was at the Hudson Institute, Toffler's (1970) *Future Shock*, Brand's *Whole Earth Catalog*, and Daniel Bell's (1974) *The Coming of Post-Industrial Society*. The Taylors' partnership began in the mid-1970s, when they met through a lecture series, entitled ReDesigning the Future, that Matt was giving at the Kansas City Unitarian Church.

For readers interested in more depth on the history of DesignShop, Matt Taylor, Rob Evans, and Kelvy Bird's (2018) Models contains a great many more detailed origin stories provided by Matt Taylor, who has kept detailed notebooks through much of his working life.

MG Taylor delivered their first DesignShops in the early 1980s (Taylor, Evans, & Bird, 2018, p. 62). Within 10 years, multiple users were applying the method in diverse settings. Taylor, Evans, & Bird (ibid, p. 350) report that as many as 40—presumably full 3-day—sessions were conducted during an 18-month span in the early 1990s.

In 1997, Ernst & Young (EY) licensed the DesignShop process. Working with MG Taylor, they built a suite of Accelerated Solutions Environments (ASEs)—DS management centres—across the USA, and eventually created a total of 28 centres spanning the USA, Canada, Europe, and Australia (Evans, 2016). It was through the Toronto iter-

ation of the ASE (now defunct) that I was introduced to DesignShop, in 2001.

2.2.1.2.1 Intellectual Property

In 1998, shortly after licensing the process to EY, MG Taylor filed for a patent for a "system for optimizing interaction among agents acting on multiple levels." The patent, US6292830B1, was awarded (https://patents.google.com/patent/US6292830B1/en).

According to the MG Taylor website,

> The purpose is not to attempt exclusive use or dominance over some future section of the knowledge-economy. The purpose is to establish a way to steward a body of ideas into useful products and services while legally protecting the ValueWeb (and its members) that invests, develops and employs them. (MG Taylor Corporation, 2001a)

From the perspective of 2019, it is clear that the patent did not result in dominance over any portion of the knowledge economy. It is unclear in what ways the decision to patent may have affected the growth and diffusion of the Taylors' ideas.

It can be said with certainty, however, that the patent has contributed to the challenge of gaining a clear picture of the breadth of contemporary DesignShop practice. In several cases that I am aware of, the fear of patent infringement has led practitioners to use modified language, and to avoid publicly declaring their work as DesignShop despite being widely acknowledged as members of the DesignShop community of practice.

2.2.1.3 Scope of Contemporary Practice

Though many practitioners use their own brand-specific terminology and trademarks rather than market under the DesignShop trademark, it is clear that the application of DesignShop has grown considerably since the process was licensed by EY in 1997.

The contemporary community of practice might best be mapped through the range of participants at an annual event called the Happening, which has been held in each of the past 3 years. The author was present in 2016 and 2017.

Also present were practitioners from across the USA, Canada, the UK and Europe (France, Netherlands, Switzerland, Germany, Italy), China, Taiwan, Singapore, Australia, New Zealand, India, and more. A large portion of practitioners work for major professional services firms, including PwC, KPMG, and Capgmemini. In addition to the units of these major firms, dozens of smaller boutique consultancies exist across the world. Of particular note is the Australian market, where, for reasons that are not clear, DesignShop

has made the greatest inroads.

Based on my experience and the range of colleagues I have met, I feel comfortable supporting Taylor, Evans, and Bird (2018, p. 347) in saying: "it is safe to claim that the DesignShop is the most employed, systematic, commercially delivered, large group process on the planet."

If this is true, then the scholarly literature is very sparse indeed. The following sections will attempt to start filling this gap.

2.2.1.4 Epistemology

The DesignShop process has no codified philosophical perspective, but the DS canon includes a set of axioms that, like the modelling language (discussed below in section 2.2.3.2.3), serve as a scaffold for collaborative sensemaking. Whereas the models provide a conceptual scaffold, the axioms speak to the states of mind that MG Taylor wished DS participants to adopt (Evans, 2016, p. 440).

Several of the axioms offer affordances for philosophical inference:

- Everything that someone tells you is true; they are reporting their experience of reality.
- To argue with someone else's experience is a waste of time.
- To add someone's experience to your experience, to create a new experience, is possibly valuable.
- The only valid test of an idea, concept, or theory is what it enables you to do.

From these, we may construe a pragmatic, post-positivist, constructivist perspective, in keeping with various other LGI approaches developed around the same time (Bushe and Marshak, 2009).

Of particular note in epistemological terms is the emphasis on models and modelling, and on knowing through doing. Several passages from Taylor, Evans, & Bird's (2018) "Models" speak to this, including the 3 quoted below:

> It is not necessary for an idea to be totally true or verifiable to be useful. What is necessary is that the idea can be applied and produce reasonably consistent, useful results. (ibid, p.121)
>
> Understanding the limitations of modeling help us keep our collaborative design work in the proper perspective. It helps us remember to hold our models lightly, provisionally, always subject to testing in their application to real-world conditions. (ibid, p.161)
>
> The whole epistemology associated with the Taylor Process is to take concepts and make them physically

> embedded and real. That doesn't necessarily mean that everything we do exists in a material form because a lot of what we do involves connecting concepts with other concepts. But it is the materiality of the results, the actions that are taken – that is what is important. (ibid, p. 216)

Above all else, DesignShop is pragmatic. DesignShop practitioners take an approach similar to that prescribed for complex contexts by Dave Snowden's Cynefin framework (Snowden and Boone, 2007): probe, sense, respond. When we are working in a complex domain—which can be assumed to be ever the case in a DesignShop practice—we must act from a place of not knowing and learn from the results. It does not matter whether our model is "right," or universally agreed-upon—what matters is whether we are able to use it to generate tangible results. The DesignShop approach encourages us to treat our expectations as a model, and to use our results to iteratively hone our model. In this way, iteration is deeply woven into the philosophy of the approach.

2.2.1.5 Describing the Current Practice

The DesignShop process does not fit easily into disciplinary categories. To VanPatter and Pastor (2016), it is an innovation method. To Gronsky (2004), it is a Large Group Intervention (LGI) method. To many practitioners including Gail Taylor (personal communications), it is a "way of working."

As VanPatter and Pastor (2016, p. 52) note, "Beneath some innovation process models, deep codified knowledge exists, as well as numerous tools and techniques." This is certainly true of DS. Beneath the Creative Process model (Evans, Taylor, & Bird, 2018, p. 190) analyzed by VanPatter and Pastor (2016) lies enough knowledge to fill Evans' 6-volume "Collaboration Code."

In order to prioritize complexity appreciation, contributors to the DesignShop body of knowledge have tended to eschew succinctness and parsimony. The result is an assemblage of ideas drawn from a wide array of disciplines, and integrated into an encyclopedic tool. According to Taylor, Evans, & Bird (2018, p. 152), "this System and Method, then, is a synthesis of ideas from a range of disciplines: philosophy, design, engineering, psychology, cybernetics, information theory, physiology, and organizational theory, to name a few." This more-is-more perspective is largely a benefit, but to some extent a curse. Freed from the constraints of disciplinary silos and their attendant assumptions, DS approaches transcontextuality. It is a flexible tool that has been applied in arenas as diverse as management consulting and higher education, and therein across a vast array of topics and problem areas.

However, the difficulty of fitting it into standard assumptions about how to organize knowledge work has made it difficult to clearly define and study from an external perspective. Moreover, products that are difficult to define

are not easy to sell. In the attention economy era, the compendious perspective of DS sometimes seems anachronistically heavy and complicated. Evans' 6 volumes do not fit easily into sound bites and tweets.

Yet contemporary perspectives on complexity such as Bateson's (2016) and Andersson and Törnberg's (2018) make it clear that simple methods and frameworks will not provide requisite responses to complex challenges.

Given that complex challenges observe no boundaries between disciplines, innovation practitioners should be eschewing simplicity and working toward a unified perspective. Practitioners' toolboxes should be as inclusive as possible. DesignShop practitioners would do well to continue to learn from other methods, and practitioners in other streams might find valuable tools and insights in the DesignShop approach.

Already a synthesis of theory and practice from a wide range of disciplines, DesignShop might be viewed as a forerunner—or, for some of us, a foundation—of the next wave of innovation and change by design. We will explore DesignShop in greater depth after the methodological context in section 2.2.3.

2.2.2 DesignShop Methodological Context

In order to situate contemporary DS practice in the literature, we must conduct a partial exploration of several strains of scholarly thinking. Due to the breadth of the DS approach, this exploration cannot be truly comprehensive, but it will hopefully provide a starting point upon which future research can build.

2.2.2.1 Innovation Methods

DesignShop is one of a handful of LGIs among the methods profiled in VanPatter and Pastor's (2016) analysis (where it is described as MG Taylor). Though their analysis (ibid, p. 106-7) is necessarily surface-level, and appears to be based largely on the Creative Process model (Evans, Taylor, & Bird, 2019, p. 190), it still contains some valuable language to relate the process to other innovation methods. In VanPatter and Pastor's terms, DesignShop:

- Is upstream-oriented
- Is a step-type method (as opposed to zone-type)
- Uses a split "Method Mode"
- Shares the key behaviours of diverging, converging, and deferral of judgment
- Has defined roles

Several of these points merit further exploration.

2.2.2.1.1 Upstream Orientation

Upstream-oriented methods include steps to frame the problem to be addressed. Downstream methods assume that a framed (or semi-framed) challenge is provided prior to the process beginning. In design terms, downstream methods assume that a brief will be provided prior to beginning work. VanPatter and Pastor argue that methods from design traditions (e.g. service design, design thinking) generally tend to be downstream-oriented, and methods from the Creative Problem Solving (CPS) tradition tend to be upstream-oriented.

On the surface, this might seem to be a semantic distinction, since designers are taught to "challenge the brief," which could be seen as revisiting and iterating the problem frame, but VanPatter and Pastor argue that downstream methods nevertheless tend to be more limited by assumptions. For example, service design processes assume that the output (i.e. solution) will be in the form of service innovation, and thus tend consider the challenge from that vantage point. Though a service designer might challenge the brief to expand or clarify the scope of work, they would be unlikely to propose work or solutions outside of service innovation. Insofar as communities of practice around downstream-oriented methods are embedded in assumptions, they are prone to being constrained by them.

2.2.2.1.2 Step-Type Method

It is indeed true that DS uses steps that build upon one another, but this is an oversimplification. In practice, the Modelling Language provides a number of different lenses through which DS practitioners can make sense of the steps in the process. For example, the Creative Process model (Taylor, Evans, & Bird, 2018, p. 190) and Scan Focus Act (ibid, p. 291) provide different depictions of the steps in a typical DesignShop event. Moreover, both the Creative Process model and Scan Focus Act are recursive and fractal (ibid, p. 190; p. 294). Within the Scan phase of a DesignShop, for example, we can expect to see multiple iterations of the entire Creative Process.

2.2.2.1.3 Split Method Mode

Method Mode, a term coined by VanPatter and Pastor (2016), refers to an innovation method's treatment of process and content.

In mixed Method Mode, process and content expertise may be merged into a single role. In these cases, we might see a facilitator or consultant who is a subject matter (content) expert designing and delivering a workshop (process).

In split Method Mode, process and content expertise are separated into different roles. This is indeed how Design-

Shop operates. DS practitioners are process experts. This is not to say that they are purely concerned with process; as a methodology with 2nd order cybernetics at its root, DS acknowledges that its practitioners are part of the system in which it is aiming to intervene. However, DS practitioners are largely focused on organizing the work. In general, content experts act as participants. In management consulting contexts, the general line-of-business consultants bring content expertise, and work collaboratively with client participants (who are also presumed to be content experts). The DS practitioners focus on taking care of the process.

As VanPatter and Pastor note: "Large complex organizational and societal challenges involving multiple stakeholders often require the application of Split Method Mode, i.e.: the subject matter experts are not always process experts and vice-versa" (p. 47).

2.2.2.1.4 Key Behaviours

Converging, diverging, and deferral of judgment are familiar behaviours to designers. DS is hardly alone in prescribing them. Nevertheless, they are crucial ingredients in an innovation approach, and their importance may be less clear to scholars and practitioners from other disciplines (such as LGIs).

2.2.2.1.5 Summary

When viewed as an innovation process, DesignShop is one of many systems-based approaches. It is not part of either of the major traditions charted by VanPatter and Pastor (Creative Problem Solving and Design/Design Thinking), but it fits in well among them. Whereas many innovation methods can be applied at the individual and group levels, DS is strictly reserved for working with groups.

2.2.2.2 Dialogic OD: Large Group Interventions and Problem Structuring Methods

Though Gronsky's (2004) investigation of the Capgemini Accelerated Solutions Environment (ASE) is the only source to explicitly list DesignShop as a Large Group Intervention (LGI) method, a review of the literature shows that DesignShop fits as easily among LGIs such as Future Search (Weisbord and Janoff, 2010) and Open Space (Owen, 2008) as it does among the innovation methods mapped by VanPatter and Pastor (2016).

When viewed as an LGI, DS becomes one of a number of dialogic approaches used by consultants to facilitate organizational transformation and change.

2.2.2.2.1 Definitions

Large Group Interventions (also known as Large Group Interaction Methods) have been defined as "methods for involving the whole system, internal and external, in [a planned] change process" (Bunker & Alban, 1997, p. xv). Bushe and Marshak (2009) describe LGIs as choreographed events that create a "container" for dialogue. In their 2013 analysis of World Cafe through the lens of Gregory Bateson's framing concepts, Jorgensen and Steier describe LGIs as designed conversational processes that create containers for whole-system dialogue.

2.2.2.2.2 Roots of LGIs

Bartunek et al (2011) identified 4 strands among the roots of Large Group Interventions.

In the 1960s, Emery and Trist (1960) and Katz and Kahn (1966) promulgated a sociotechnical theory and understanding of organizations as open, biological systems. This view replaced the mechanistic models of the scientific management era (Bushe and Marshak, 2009).

Secondly, also pioneered by Emery and Trist, was a conceptual shift in practice, from diagnosing and fixing the problems of the present to focusing on "the future and its potential" (Bartunek et al, 2011, p. 6).

Contemporaneous with Emery and Trist's work in the UK, the National Training Laboratory (NTL) in the USA, under the leadership of OD pioneer Kurt Lewin, developed the basis of action learning. Trainers at the NTL began working with large groups "by creating small groups within a larger framework" (Bunker & Alban, 2006, p. 6).

In the late 20th century, a 4th strand emerged, when shifting philosophical perspectives and practice-based insights led practitioners to replace open systems models with dialogic, constructionist human-systems models of organizations (Bushe and Marshak, 2009).

2.2.2.2.3 LGI History and Growth

Dialogic OD approaches, frequently taking the form of LGIs, began taking shape in the 1960s, when Emery and Trist developed the Search Conference. They gained momentum through the 1970s, and blossomed in the 1980s (Bushe and Marshak, 2009). Many well-known methods such as Future Search, Open Space, and World Cafe emerged in the 1980s (Bryson and Anderson, 2000), roughly contemporaneously with DS (Taylor, Evans, & Bird, 2018). In recent years, many LGI methods have been in use around the world. Holman et al identified more than 60 LGI methods in 2007.

2.2.2.2.4 Characteristics

LGIs tend to be difficult to define in detail. While noting the difficulty of saying exactly what each method is comprised of, Bryson and Anderson were nevertheless able to extract a list of common characteristics from their (2000) comparison of 7 methods. All of these characteristics apply to DesignShop as well.

- They involve large groups of participants
- Each method prescribes a specific structure
- They engage a wide variety of stakeholders
- They generally take the form of a workshop or series of workshops lasting somewhere between a few hours and a few days
- Are generally facilitated by a specialist or team of specialists
- They require significant advanced planning, frequently including executive sponsorship
- Individual interventions are designed through some sort of collaboration between a consultant/facilitator and the client organization
- They require significant logistical planning and resources
- Additional resources will be needed to follow up on decisions and plans generated in the LGI

Shmulyian et al (2010) identified 5 "I"s—"critical success factors"—for LGIs: the right Individuals; the right Issue; an Intentional Process; the right Information, and; the right Infrastructure.

The 5 "I"s provide a good lens with which to examine DesignShop in the LGI context, since they closely parallel a 5 "P"s model that has been used by DS practitioners (e.g. in Capgemini's ASE when I worked there). The 5 Ps were: the right People, Purpose, Process, inPuts, and Place.

2.2.2.2.4.1 Dialogic Container

Various sources (Bushe and Marshak, 2009; Shmulyian et al, 2010; Jorgensen and Steier, 2013) describe LGIs as creating a "container" for dialogue. Reflecting the understanding that it is neither possible nor desirable to prescribe the shape that authentic dialogue between stakeholders should take (Bushe and Marshak, 2009), LGIs create conditions for the right dialogue to unfold. This can be understood as striving to find a balance between structure and spontaneity (Shmulyian et al, 2010), and reflects the dialogic OD rejection of objective truth in favour of an understanding of organizations as socially co-constructed realities (Bushe and Marshak, 2009)

Within this dialogic container, the normal conventions and constraints are suspended. Jorgenson and Steier (2013)

Table 1 Comparison of Shmulyian et al's 5 "I"s and the ASE's 5 "P"s

Shmulyian et al	Individuals	Issue	Intentional Process	Information	Infrastructure
ASE circa 2001	People	Purpose	Process	InPuts	Place

suggest that this can be understood through Gregory Bateson's (1956, 1972) concept of framing. By suspending the largely tacit rules of "business as usual," temporarily replacing them with new rules (e.g. from the LGI process), LGIs re-frame the conversation around the issue-in-focus, and thus facilitate a different dialogue (Jorgenson and Steier, 2013).

2.2.2.2.4.2 Planning and Prep

Regardless of method, in order to successfully construct a dialogic container focused on a specific issue, LGI practitioners must first conduct significant planning and preparation.

Though the literature acknowledges that significant preparation is required for each use of every method, there is a tendency among researchers to view this work as largely logistical in nature, and thus to gloss over it. From my perspective as a practitioner, this is an unfortunate over-simplification. Many of the critical decisions and activities that determine success take place prior to the actual large-group events. As one of Shmulyian et al's interviewees notes (2010, p. 210), boundary conditions for the LGI are set during the planning phase, prior to the large-group event. This is not a matter of logistics!

We can use Shmulyian et al's (2010) 5 "I"s as a framework to parse these activities. In order to create conditions for success within the LGI "event," practitioners must prepare for each of the 5 "I" critical success factors.

Right Individuals

All LGIs described in the literature engage a diverse set of stakeholder perspectives with the goal of "getting the whole system in the room" (Bryson and Anderson, 2000).

Some methods, such as Whole Scale Change, engage every employee in the client organization (Bartunek et al, 2011). Others, such as Future Search and DesignShop, seek a representative sample of perspectives (Weisbord and Janoff, 2010).

Shmulyian et al (2010) note that the participants selected are sources of information for the system. Weisbord and Janoff (2010) suggest including participants who have the decision making power to authorize plans and allocate resources to pursue them, and also suggest including subject matter experts and sponsors among the participants, avoiding "floating" or "roaming" specialists or leaders. The DS perspective closely aligns with that of Future Search in this regard.

Right Issue

"Getting the whole system in the room" will be of limited value without the right issue upon which to focus their efforts. Future Search practitioners are advised to work with sponsors to identify an issue that will be sufficiently meaningful to motivate participants (Weisbord and Janoff, 2010). According to Franco (2007, p. 270), "it is the process of recognition and articulation that produces a 'problem' to be managed, something to which it is appropriate to devote time and effort." This accords with the DesignShop approach of working with sponsors to "create the problem," which is discussed in greater detail later in this paper.

Right Intentional Process

Though the process varies considerably between methods, most LGIs, including DS, prescribe a series of steps that involve some diverging, sensemaking activities, and then some converging decision-making activities (Bryson and Anderson, 2000).

Right Information

As previously noted, participants carry a portion of the information to be used in an LGI along with them in the form of their stakeholder perspectives. Though it is not discussed in detail in the literature (since it is glossed over along with pre-event work in general), additional information may be merited in the form of prepared inputs.

Right Infrastructure

All LGIs covered in the literature use some environmental cues to "set the frame" (a là Gregory Bateson) (Jorgensen and Steier, 2013). One of Franco's (2007) participants describes how the simple change of setting the room without a table shifted the dialogue from the usual place of stakeholders "taking positions" to an "open forum," say-

ing "it's easier to lie when you've got a table in front of you" (ibid, p. 270).

2.2.2.2.4.3 The Event

Although the details vary considerably between methods, the activity in the large-group event—within the dialogic container—can be mapped to VanPatter and Pastor's (2016) key behaviours: diverging, converging, and deferral of judgment. The diverging portion of the dialogue can be understood as collaboratively making sense of the problem domain, and the converging portion relates to the co-design of the outputs from the LGI, which is, in a generic sense, a set of solutions (i.e. plans for interventions) addressing the problem domain.

Arena proposes that LGIs catalyze emergent self-organization by facilitating interactions between diverse stakeholders from across the system. This bears remarkable similarity to MG Taylor's (2001a) patent, which describes DS (along with the rest of the Taylor method) as a system and method for coordinating the action of autonomous agents.

Diverging and Sensemaking

According to Franco (2007), the problem domain is socially co-constructed through the interaction of independent agents. Within the frame of the LGI, participants are engaged in interactive framing; taken together, this can be understood as collaborative sensemaking (Jorgenson and Steier, 2013).

Although the "Right Issue" should be identified prior to the LGI event, participants enter the event with diverse stakeholder perspectives on the issue-in-focus. Before they can move to action planning, participants must create a shared understanding of the problem domain. In Future Search and Search Conference, for example, this is described as joint appreciation of "common ground" (Franco, 2007). Jorgenson and Steier (2013) note that frames (in this case, the "right issue," established during planning) are "non-prescribable"—it is up to the agents within the re-framed dialogic system to accept/reject/interpret the conditions in which they find themselves, and the meaning that they constitute is based on more than the particulars of the LGI event itself.

Many methods call for some mix of exploring the context of the problem domain: the history; the global context (Weisbord and Janoff, 2010), and; the emotions of various stakeholders in respect of the problem domain (Bryson and Anderson, 2000).

As mentioned earlier, DS event activities can be mapped against more than one creative process model. The Creative Process Model (sometimes called 7 Stages of the

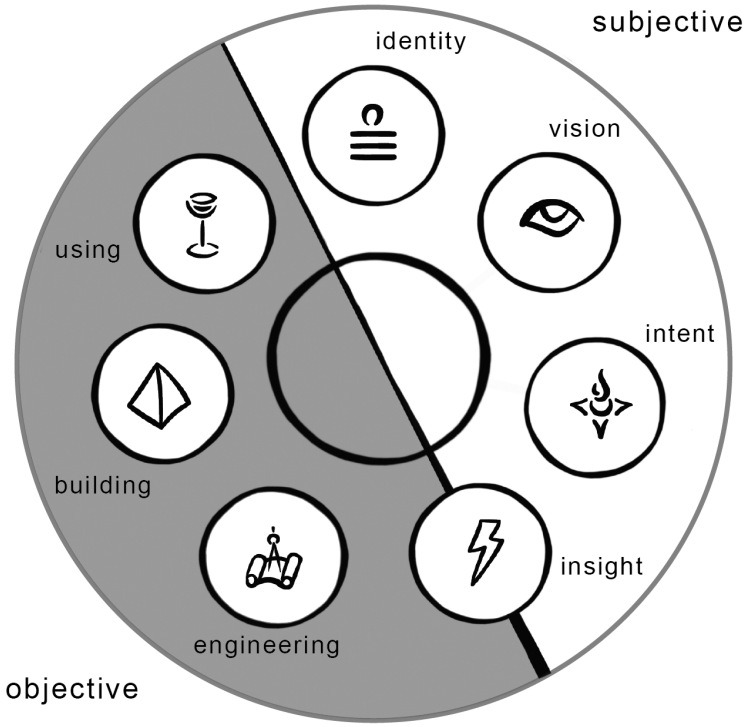


Figure 2. Creative Process Model. Reproduced from Taylor, Evans, & Bird, 2018, p. 190. All rights reserved by original copyright holder.

Creative Process) depicted in figure 2 is the best fit here since it divides the process into two halves. The diverging/ sensemaking portion of the event activities corresponds to the white half of the circle, labelled "subjective."

Converging and Solution Making

After the participant group has devoted significant effort to collectively make sense of the challenge, the work transitions to developing solutions. Once the domain has been established, further negotiation is required (Franco, 2007). Interactions across different business units and functional areas create a network (Arena, 2009). Diversity of perspectives becomes an asset through collaboration (Franco, 2007). Re-arrangement of resources and assets via an LGI can catalyze self-organization and creativity. By bringing the normally fragmented or siloed components of the system together, LGIs create conditions for system-wide solutions to emerge (Arena, 2009).

In the DS context, this second half of the event corresponds to the grey "objective" half of the Creative Process model (figure 2). For a thorough treatment of this Creative Process Model, readers are referred to Taylor, Evans, & Bird (2018, pp 190-198).

2.2.2.2.4.4 Outcomes Realized

Shmulyian et al (2010) organize the outcomes from LGIs into 3 categories: people; organizational system "hard results," and; long-term sustainable change. These 3 types of benefit are interdependent—the people results largely stem from an inclusive process for developing the "hard" results, and the long-term change results are accreted over time from the combination of the first two. DesignShop practitioners such as Evans (personal communications)

have long argued that all 3 types of benefits must be obtained simultaneously.

People Results

LGIs create benefits for people individually, and for the relationships that link them. On the individual level, they are generally thought to build "buy-in" for change (Bryson and Anderson, 2000). LGIs defy the assumption that people generally resist change; by including the "change recipients" in planning the change, LGIs simultaneously gain valuable input and shift change recipients toward supporting the change (Bushe and Marshak, 2009; Bartunek et al, 2011). This benefit is traced back to Wheatley's (1992) observation that people support what they help create.

LGI's temporarily replace the "business-as-usual" frame to create conditions where the normal rules are suspended (Jorgenson and Steier, 2013). Stakeholders, frequently drawn from different units and functional areas of the client organization, gain rare opportunities to build and strengthen relationships with colleagues with whom they do not have regular contact. In cases where the LGI is bringing together people from a single organization, as is frequently the case, it can fulfill a sort of "mega-team-building" function (Shmulyian et al, 2010). Bryson and Anderson describe how LGIs can "help to build coalitions for politically feasible change" (2000, p. 144).

Organizational Systems and "Hard Results"

In general, "hard results" such as redesigned organizational structures and processes, action plans, and change strategies are the tangible outputs of LGIs. In my experience, these outputs typically consist of two things: models of organizational or systemic target future states, and; plans and strategies to make the necessary changes to achieve that target state. While these outputs may not be radically different from what might have been created without the LGI, they are seen to be more likely to succeed thanks to the concurrently obtained buy-in discussed above.

"Desired Futures"

One class of target future state is worthy of special attention here: the "desired future." Several methods, most notably Future Search (Weisbord and Janoff, 2010) and Appreciative Inquiry Summit (Shmulyian et al, 2010), position these target future states as desired futures. As discussed above, this can be traced back to Emery and Trist's (1960) Search Conference, which innovatively focused dialogue on the future, rather than diagnosing problems with the present (Bartunek et al, 2011).

From a Futures Studies perspective, it is interesting to consider these large groups of diverse stakeholders designing images of desired futures. Given that they do not seem to be contextualized in any foresight rigour (e.g. scanning;

alternative futures scenarios), these may be more akin to shared wish lists or aspirational "visions." They should not be understood as Strategic Foresight applications, but they may offer opportunities for contributions from foresight practitioners.

Long-Term Sustainable Change

This third type of benefit listed by Shmulyian et al (2010) is also described as cultural change. In some cases, the bottom-up stakeholder-driven development of new plans and processes, paired with the buy-in and ownership at the personal level, can create very significant organizational transformations.

> The power of getting most or all key stakeholders in the same room at the same time and dealing with issues they care about, with the information and authority necessary to act, is without doubt an effective way to create lasting, meaningful change. (ibid, p. 201)

The Decision Accelerator has been credited as a key factor in two well-documented cases in the healthcare field. Interested readers might look at Worley (2012) and Winby et al (2014).

2.2.2.2.5 Facilitators and Facilitation

In the DesignShop tradition, and likewise in the LGI literature, the term "facilitation" is used in a broad sense. Bryson and Anderson (2000) align with Evans (2016) in defining facilitation as "to make easy."

Shmulyian et al's (2010) analysis equated the role of the LGI facilitator to that of an orchestra conductor, and found the details and nuance of the role to be especially significant, and requiring a lifetime of practice to master. They worry that the lack of formalized training opportunities for LGI facilitators might limit the scope of effectiveness for LGI methods.

According to Franco (2007) and Bryson and Anderson (2000), LGI facilitators are process—not content—experts. To Franco, this is "procedural rather than substantive in nature" (2007, p. 267). I respectfully disagree. From my perspective as a professional practitioner, LGIs' tendency to focus on process parallels Marshall McLuhan's (1964) famous idiom: the medium is the message. In the case of DS, at least, process structure amounts to content structure once the participants are engaged in the LGI process, and it seems likely that this would apply to LGIs in general.

It should be noted, however, that Taylor, Evans, & Bird (2018), speaking for DesignShop, disagree with the notion of the facilitator as pure process expert:

> We reject the notion that the facilitator should be an "objective third party" who does not get involved in content and focuses only on process, performing some kind of umpire or gatekeeper role. It is our experience that the agreements put in place by this model nearly always function more to protect the facilitator than to produce effective results. Instead, the facilitator must use the full range of his/her experience and knowledge to help steer a group to an outcome that meets both their aspirations. (p. 358)

This accords with the 2nd order systems-thinking realization that the practitioner must consider herself to be part of the system-in-focus.

Practitioners will sometimes describe the DS approach to facilitation as "side-of-the-room facilitation." In a DesignShop, the majority of facilitation is achieved by structuring the process, rather than front-of-the-room facilitation of dialogue. Like Future Search (Weisbord and Janoff, 2010), DS believes that teams should self-facilitate wherever possible (Evans, 2016) because, as Wheatley (1992) proposed, people support what they help create.

In the DesignShop context, the facilitator who stands at the front of the room is only the most visible member of a facilitation team (Taylor, Evans, & Bird, 2018). This is also true of Decision Accelerator, which, like DS, relies on a "crew" (Shmulyian et al, 2010).

In a DesignShop, the crew generally takes care of: scribing plenary dialogues (a.k.a. graphic recording), which is valued as a means of capturing large-group dialogue and supporting visual learners; maintaining and organizing the environment (e.g. moving rolling whiteboards, setting up breakout areas); capturing the work being done (e.g. by photographing whiteboards and report-out visuals), and; whatever else might be viewed as valuable. Evans' forthcoming Collaboration Code volume entitled "KreW: Enablers of Group Genius" will provide more detail on this aspect of the practice.

Bryson and Anderson (2000) note a lack of scholarly work on facilitation. At time of writing, this gap does not seem to have been filled.

2.2.2.2.6 Problem Structuring Methods

Some methods, such as Strategic Options Development and Analysis (SODA) and Strategic Choice Approach (SCA), are classified in some literature (e.g. Franco, 2007) as Problem Structuring Methods. Other authors, such as Bryson and Anderson (2000) lump PSMs in with LGIs in general. Mingers and Rosenhead (2004) note the fuzziness of the PSM/non-PSM boundary.

So far as I can tell, two key distinctions set PSMs apart from LGIs in general:

1. PSMs do not necessarily need to engage large groups simultaneously. Franco (2007) reports running PSM workshops with 7 participants. It should be noted, however, that Mingers and Rosenhead (2004) mention a proliferation of LGIs as a subset of PSMs, muddying the picture further.
2. PSMs use some form of systems modelling techniques to support sensemaking around the problem (Franco, 2007).

Mingers and Rosenhead (2004) include some other well-known methods among PSMs, including Soft Systems Methodology (Checkland, 1981) and Viable Systems Model (Harnden, 1990). Soft Systems Methodology also figures as an innovation method in VanPatter and Pastor (2016).

Though a thorough treatment of PSMs lies well beyond the scope of this paper, a distinction that interests Franco (2007) is of special interest to DesignShop as well: modelling.

Unlike the PSMs discussed in the literature, DesignShop is not defined by an explicit focus on systems modelling. It does, however, place emphasis on the use of models. The MG Taylor modelling language (see MG Taylor Corporation, 1997a; Taylor, Evans, & Bird, 2018) is a key sensemaking toolkit for DesignShop practitioners.

The DS modelling language is used to support communication within the community of practice, and between clients and practitioners. Somewhat like the Viable Systems Model, the models in the modelling language endeavour to be generic; they are meant to provide a linguistic/visual scaffold upon which sensemaking about specific problems can take shape.

DS practitioners and clients also make extensive use of systems modelling in the course of DesignShop engagements. Client participants are frequently encouraged to create conceptual "strategic models" of the ideas they are working with. Where appropriate, graphic facilitators on the DS crew are tasked with supporting participant modelling activities.

DS modelling actives are not solely focused on making sense of the problem domain. Instead, modelling is seen to be a core activity that underpins the work at every step. Participants are encouraged to use models to make sense of the problem domain and of proposed solutions. It is also noteworthy that DS does not ascribe to a specific systems modelling approach, nor does it call for the use of any software for modelling, such as that used within Structured Dialogic Design (Christakis and Bausch, 2006).

DS practitioners would certainly concur with Franco's (2007) assertion that graphical models are of value in helping participants make sense of the problem. To

DesignShop practitioners, modelling is a practical skill of critical importance (Taylor, Evans, & Bird, 2018)

2.2.2.2.7 Limitations and Risks

The literature on LGIs identifies a number of potential limitations and risks, many of which apply to DesignShop.

Shmulyian et al note that LGIs are not a good fit for all leadership styles: "the client, and their willingness to take the risks, give up control, and turn solutions to problems over to 'the group,' is critical. These types of leaders, these types of clients, are still a rare commodity in our world" (2010, p. 221). Arena (2009) identified the need for a leadership leap of faith as a critical success factor for LGIs. Franco (2007) points out that PSMs have been criticized for an inability to handle asymmetric power relationships.

Shmulyian et al (2010) noted other potential limitations of these approaches. Since LGIs are systemic, they cannot be used to address personal needs of participants. Additionally, LGIs cannot be expected to work in aligning groups with no bonding context—two groups who do not have stakes in some sort of shared problem or a need to allocate shared resources have no basis for collaboration.

Jorgensen and Steier (2013) noted that while LGIs can serve to reframe activities to permit different sorts of dialogues, it is equally true that instances of LGIs will be embedded in some frames (such as cultural norms, for example) that are beyond their affective scope. In simpler terms: an LGI can be used to temporarily suspend the rules of business-as-usual within its own scope, but cannot be expected to suspend rules and assumptions that lie beyond it. In DesignShop terms, such embedding frames are described as 'higher level(s) of recursion' (Evans, 2016).

2.2.2.2.8 Decision Accelerator: Direct Descendant

Decision Accelerator (DA), an LGI that factors considerably in Shmulyian et al's (2010) widely referenced analysis of LGIs, appears to be directly descended from DesignShop. Though the practitioners publishing about it, such as Winby (e.g. Winby et al, 2014), do not explicitly acknowledge the connection from a methodological perspective, the origins of DA are tied to "built environments" provided by MG Taylor Corporation in a footnote in Shmulyian et al (2010, p. 225). It is implied that MG Taylor's contribution consisted mainly of architecture. While it is undoubtedly true that the collaborative environments and furniture would be a recognizable hallmark of MG Taylor's contribution, a close reading of the literature on DA (Worley, 2012; Winby et al, 2014; Worley et al, 2011; Shmulyian et al, 2010) reveals patterns of small groups iteratively breaking out, reporting out, mixing teams, and "rapid prototyping" of possible solutions (Worley, 2012, p. 54), supported by

rolling white boards, music, and a "crew" (Shmulyian et al, 2010, p. 194). The agendas, language, exercises, and even the architecture-influenced style of visual models described in Worley (2012) are, to the DS practitioners' eye, clearly related to DS.

Though it is safe to assume that DA is descended from DS, it seems likely that it has diverged sufficiently to be deemed a separate method. Literature on DA should not be assumed to apply to DS. It is unsurprising to find an offshoot of DS in the dialogic OD literature. It is my hope that future literature on DA will take time to properly credit the Taylors for their contributions.

2.2.2.2.9 Research Directions

A number of sources propose directions for future research. Bartunek et al (2011) note that LGI practitioners have not shown interest in having their success measured by researchers. Though many anecdotal success stories exist, there is a persistent lack of hard data to back the anecdotes up (Shmulyian et al, 2010).

In addition to a lack of measurement, the theoretical basis for most methods (Bryson and Anderson, 2000), and for dialogic OD in general (Bushe and Marshak, 2009) is not well-articulated. In this vein, Bushe and Marshak (2009) echo VanPatter and Pastor (2016) in noting that "no unifying theory of change has been offered (which may be a good thing)" (p. 362). The implication would seem to be that multiple theories of change might be expected to better describe the phenomena seen in LGI practice.

In a more practical vein, both Shmulyian et al (2010) and Franco (2007) identify a need for research on the craft skills of facilitation. Shmulyian et al (2010) also expect future research to explore the use of digital technologies to permit virtual attendance in LGIs.

2.2.3 DesignShop in Detail

The essence of DesignShop is part LGI, part innovation process methodology. It is a system and method for engaging large groups of diverse stakeholders in the collaborative design of innovation. The modular nature of DS provides a broad and varied range of affordances for innovation designers to employ.

Contemporary practitioners such as Coullomb and Collingwood-Boots (2017) generally bill it as "collaboration design." This is an accurate characterization, but it fails to tell the whole story, and may to some extent be contributing to the lack of broad awareness of the utility of DS. Collaboration is certainly something to be valued, but it says nothing about the types of challenges to be essayed or the results that might be obtained.

According to Matt Taylor (2008a), the Taylor System (including DS) is—in the language of Buckminster Fuller—a social tool. He goes on to say:

> "The Taylor Tool Kit is made of ideas, algorithms, physical tooling, environments, processes, knowledge agent and human agents. The Zone of Emergence provides the architecture by which *a rigorous process can be employed while supporting an open ended emergent result. This relationship between structure-process and spontaneity-emergence is the critical aspect* in regards the facilitation of human creativity both individual and group. To my knowledge, the Taylor Method is the only one which has by deliberate design - in theory and practice - dealt with this relationship *as well as the requisite variety issue*, radical time compression and the many levels of recursion from the individual to global. The Method was designed to be able to match the level of complexity which we humans have created and now face as our greatest challenge." (Emphasis added).

Two aspects of the quote above are of particular relevance in understanding what DS is:

1. A balance between structure and spontaneity intended to support emergence
2. A high-variety tool that aims to satisfy Ashby's law by engaging a large number of stakeholders to amplify the variety of the tool so as to be requisite with high-variety challenges

In essence, then: DesignShop is a high-variety tool that employs systemic design to support emergent collaboration in trans-complex, trans-complicated, and sub-wicked contexts.

In order to effect this, DS practitioners draw on thinking and methods from any and all disciplines that might have value to offer. Potentially valuable concepts are incorporated if they prove effective in practice—if they allow us to do something—irrespective of whether they fit together in any other context.

This habit of incorporating new tools and concepts into the practice, testing and iterating over time, has created a transcontextual hybrid method-of-methods. DS has always been complicated, and it has become increasingly complicated as practitioners have iteratively built upon the foundation laid down by the Taylors and their early collaborators.

As Matt Taylor explains, "it is not possible to follow a description of the MG Taylor System and Method without learning it at least on the familiarity level," and "familiarity requires 6 months to a year" (Taylor, 2008). This is not a barrier to participation, since the system is designed for participants to be able to use it without preparation (Taylor, 2006). It is, however, a barrier to diffusion, and—to some extent—a barrier to innovation within DesignShop practice.

2.2.3.1 Philosophy, Approach, Practice

The compendiousness of DesignShop poses unique challenges to practitioners and scholars. DS refuses to be categorized in the disciplinary terms of academic and scientific research, and views any efforts at simplifying it with an understandable skepticism—simplification is, after all, antithetical to complexity appreciation.

In doing so, it avoids the limitations and assumptions that those disciplinary categories impose—the struggles that Bateson (2016) laments in respect of Systems Theory (discussed in the introduction to this paper)—and remains flexible enough to permit the transcontextual aspirations described in this study. However, in eschewing such categorization, DS makes itself very difficult to describe in concise terms.

With the Collaboration Code series, Evans and his collaborators seek to codify the DS body of knowledge in depth. This is a valuable contribution, but it does little to make

Table 2. How we might organize the DesignShop methodology into Ursell's 3- part framework.

Philosophy	Approach	Practice
The way the practice sees the world; the knowledge accumulated, refined, codified, and passed down through the practice.	How the practice makes use of the Philosophy to design and deliver bespoke Large Group Interventions to address complex problems.	The people and day-to-day work. A viable system that can convert the philosophy into the approach to produce value.
Design principles Evans' Patterns Modular toolkit Modelling language Philosophy of collaborative work environment Learning theory	Systemic Iterative Collaborative Requisite Pragmatic Challenge-specific/bespoke Large group: 20-120 participants	Facilitation team roles: Lead/Front-of-the-room Facilitator; Solution Designer; Process Facilitator; Scribes; "Knowledge Workers" Clients Partners (e.g. consultants) Space/environment Culture of work

DesignShop more accessible to scholars and practitioners in parallel niches.

By contrast, this study attempts to describe the practice in "outside-in" language, and to identify a set of specific details that differentiate DS from similar methods such as Future Search (Weisbord and Janoff, 2010). This is not a simple task. Readers who are deeply familiar with DS will undoubtedly have varying perspectives on how to explain what DS is, or what sets it apart.

Charlie Ursell, Practice Lead at Watershed Partners, a boutique systems design and facilitation firm that uses the DS methodology, proposes a simple 3-part framework to describe DesignShop (Charlie Ursell, personal communications, 2017):

1. Philosophy.[4] Analogous to a research paradigm, the DS philosophy, including the codified body of knowledge, is the way that DS sees the world. The philosophy provides the foundation upon which practitioners base their practices and devise their approach
2. Approach. The means by which the Philosophy is used to create value; cases of application of the Philosophy.
3. Practice. The way things are done in the ongoing practice, including tacit knowledge and culture of the community of practice.

Ursell's framework is helpful in providing some categories we can use to parse the undifferentiated mass of theory and practice that comprises DS. Unfortunately, none of the authors who have thus far published literature about DS has organized it along the lines of Ursell's framework, so we are left to try to make sense of Evans' *Collaboration Code* through the lens of Ursell's framework.

2.2.3.2 Philosophy

Given that the Philosophy includes the codified body of knowledge and worldview of the practice, then the Philosophy is the sprawling, unbounded agglomeration of concepts, models, tools, and patterns that has accumulated gradually through iterative honing over the decades that the approach has been in use.

Based on Evans' Collaboration Code series (2015; 2016; 2018, with Taylor & Bird; additional volumes forthcoming), the Philosophy consists of, at a minimum, Patterns, Tools, and Models. Planned forthcoming volumes will cover: KreW (facilitation teams); Centers (collaborative environments), and; KnetWorks (networked global collaboration). We may expect that these additional volumes will add more to the Philosophy category.

4 Ursell uses the word Model here instead of Philosophy. I have substituted Philosophy to reflect a dialogue held at the 2016 Happening conference, where DS practitioners from around the world converged on "philosophy" as the term that best-describes the DS perspective.

While it lies outside of the scope of this paper to enumerate the Philosophy in a comprehensive way, some key aspects—design principles, modular toolkit, and the modelling language—are discussed below.

2.2.3.2.1 Design Principles

Based on professional experience and a thorough reading of all available DS literature, I have identified a handful of key design principles that DS practitioners keep top-of-mind when designing and delivering DS sessions. Each of these is discussed in Evans' (2016) "Patterns."

2.2.3.2.1.1 Iteration

The importance of iteration to DesignShop cannot be overstated. The entirety of any DS application can be understood as a recursive set of iterations. Evans (2016) encourages practitioners to educate their sponsors and participants in the value of iteration in each and every DS engagement. Evans (ibid) notes that clients are likely familiar with the concept of iteration, but they may nevertheless be more accustomed to polishing their ideas into PowerPoint slide decks than sharing the early iterations of their work with their peers.

In the DS context, everything should be iterative. From the initial work of finding the problem to the final polishing of the synthesized outputs at the end of the process, practitioners should treat all work—their own and their clients—as iterations.

2.2.3.2.1.2 Time Compression

In order to maximize the value of iteration, DS practitioners design their interventions to put participants under some level of time pressure. Evans (2016) invokes the "80/20 rule," and recommends encouraging participants to think of their iterations as doing the 20% of the work required to get an 80% solution. When repeated iteratively, he argues, this produces a far superior result versus a linear approach.

2.2.3.2.1.3 Recursion

Evans (2016) credits Beer's (1972) Viable Systems Model as the source of this design principle. Instead of traditional complicated methods of organizing (e.g. hierarchical organizations or linear workshops), DS favours a trans-complex approach that scales recursively, and cedes maximum autonomy to the dialogic human system at each successive level of recursion.

Recursion can be seen in many of the models in the DS modelling language. Notable examples include the Creative Process model (Taylor, Evans, & Bird, 2018, pp. 192-198) and the Zone of Emergence (ibid, pp. 202-208).

Evans (2016) reports modelling the (Ernst & Young; later Capgemini) ASE network on the VSM (Beer, 1972), and advises practitioners to consider client challenges from at least 3 levels of recursion—one level above and one level below the challenge-in-focus. The level above can be understood to be the broader context in which the problem presents—the embedding frames mentioned by Jorgensen and Steier (2013)—and the level below to be the personal perspectives, needs, and constraints of the individual participants in the DesignShop.

2.2.3.2.1.4 Variety and Parallel Processing

DesignShop was created as a way of meeting complex challenges with requisite variety (Coullomb and Collingwood-Boots, 2017). In general, DS amplifies the variety of the system seeking to address a problem by making space for more (20 to 120) people to join in the dialogic co-design process.

This wouldn't be very effective if this large group were to work as a whole, in plenary. Quality dialogue entails one and only one voice speaking at any time. Practitioners, therefore, seek to limit the time the group spends in plenary settings, and subdivide the participant pool into breakout teams of 7-8 people for most exercises. These "parallel teams" are favoured even in cases where each team is assigned the same work.

Since so much of the work in a DesignShop is conducted in parallel teams, the membership of these teams offers DS practitioners and sponsor co-designers an interesting set of affordances with which to play. The "team lists" are always carefully customized in advance of a DesignShop. In general, teams are designed for maximum cross-silo mix of perspectives in the earlier phases of the event, and tend to be clustered more by areas of responsibility or expertise as the event reaches its later phases. In practice, teams can be carefully managed to bring specific perspectives and perceived biases into dialogue over specific issues at specific times. This can be a very useful tool in more politically fraught DesignShop applications.

2.2.3.2.1.5 Feedback

Feedback, Taylor, Evans, & Bird note, "is a Term of Art from the field of cybernetics that has become muddled through popularization and misuse" (2018, p. 32). The DS perspective on, and use of, feedback hearkens back to the cybernetic era. Taylor, Evans, & Bird define feedback as "the message from a sensor of a system to the

controller of a system of the difference between expectation and performance" (ibid, p. 32), and place emphasis on second-order feedback, which Wiener (1948) termed *feedback of a complex kind*. Such feedback not only helps the system-in-focus learn about itself, but also provides learning input that the 'control system' (e.g. the DesignShop practice) can use to improve its functioning.

2.2.3.2.2 Modular Toolkit

It is tempting to place the DS toolbox in the Approach, rather than lump it in with the Philosophy, but I have elected to reserve the Approach for the actual DesignShop interventions—the individual challenge-specific iterations of the DesignShop process. The toolbox, which is well-described by Evans in his (2015) Tools, is a modular set of tools that is drawn on by practitioners in their design of the Approach.

Many of the methods outlined by Evans (2015) would be familiar to design researchers. For the most part, they are workshop activities. As Gordon Eby of US-based DS boutique Collective Next explained: it's not the exercises that differentiate DesignShop; it's how we link them together (personal communication, December 19, 2018). This study will draw some specific conclusions as to how DS practitioners link methods together to create bespoke LGIs.

The modularity of the toolkit confers a distinct advantage on DS versus many other LGIs described in the literature. Whereas most methods appear to prescribe a relatively constant process, and use more or less the same tools from event to event, DS has a deep and broad modular toolkit, and has been using that 2nd order feedback discussed above to drive iterative honing and growth of the toolkit for decades. Moreover, DS can update and add new tools to the modular toolkit to keep pace with changing times and shifting expectations.

2.2.3.2.3 Modelling Language

Like many systems approaches, DS places significant emphasis on systems modelling to support sensemaking activities. However, DS does not subscribe to a particular modelling method, nor does it specify where in the process modelling should be used. Instead, in keeping with its pragmatic philosophy, DS encourages the use of models of any and all sorts, wherever they might prove useful.

This inclusive and practical approach is typified by the MG Taylor Modelling Language (MG Taylor Corporation, 1997a), a set of 17 visual models that provide shared language and support collaborative sensemaking within the practice. According to the MG Taylor website (ibid), the 17 models on the web were originally created to supplement *A Strategic Modeling Language for the 21st Century*, a sec-

tion of the MG Taylor Corporation Manual. However, by the time I joined the practice in 2001, the models on the web had become the de facto standard and a key shared reference within the practice.

In 2018, Taylor, Evans, & Bird published an updated set of these models along with many others. Like the website, the new book provides textual descriptions to accompany the models.

A detailed exploration of the modelling language lies outside the scope of this study, but it is important to underscore the apparently unique role that the models fill in DS practice. Rather than favouring any specific modelling technique, DS views modelling as a practical skill and a core activity for practitioners, and encourages participants to model their problem domains and potential solutions in any way they find valuable.

2.2.3.2.3.1 Glass Bead Game

According to the MG Taylor Website (MG Taylor Corporation, 1996), though the models from the Modelling Language can offer insight when standing alone, they are best used in groups of two or more in a "glass bead game," a term taken from Herman Hesse's (2000; originally published in 1943) *The Glass Bead Game*. In that novel, the glass bead game is an intellectual pursuit of the highest order, where the brightest minds make deep connections between adjacent fields of study.

While practitioners rarely mention Hesse's book, they are accustomed to using multiple models in conjunction to help make sense of complex contexts. According to Taylor, Evans, & Bird, "as a Term of Art for us, our version of the Glass Bead Game is a form of play in which we translate current conditions into design solutions by using the models as catalysts and filters" (2018, p. 3).

This can be seen in the applied practice. For example, DesignShop agendas can generally be mapped against two different creative process models: Scan Focus Act (ibid, p. 291), and the Creative Process Model (ibid, p. 190). See 2.2.3.3.2 Intervention Co-design below for more on this.

The implications of this glass bead game approach to modelling are significant, and twofold:

1. Whereas some systems modelling approaches seek to use a specific modelling method to comprehensively represent the system-in-focus (e.g. as in Structured Dialogic Design, which uses software to generate root cause analysis outputs), in DS, models must only meet the test of ringing true and providing value in practice. They need not be comprehensive, since they can be combined with other models to help describe more complex states of affairs. In this way, the MG Taylor models are indeed much like a language.

2. The use of a portfolio of models to create a language has the corollary that the models are, in essence, modular. This opens the door to incorporating new models as the approach and the times and challenges-in-focus evolve.

In the context of this study, this second implication is significant, since it allows us room to incorporate Strategic Foresight models such as the Futures Cone (Voros, 2017) and Six Pillars (Inayatullah, 2015) without needing to retool the broad approach.

2.2.3.3 Approach

As of early-2019, the best published description of the typical overall process can be found in Coullomb and Collingwood-Boots (2017). Readers seeking a detailed description of the applied approach would do well to start there.

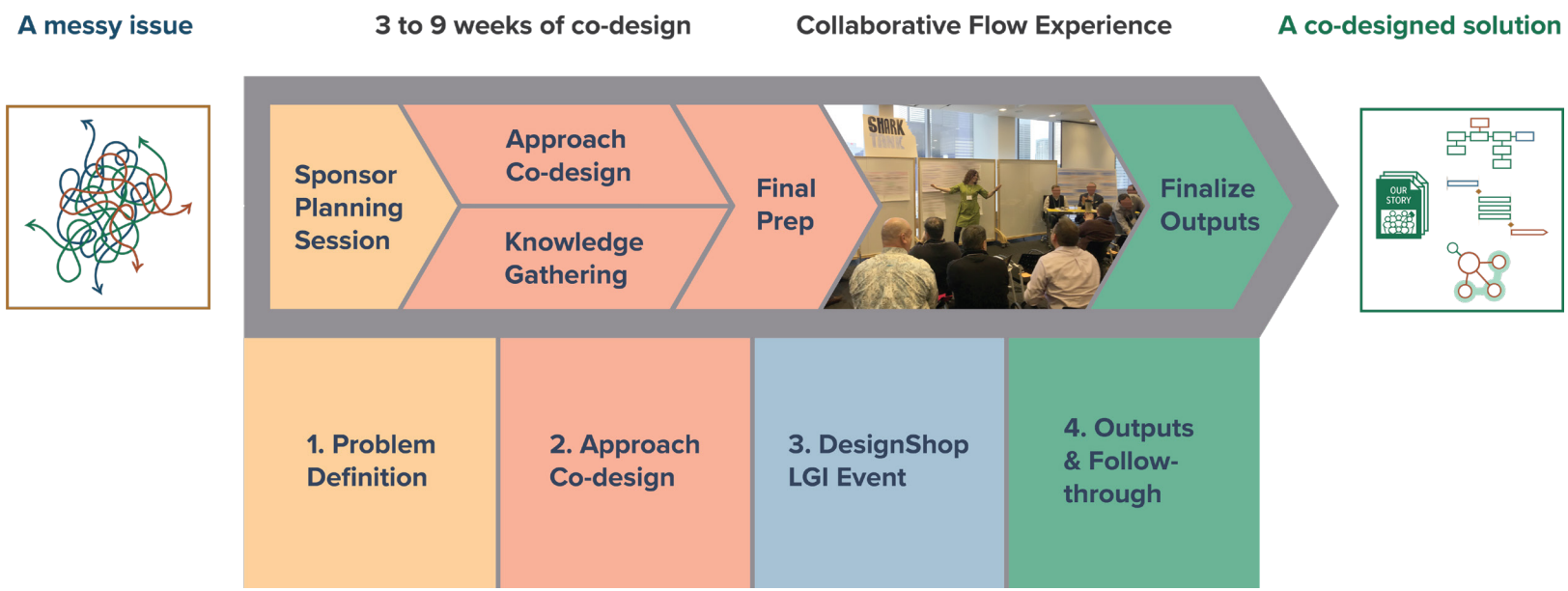


Figure 3. A depiction of the DS engagement model used in my professional practice, modified to reflect the 4-stage framework used in this study to describe the DS Approach.

For the purposes of this analysis, we will consider a typical DS application to have 4 stages:

1. Problem Definition
2. Intervention Design
3. DesignShop LGI Event
4. Outputs and Follow-Through

2.2.3.3.1 Problem Definition

Each DesignShop engagement begins by "creating the problem"—defining the problem to be solved. The practice defines a problem as the gap between the current condition and the future vision, and emphasizes the distinction between a condition (i.e. an issue; a state of affairs) such as "low literacy" and a problem, which would require the addition of a vision for the future. (MG Taylor Corporation, 1997c, July 4)

The act of creating/finding the problem, describing the gap between the envisioned future and the thus-problematized present, is presumed to give rise to creative tension: a desire on the part of stakeholder participants to make the vision real (Taylor, Evans, & Bird, 2018). The DS belief in generating creative tension through problem finding/framing is typical of LGIs in general (Bushe and Marshak, 2009).

In many contemporary practices, including mine, problem definition is split into two layers: problem finding, and; problem framing. Problem finding includes DS problem creation, and outputs as a purpose statement (e.g. "how might we…") plus a description of the scope that is open for change and any "givens" or "non-negotiables," and should also identify a Sponsor Design Team.

Problem framing supplements the now-found problem by listing: the "hard" outputs to be created; the "softer" outcomes such as "alignment" and "commitment" being sought; the inputs needed (e.g. relevant research and analysis), and; some description of the desired participant group.

The problem frame should be co-designed iteratively, and revisited as necessary with each subsequent iteration of work until the close of the Focus phase of the LGI Event portion of the engagement.

Since the Sponsor Design Team is only a subset—and frequently a skewed one—of the large group, this iterative treatment of the problem frame is critical to the integrity of the large-group codesign phase of the process. Practitioners can rely on the SDT to complete these first framing iterations of the intervention safe in the knowledge that the large group will test and potentially shift that framing in the Scan phase of the LGI Event.

Sponsors will frequently worry that the large group will reject their framing. In practice, this is a healthy worry that keeps the SDT honest. Practitioners should be worried if their SDT believes that they cannot frame the problem in a way that the large-group will be willing to build upon.

2.2.3.3.2 Intervention Co-Design

This is where DS practitioners engage in their version of Hesse's glass bead game, using the design principles, tools and models from the Philosophy to design a conceptual scaffold to accommodate and focus the dialogic design activities of the large group.

Once the problem has been defined, a Design Team, generally comprised of one or two DS practitioners plus the Sponsor Design Team and, in practices within consulting companies, some representatives from the consulting project team, is established. This Design Team undertakes the work of co-designing a bespoke approach proposed for use in the LGI Event. Since each DesignShop is unique, the specific work undertaken to design the intervention varies highly.

In general, this work can be divided into two streams: knowledge gathering and synthesis into prepared inputs, and; the design of the structures of participation, the outputs being the draft agenda, customized assignments, and carefully crafted team lists.

Practitioners take care to emphasize the iterative nature of the work in this phase. It is generally conducted through a series of meetings over the course of several weeks, and each meeting begins by revisiting and iterating the problem frame. The outputs of the Intervention Design process are always described as being drafts or iterations, since the large group will be empowered to further iterate the problem frame during the DesignShop LGI Event, and the agenda and assignments might be modified during the event if needed. In most professional practices, the proceedings of the co-design process are captured in an Event Design Document

Over the course of the co-design process, the Design Team leads the co-creation of the following outputs:

1. Draft "straw dog"[5] agenda
2. Prepared inputs
3. Written assignments
4. Team lists

5 The draft agenda has long been known within the practice as a "straw dog." Evans (2015, p. 58) describes this as a "playful alternative to the borderline sexist straw man."

Draft "Straw Dog" Agenda

The Straw Dog is a highly-detailed representation of the proposed agenda for the LGI event. In order to create one, practitioners will select Scan and Focus modules from the modular toolkit—well-described in Evans (2015)—and fit them into an overall framework that fits the time allotted. Each module must be customized to some degree, and in some cases, new modules will be created or imported from outside the DS body of knowledge.

By the close of the Intervention Co-design process, the Straw Dog will specify proposed timing down to 5-minute intervals, identify case-specific team foci and themes for each module, and all other particulars that the team can specify in advance. The goal is to be extremely prepared in a contingent sense to facilitate an agile approach to the agenda during the DesignShop itself.

Prepared Inputs

Whatever knowledge or facts that the Design Team deems potentially valuable are gathered, and prepared in advance. There are two broad categories of inputs: those needed for specific modules, and; those that might be valuable, but are not explicitly called for to complete assignments. In practices within management consultancies, these inputs are often prepared by the line-of-business consultants, who are deemed to be subject matter experts in the domain.

Written Assignments

DS favours the use of written assignments wherever possible. Most written assignments consist of some sort of context that explains the exercise, and—critically—triggering questions that are application-specific, and map to the problem frame. The importance of assignment writing, and of the triggering questions in particular, cannot be overemphasized. Since the participants will spend most of the LGI Event in small self-facilitated teams, the written assignments are the central tool through which facilitation is conducted in breakouts during the DesignShop.

Team Lists

The composition of those self-facilitated breakout teams provides valuable affordances to the Design Team. Participants bring different stakeholder perspectives, personalities, working styles, biases, etc. A Sponsor Design Team that knows its people well can take care to mix perspectives and specializations to maximize the value of each module.

Early Iterations as Preview

In practice, in order to co-design the DesignShop, the Design Team will have to work through many of the challenges that the larger group will need to grapple with during the LGI Event. These early iterations provide valu-

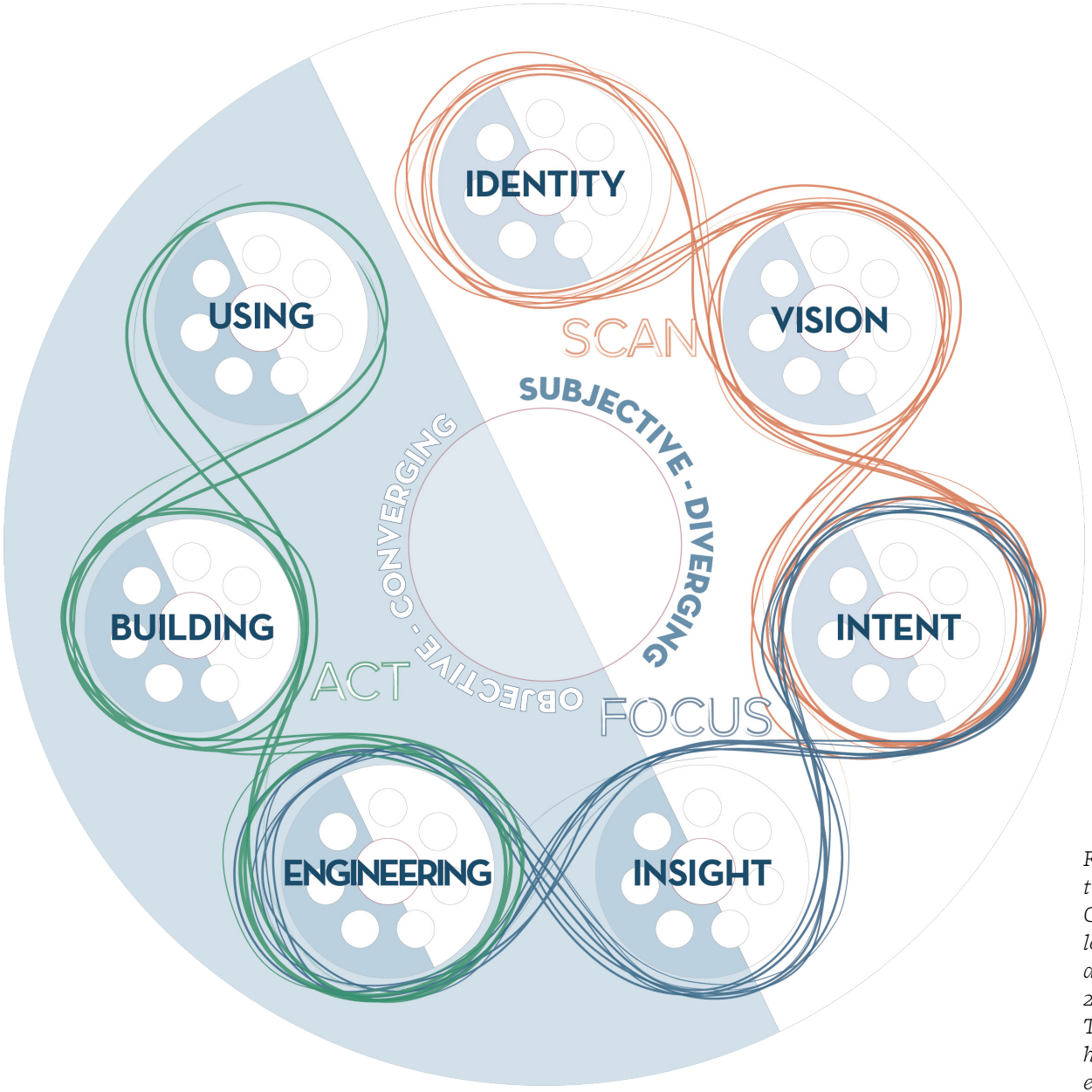


Figure 4. A hybrid version of two MG Taylor models. The Creative Process Model (Taylor, Evans, & Bird, 2018, p. 190), and Scan Focus Act (ibid, p. 292). All rights reserved by MG Taylor, the original copyright holder to the underlying models.

able clues to practitioners as to what challenges the larger group is likely to face in the DesignShop itself.

2.2.3.3.3 DesignShop LGI Event

The most intensive and recognizable aspect of the DS approach is the LGI Event—the DesignShop itself. Traditionally, DesignShops should be 3 or 4 days in length, and should involve somewhere between 20 and 120 participants. Many contemporary practices take a less rigid view of how long the event should be, and are experimenting with varying formats. Our focus here remains on large-group collaborative design for complex contexts, but we'll take a more flexible view of session length. Through practice, it has become clear that significant value may be delivered through 1 or 2-day length LGIs designed in the DesignShop mode, so session length is probably best negotiated on a case-by-case basis. That said, it should be acknowledged that the volume of work done—and hence value delivered—from a DesignShop is believed to accrue non-linearly, so longer sessions deliver geometrically more value.

Each DesignShop is a unique, carefully crafted architecture of participation consisting largely of iterative rounds of work conducted in small teams of 6 to 8 participants. The outputs from the Intervention Co-Design phase are combined, and brought to life, and filled with the dialogue and exploration of stakeholder participants.

Figure 4 depicts two MG Taylor models combined. The Creative Process Model is adapted and shown in a form that depicts its recursive nature. A second creative process model, Scan Focus Act (Taylor, Evans, & Bird, 2018, p. 292) is overlaid on top. The need to cycle through each phase multiple times, iteratively, is alluded to by the thin curving lines in the Scan Focus Act portion of the model. This hybrid model provides a partial depiction of how the pieces come together. As discussed above, the detailed Straw Dog agenda is treated as a draft. The DS Facilitation Team, most especially the Lead Facilitator, will adjust the plan for the session as needed, on the fly, based on the progress that the participants are making.

2.2.3.3.4 Outputs and Follow Through

Over the course of the DesignShop, the facilitation team takes care to capture all participant work. This is largely accomplished by photographing all the work (whiteboards, etc.) that the participants create. In larger events, ensuring a comprehensive capture of all participant work can require a significant amount of carefully organized effort on the part of the DS crew.

In this final stage of the Approach, DS practitioners convert the outputs of the LGI Event into deliverables that the participants can use to follow through on the plans and commitments they've made in the session. Traditionally, the DS Facilitation Team creates two deliverables in the 48 hours following the LGI Event: a compendium, and; an executive summary.

The compendium generally consists of a chronologically organized file/folder archive of all work from the session. The goal here is to furnish the client with a detailed record of their dialogue, to ensure that they retain all knowledge created during the event. Since the compendium consists largely of photographs of whiteboards and other rough iterations, it is typically not of much use to people who were not present at the DesignShop event.

The executive summary is generally a polished output that describes the outputs of the Act phase of the event, and is intended to communicate the outcomes to audiences who were not present at the DesignShop.

The quick turnaround of 48 hours is intended to help clients leverage the momentum coming out of the DesignShop.

2.2.3.4 Practice

Ursell's framework is rounded out by the Practice, the working culture that leverages the Philosophy to repeatedly and reliably deliver the Approach. Since the Practice is the least documented aspect of the DesignShop methodology, there is little in the way of literature to reference. However, some elements common to the practice can be quickly enumerated.

In keeping with the 2nd order Systems approach, Evans (2016) advocates conceptualizing the Practice using the Viable Systems Model (Beer, 1972).

In tangible terms, a DesignShop practice consists of a team who fill a variety of roles. In the DesignShop tradition, the majority of this group are known as Knowledge Workers (KWs), or KreW. KWs are typically freelancers who are hired for a broad set of creative skills. DesignShop skills are learned through practice; there is no school that one can attend, so KWs build their skills and knowledge through working in the practice.

2.2.4 Summary

DesignShop is a category-defying innovation methodology for designing and delivering bespoke systems-based Large Group Interventions in trans-complicated, trans-complex, and sub-wicked contexts. The Philosophy of the meth-

odology has always been large and complicated, and has become even more so over the decades it has been in use thanks to placing value on 2nd order feedback, and a tendency to eschew parsimony or simplicity in any form so as to prioritize complexity appreciation. A pragmatic philosophy that grounds the approach in material results balances the transcontextual aspirations and ambitious vision of its founding partnership. Despite being nearly 40 years old, the practice remains vital and growing.

In the next section, we will explore Strategic Foresight and Alternative Futures in order to set the stage for the Foresight Enhancement portion of this study.

2.3. STRATEGIC FORESIGHT AND ALTERNATIVE FUTURES

As Scharmer and Kaufer (2013) explain, if we are to create the future we want, we must first let go of the present. With this in mind, LGIs'—DS included—claim to design "desired futures" for whole systems would appear to be missing some key steps. Research into Strategic Foresight, including studies of its effect on cognitive bias in decision making, suggests that the decisions we make in pursuit of preferred futures can be improved if we first consider a range of possible and plausible alternative futures (Schoemaker, 1993; Wulf and Meissner, 2013).

Hoping to fill this gap, this study seeks to explore the incorporation of alternative future scenarios, asking "In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight?"

Since it is thoroughly documented in the literature, Strategic Foresight will not require as deep an exploration of context.

2.3.1 Connections to DesignShop

DesignShop has been interested in foresight since its inception (Coullomb and Collingwood-Boots, 2017). Though the DesignShop process has found application in more tactical arenas than Matt and Gail Taylor had originally envisioned, scenario-based assignments are common within DS practice today. However, the scenarios in use within DS are typically far less involved and detailed than those found in corporate foresight units or futures think tanks.

Aspects of scenario thinking are also found in the DS modelling language in the Best Case Worst Case model (Taylor, Evans, & Bird, 2018, p. 77), which links directly to the SF model proposed by Schwartz in 1991.

DS practitioners are routinely called to help clients answer challenges that require a perspective on the future. In

the language of Russell Ackoff, such decisions are said to have "futurity"; they are decisions that will affect how the future unfolds (Van der Heijden, 1997).

Indeed, in our contemporary world of constant change, driven ever-forward by technology innovation, foresight is becoming increasingly important for all major decisions. Even for decisions with low futurity, it is no longer safe to assume that the world we inhabit at time of decision will be the same as the world we are designing for, which we must assume to lie several months to a few years into the future. In my view, any problem of sufficient complexity to merit the gathering dozens of stakeholders for an intensive design session will require some degree of foresight. We should seek to be able to "future-proof" decisions, since we must live with those decisions into the future. Moreover, a practice of Collaborative Sustainable Innovation Design must to help its clients lead toward a preferred future.

2.3.2 Definitions

A defining feature of SF is its focus on multiple or alternative versions of the future (Inayatullah, 2015). These alternative futures are communicated in the form of scenarios. In the management literature, SF is often referred to as scenario planning.

Reflecting the study's transcontextual aspirations, this paper will take an inclusive view of strategic foresight. The literature reviewed includes authors known from the management literature, such as Van der Heijden (1997) and Chermack (e.g. 2018), and those known for futures studies in more general contexts, such as Inayatullah (e.g. 2015), Candy and Dunagan (2017), and Dator (e.g. 1979).

The practice-derived history of SF has generated some blurriness within the discipline (Spaniol and Rowland, 2018). Chermack and Lynham (2002) identified 18 definitions of scenario planning from the literature. This plurality of perspective should not surprise us; the future is of interest in a general and all-encompassing way. Contextualized by the accelerating pace of technology innovation, demand for means to make sense of possible futures seems likely to continue to increase.

Sohail Inayatullah's (2015) book "What Works: Case Studies in the Practice of Foresight" defines future studies as "the systematic study of possible, probable and preferred futures including the worldview and myths that underlie each future" (ch 1; loc. 132). This fairly broad definition focuses our attention on the need to study alternative futures (possible and plausible) before endeavouring to co-design a preferred future, and also includes space to consider myths and worldviews that might need to be challenged before we can segue to pragmatic action. Of the literature reviewed, the 6-Pillars approach outlined by

Inayatullah (2015) was deemed to be the best potential SF analogue for DesignShop. Like DS, 6 Pillars is a meta-method, containing a number of steps. Accordingly, we will use will use Inayatullah's definition of SF.

The scenario, the "archetypical product of futures studies" (Bishop et al, 2007, p. 1), will be defined according to Porter's (1985) definition: "An internally consistent view of what the future might turn out to be—not a forecast, but one possible future outcome" (p. 63). Porter's classic definition provides a helpful contrast between foresight and forecasting.

2.3.3 History

The disciplines of strategic foresight and futures studies, which we will refer to as "strategic foresight" (SF) for the purposes of this study, date back to the late 1940s (Rohrbeck and Kum, 2018). Like so many 20th century innovations, strategic foresight emerged from the activity of the Cold War-era military-industrial complex. Herman Kahn and Andrew Wiener of RAND corporation, lavishly funded by the US military, developed the use of scenario thinking to support military strategy (Spaniol and Rowland, 2018). Concurrently with Kahn and Wiener's work in the USA, Gaston Berger developed the foundations of the French school, the Centre d'Etudes Prospectives (ibid).

In the 1980s, strategic foresight gained significant attention in management thinking thanks to stories of Royal Dutch/Shell's success in garnering competitive advantage using the method (ibid). Over the next few years, practitioners from Shell's team published many papers (e.g. Wack, 1985; Schoemaker, 1993) and books such as Schwartz's (1991) The Art of the Long View.

In the decades since, application of SF has grown considerably within corporate strategy (Hammoud and Nash, 2014), and also in other spheres of human activity such as public policy. Despite growing beyond its corporate roots, a significant portion of SF literature remains focused on its application in business contexts.

2.3.4 Between 100,000 feet and agility

Strategic Foresight has tended to adopt the "100,000-foot view." In the corporate sphere, it has been largely concerned with strategic positioning (Hammoud and Nash, 2007). Futurists have tended to be interested in time horizons of 25 years or more (Wendy Schultz, lecture to SFI students, February 26, 2016). Within time horizons of such length, interesting stories of radical change can unfold and instruct.

This long-term focus may be interesting, but it leaves a significant gap to be filled, and that gap appears to be widening as change continues to accelerate. According to Ash

Kumar, a Vice President in Capgemini's UK ASE, though decision makers in organizations, such as the clients of the ASE, were comfortable charting a course 3+ years into the future as recently as 5 years ago, they are challenged to plan more than a year to 18 months in advance in today's environment (Ash Kumar, personal communications, 2017).

Van der Heijden's canonical (1997) paper instructs the scenario practitioner to "start with the search for territory where the client feels insecure, puzzled, or worried" (p. 9). To the contemporary consultant, this perspective is clearly dated. In today's context, insecurity, puzzlement, and worry are the zeitgeist itself. Inayatullah's (2015) description of CEOs and mayors feeling so beset by current worries as to be unable to even discuss the future provides a more realistic picture of the challenge that foresight practitioners face in addressing contemporary audiences.

Faced with the challenge of massive and continuous change, decision makers have aimed to make their enterprises more agile (Leybourn, 2013). The underlying logic is clear: since we cannot predict the future, let us wait as long as possible before committing resources, and let us commit resources in small increments.

Agility makes a great deal of sense in fast-changing times, but it may not serve the needs of our future selves. Agile thinking amounts to "wait and see." It is fundamentally risk-averse, and above all, reactive. How are we to reconcile that with the mounting mess of complex challenges that we, as a species, face?

This study argues that we must fill this gap between 100,000 feet and agility by creating a means to link planning and decision-making in organizations to the pursuit of a desired future for the organization and a preferred future for humanity.

2.3.5 Futures and Design

Recently, SF and design have found common ground. This may be attributed to a general interest in design for complexity taming that can be traced back to Rittel and Weber (1973). As mentioned above, the practice shift in design described by Sanders and Stappers (2008) indicates a need for foresight.

Candy and Dunagan (2017) go so far as to describe the connection between design and futures as "a love affair" (p. 137). According to them, foresight practitioners' interest in design has grown in response to a desire to bring SF out of the abstract—to bridge the gulf of perception, and to "enable a deeper engagement in thought and discussion about one or more futures than has traditionally been possible through textual and statistical means of representing scenarios" (Candy, 2010, p. 3).

Of particular note in Candy and Dunagan (2017) is this passage:

> A central challenge, perhaps indeed *the* central challenge, for the next generation of foresight practitioners will have less to do with generating and broadcasting ideas about the future, than it *will have to do with designing circumstances or situations in which the collective intelligence and imagination of a community can come forth.* To design and stage an experience of the future is one class of activity. To attend to the design of processes whereby such experiences are designed – making structures of participation – is another. (p. 150)

To the DesignShop practitioner, attending to the design of structures of participation is a central focus.

Candy and Dunagan (ibid) continue: "the affordances of group creativity and cognition using an experientially augmented toolset, and the details of what works best in what circumstances, are only now beginning to be worked out" (p. 150).

It would seem that SF may be engaging disciplinary myopia here. While the affordances of group creativity are still being worked out in foresight, and perhaps even in design, they are comparatively well-understood in a dialogic OD context. What can DesignShop and other LGIs teach foresight practitioners seeking to design structures of participation?

2.3.6 Six Pillars

Though the intuitive logics approach to scenario development popularized by Shell and the Global Business Network has received the most attention in the literature, Bishop et al (2007) identified more than 24 alternative-scenario methods.

Inayatullah's (2015) 6 Pillars approach provides a good framework for SF that facilitates comparatively easy comparison with DS. Like the DesignShop approach, it is a broad methodology that makes room for a variety of techniques and tools. Inayatullah's 6 Pillars—mapping, anticipation, timing, deepening, creating alternatives, and transforming—are described in table 3 on the following page.

2.3.7 Summary

A review of the strategic foresight literature suggests that we should consider alternative future scenarios before attempting to design visions of preferred futures. Despite deep connections between DesignShop and SF, the DS practice literature has not seen an update of its perspective on SF in recent decades, and does not reflect this critical component of SF best practice. DesignShop is hardly alone in this; other LGIs such as Future Search and Appreciative Inquiry Summit also endeavour to design

Table 3. Inayatullah's (2015) 6 Pillars

	Pillar	Key Questions
1	Mapping	What is the history of the issue? Which events and trends have created the present?
2	Anticipation	What are your projections of the future? If current trends continue, what will the future look like?
3	Timing	What are the hidden assumptions of your predicted future? Are there some things taken for granted (about gender, or nature or technology or culture)?
4	Deepening	Is there a supportive narrative, a story? If not, create a metaphor or story that can provide cognitive and emotive support for realizing the desired future.
5	Creating alternatives	What are some alternatives to your predicted or feared future? If you change some of your assumptions, what alternatives emerge?
6	Transforming	What is your preferred future? How did you get here? What steps did you take to realise the present?

target future states without first considering alternative futures.

Seeking to bridge the "gulf of perception" (Candy, 2010), SF has shown an interest in design in recent years, and has more recently become interested in the design of "structures of participation" (Candy and Dunagan, 2017), but has yet to recognize that LGIs such as DS might have much to offer to practitioners seeking to design such structures of participation.

I argue that SF's tendency to take a "100,000-foot view" and focus on longer time horizons creates a gap which must be filled. Leaders and decision makers, often the clients of LGIs, increasingly need shorter-term foresight for decision support.

This study aims to demonstrate that this more agile flavour of SF can be integrated into the DesignShop approach. In the next chapter, we will explore the methodology used in this proof-of-concept exploratory case study.

3. METHODOLOGY

A case study approach (Yin, 2014; Breslin and Buchanan, 2008) was used to explore the integration of enhanced strategic foresight (alternative futures scenarios) and the DesignShop approach.

The goal was to arrange a fairly "typical" DesignShop case—a consulting engagement culminating in a large-group facilitated session, intended to address a significantly complex real-world challenge. OCAD University served as the client for the engagement.

The challenge: to develop a strategy for Experiential and Work-integrated Learning for OCAD University. The Ontario Ministry of Advanced Education and Skill Development (MAESD) had announced new policy around EL/WiL, and related funding. OCAD U established an Experiential and Work-Integrated Learning Task Force, and charged it with developing a strategy.

> The task force is responsible for developing a comprehensive Experiential and Work-Integrated Learning Strategy at OCAD University, including recommendations for key models, activities and associated timelines and resources that will enable OCAD U to grow self-sustaining curricular and co-curricular experiential education and work-integrated learning opportunities that build on existing programs and offerings. (EL/WiL task force terms of reference, p. 1)

The task force was not simply charged with responding to MAESD's EL/WiL initiative. Rather, the task force sought to develop a strategy intended to meet the needs of the various stakeholders in the University, with a view to aligning the strategy with the MAESD initiative requirements where possible.

Since all DesignShops are bespoke, strictly speaking, there is no such thing as a "typical" DS engagement, but there are common characteristics that make certain needs more

appropriate (and hence, more typical) than others. Aspects of OCAD's EL/WiL challenge made it an appropriate fit, including: multiple stakeholder groups with varying needs and perspectives, and; a "fuzzy" issue worth tackling. Given that the strategy was required to serve the needs of the University for a minimum of five years into the future, and would provide guidance for capital expenditure, the challenge had some futurity for the stakeholders in the system, so some degree of foresight was merited.

3.1. CASE STUDY DESIGN

Yin's (2014) canonical text on case study research recommends a case study as the preferred approach in situations such as this one, which features: "how" or "what" question(s); a complex social phenomenon that cannot be easily separated from its context; a focus on contemporary events (as opposed to historical ones), and; circumstances in which the researcher cannot control the relevant behaviour of the subjects. Yin explains that "the case study allows an investigation to retain the holistic and meaningful characteristics of a real-life event" (2014, p3). In this particular case, a holistic view of the real-life experience of the DesignShop process is of utmost importance.

Following Yin's (ibid) model, this study should be classified as an exploratory single case. Exploratory designs are recommended by Yin for phenomena not previously accessible to researchers, as appears to be the case with DesignShop. Since each DesignShop is unique, a single-case design was necessitated (ibid). The lack of prior research documenting the DesignShop approach provided further rationale for the single-case design, since I had no prior research upon which to base theoretical statements or hypotheses (ibid). In light of the need to explore the DesignShop process and the addition of enhanced foresight to that approach, an embedded design was used (see table 4 below for a summary).

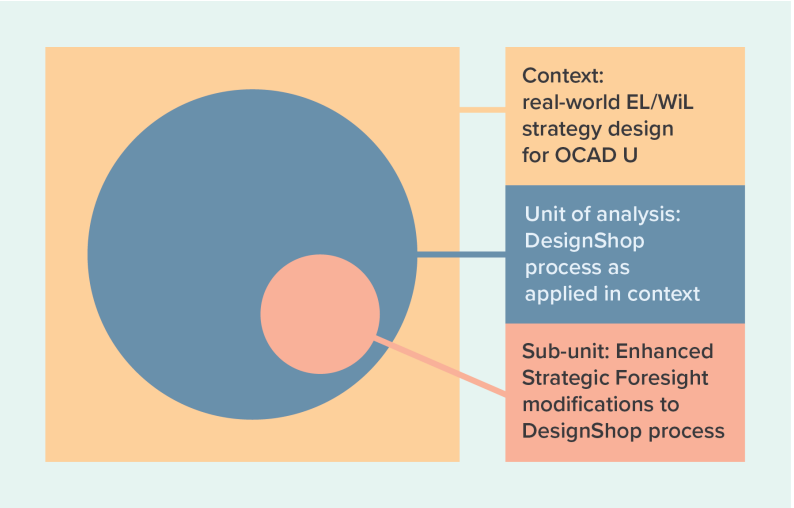


Figure 5. Annotated Venn diagram of embedded case study design.

Table 4. Summary of research design

Research design	Exploratory single case
Research questions	■ In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight? ■ In the context of the broad field of innovation design, what is different or unique about the DesignShop approach? ■ How might the DesignShop process be used to develop a collaborative approach to foresight?
Context	Real-world application to the design of an EL/WiL strategy for OCAD University
Unit of analysis	DesignShop process as applied in stated context
Sub unit	Enhanced foresight aspects within the DesignShop process application analyzed
Methods used	Participant reflections, semi-structured interviews

3.2. CASE STUDY CONSULTING ENGAGEMENT

The consulting engagement was patterned after a typical model used in DesignShop practice. A sponsor design team was established, and engaged in a co-design process to frame the problem and generate the parameters and information required to design the DesignShop sessions themselves.

Though client participants and sponsors were aware that I was conducting research involving enhancing foresight within DS, their experience was not significantly different from an average DS engagement from my professional practice.

It was not necessary to alter the engagement model from the one I typically use in my professional practice in order to include the enhanced foresight. The problem framing activities in the Sponsor Co-design Process were equally appropriate for generating sufficient input that I could use to define and design foresight-oriented modules in place of more typical DS modules. See Evans' (2016) *Tools* for a detailed summary of typical DesignShop modules.

3.2.1 Problem Definition

The problem frame for the engagement was established through a 3 part process:

1. Initial dialogue with lead sponsors and EL/WiL task force terms of reference received from OCAD U
2. Sponsor Design Session, held on November 8, 2017
3. Sponsor meeting #2, held on December 19, 2017

3.2.1.1 Sponsor Design Session

The Sponsor Design Session (SDS), lasting 3 hours, was held on November 8, 2017.

Although it is considered preferable for the sponsor design team to number between 2 and 6 participants, there is no hard guideline; DS practitioners adapt their approach to meet client needs. In this case, it was deemed appropriate to invite all members of the EL/WiL task force to the SDS. As a result, the SDS included 8 participants.

It was facilitated in the DesignShop style by the author, supported by Kathryn Maxfield, a graphic facilitator (a.k.a. graphic recorder) with significant DesignShop experience, and a frequent collaborator with the author.

The SDS agenda, as described in table 5, followed the typical DesignShop methodology. Typical SDS approaches are

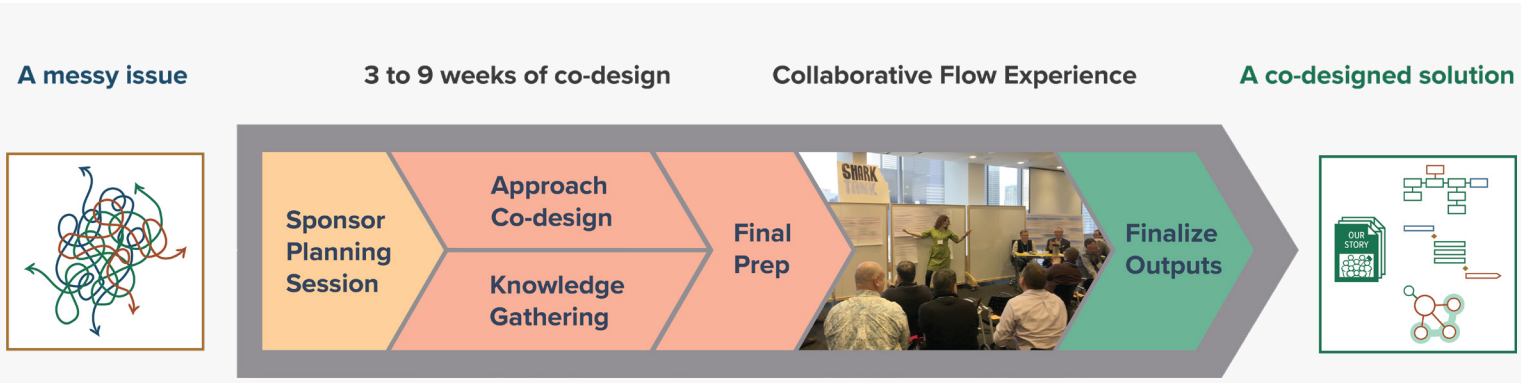


Figure 6. The engagement model used in my professional practice. The approach used in this study closely followed this model.

described in Coullomb and Collingwood Boots (2017) and Evans (2016).

After the SDS workshop was complete, the outputs were captured and shared with the Sponsor Design Team.

3.2.1.2 Completed Problem Frame

After the completion of the SDS, I synthesized the work to date to develop a draft problem frame. The draft problem frame was shared with the Sponsor Design Team in a second meeting. In the course of that meeting, the problem frame was iteratively refined until it was deemed ready for the large group event.

3.2.2 *Intervention Co-Design*

Once the problem frame had been established, it fell to me to work with the Sponsor Design Team to co-design the DesignShop approach in detail. Though the detailed approach undoubtedly varies by practitioner, DS intervention design consists of the following activities and deliverables:

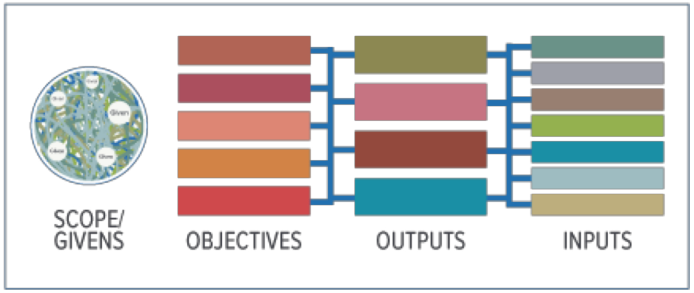
- Module selection and draft agenda
- Exercise writing and customization
- Team assignments (team lists)
- Collection and preparation of inputs

Table 5. Agenda for the Sponsor Design Session

Module Title	Description	Mode
Welcome and Introduction	Sponsor and facilitation team introductions and remarks	Plenary
Individual perspectives	Each participant receives the same "Take-A-Panel" (Evans, 2016, pp 240-243) assignment consisting of a future state success scenario context and a list of triggering questions relating to problem finding and framing.	Individual
Sharing perspectives	Participants take turns sharing their perspectives, as recorded on their panels. Those listening ask clarifying questions only, deferring synthesis until all individual perspectives has been shared	Take turns sharing
Synthesis	A facilitated dialogue that synthesizes across the various individual perspectives to create a shared perspective	Plenary
Additional planning dialogue	If time permits, additional planning dialogue focusing on logistics and planning of next steps	Plenary

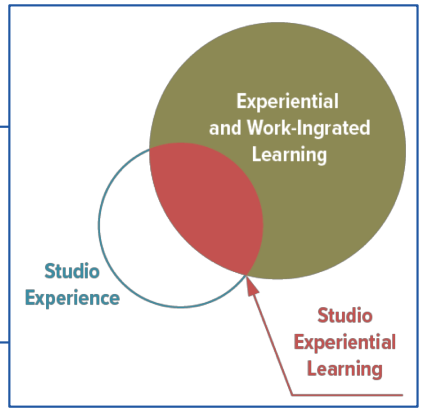
Problem Frame

Experiential and Work-Integrated Learning at OCAD University to 2023



Scope

- Experiential and Work-Integrated Learning at OCAD University, including—though it may not be recognized by the province—"Studio Experiential Learning"



Givens

- There is student demand for EL/WIL, and the institution has made it a priority in the Academic Plan
- Our first priority is delivering the best student learning experience
- Some aspects of the Studio Experience are not, and should not be, EL/WIL
- We acknowledge the workload issue around administrating paid research assistantships, but we're not going to solve it in this workshop.

Objectives

- Define, and align on a high-level vision for EL/WIL at OCAD U over the next 5 years
- Develop a plan to make that vision a reality, including prioritized initiatives. This will be the key input to the Task Force report
- Determine how OCAD U's vision for EL/WIL will meet MAESD requirements and take advantage of mandated funding

Outputs & Outcomes

- A scalable model for EL/WIL at OCAD University that . . .
  - Charts a course out to 2023
  - Creates meaningful opportunities for OCAD U students
  - Addresses provincial requirements
  - Includes or addresses:
    - Which students is it for?
    - When in the student life cycle?
    - What will the experience be like?
    - What resources will be required or made available?
    - Where will it take place? (at Partner site? at OCAD U?)
    - How will we engage with Partners?
      - IP ownership and compensation
      - Ethics and values
    - How will we communicate between the various stakeholders?
    - How will we measure success?
- A prioritized list of initiatives aimed a making that model a reality

Inputs

- Examples of what OCAD U currently offers
- Ministry guidelines

Figure 7. Completed problem frame for the Case Study Consulting Engagement

3.2.2.1 Module selection and draft agenda

As discussed above, DesignShop agendas can be mapped to a 3-stage model of the creative process: Scan, Focus, Act. The creation of a draft agenda requires the facilitator to select modules for the Scan and Focus phases. The Act phase always consists of finalizing the outputs from the event.

In this case, module selection was supplemented by the development of enhanced foresight modules. The modules used are listed below, with the **specific foresight modules emphasized in bold.** Each foresight module is discussed in detail below.

3.2.2.2 Assignment writing and customization

Once the draft agenda had been approved by the sponsor design team, I prepared custom printed assignments for each module that required it. This is part of the typical DesignShop process.

The modules in the DS toolkit cannot, in general, be used without customization. Exercise customization, or "assignment writing" in DS language, involves taking a generic module and converting it to a session-specific—sometimes team-specific—iteration. In general, this requires writing any contextual verbiage to suit the specific client organization(s) and application, updating any instructions

Table 6. Facilitator's "straw dog" agenda for the DesignShop at OCAD University

Day 1 agenda				
Planned Start	Planned Finish	Time	Mod #	Module
9:30 AM	9:55 AM	25	0	Welcome and intro
9:55 AM	10:15 AM	20	1a	Futures Swarm
10:15 AM	10:35 AM	20	1b	Domino RO
10:35 AM	10:55 AM	20	2a	Student Personas to 2023
10:55 AM	11:40 AM	45	2b	"Day in the Life" Experience Journey
11:40 AM	12:05 PM	25	2c	Report Out
12:05 PM	1:20 PM	75	4c	First Draft
1:20 PM	1:50 PM	30	4d	Report Out
1:50 PM	2:30 PM	40	5a	Synthesis Conversation
2:30 PM	3:45 PM	75	5b	Work in Teams
3:45 PM	4:15 PM	30	7	Final Report Out
4:15 PM	4:25 PM	10	8	Closing Remarks

to include session-specific detail, and, critically, writing triggering questions that map to the problem frame. These questions are crucial components of the scaffold upon which the dialogue will unfold.

3.2.2.2.1 Futures Swarm

As Inayatullah (2015, ch. 1) explains, all futures projects should contain an environmental scan and alternative futures scenarios. Futures Swarm was the name we gave to our environmental scan.

The design of the Futures Swarm exercise was based on typical Scan-phase modules that are used in professional DS practices to help participants build a shared under-

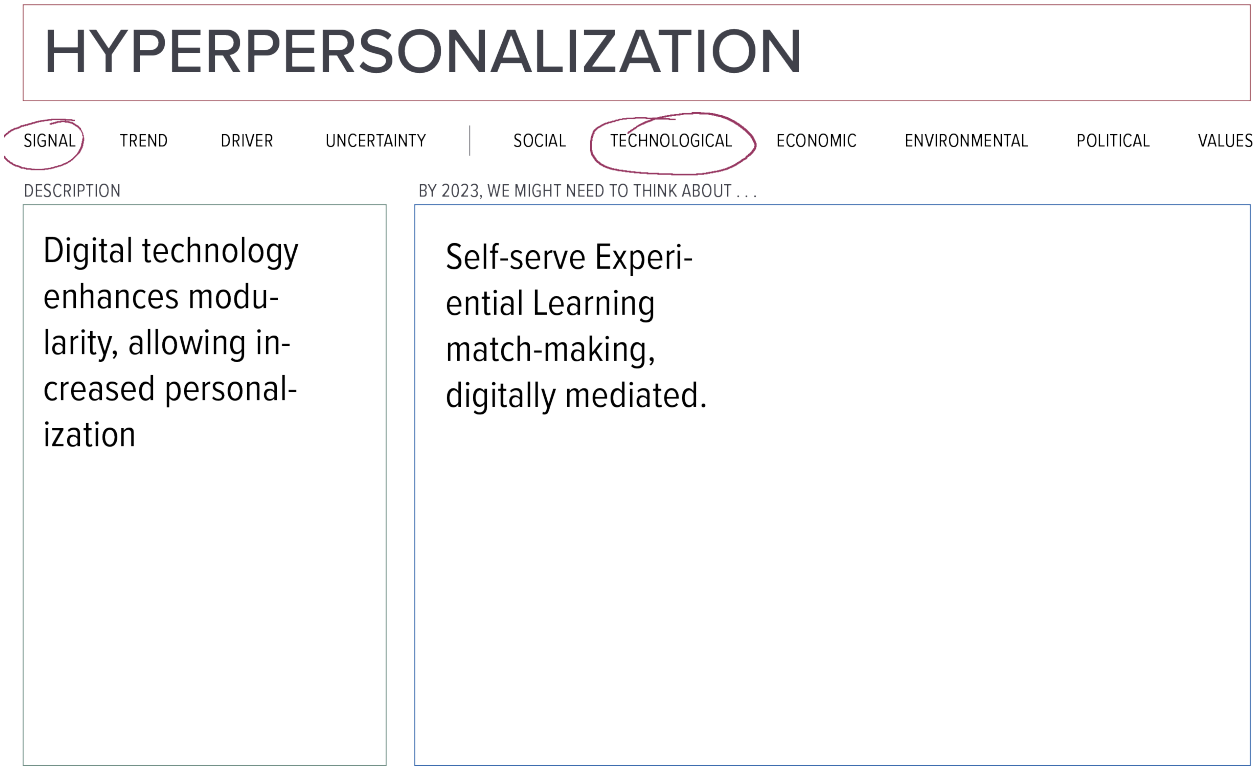


Figure 8. Sample template from the Futures Swarm exercise

standing of the language, especially jargon, that the group will be using in the DesignShop. In Evans (2016), the corresponding module is Terms of Art (see pp. 254-6).

Whereas the Terms of Art module focuses on jargon necessary to build a shared understanding of the problem, Futures Swarm asked participants to identify and explore trends, signals, and emerging issues with relevance to EL/WiL in Canada and OCAD U.

In order for the scan to be as broad as possible, the group was divided into pairs. Participants were asked to find a partner who is not a regular collaborator, and to complete a scanning template.

The example shown below in figure 8 was introduced to participants to give them a sense of what sort of output might be appropriate. Over the course of approximately 30 minutes, the group completed templates for 19 terms. The Report Out for this module, conducted "domino-style" (Evans, 2016, pp. 403-5), took more than twice the budgeted time owing to the detailed and far-ranging conversation that resulted.

Table 7. Two parts of the Scenarios and Test module

Part	Description	Foresight Activity
1	Construct scenarios through dialogue, starting from a provided scenario script/context (see Appendix B)	Scenario creation
2	Explore, through dialogue, how well the strategies they had proposed earlier in the DesignShop might fare under their scenarios	Strategy wind-tunneling (van der Heijden, 1997)

3.2.2.2.2 Scenarios and Test

The second enhanced foresight module was a 2-part exercise, conducted in breakout teams of approximately 6 people.

For this particular session, the scenario creation activity was based on Jim Dator's generic images of the future (Dator, 1979; Dator, 2002). Dator's 4 futures was selected because it is simple and straightforward, and the overall scenario model is not dependent on the outputs of the environmental scan.

It is important to note here that the proposed Alternative Future Scenarios module should not be assumed to

Table 6. Facilitator's "straw dog" agenda for the DesignShop at OCAD University

Day 2 agenda				
Planned Start	Planned Finish	Time	Mod #	Module
12:00 PM	12:15 PM	15	0	Welcome and intro
12:15 PM	12:45 PM	30	1a	Synthesize and refresh
12:45 PM	1:15 PM	30	1b	Switch stations without reporting out
1:15 PM	1:35 PM	20	1c	Report out
1:35 PM	2:20 PM	60	2a	Scenarios and test models in futures
2:20 PM	2:45 PM	25	2c	Report Out
2:45 PM	3:40 PM	40	4c	2nd draft
3:40 PM	4:10 PM	30	4d	Report out and sticky feedback
4:10 PM	4:50 PM	40	5a	Final work round
4:50 PM	5:00 PM	10	8	Closing Remarks

always use Dator's 4 futures. Other methods of generating scenarios might be used instead; the method should be selected on a case-specific basis.

3.2.2.3 Team assignments

In typical DS practice, assigning participants to teams is a laborious process undertaken by the sponsor design team, generally on the day before the session.

In this particular case, since we were working with a relatively small group of 28 in a compact space where everyone was working nearby each other, it was possible to provide verbal instructions to change teams and manage stakeholder mix during the course of the session. However, this is not a recommended approach for a full-scale DesignShop.

In any DS, the practice of mixing team membership between modules (i.e. after each report-out) is a critical tool for ensuring alignment across the parallel breakout teams. By working in iterative rounds, and mixing team members between rounds, the DesignShop practitioner can amplify the amount of dialogue occurring while ensuring that the parallel streams remain aligned as a whole.

3.2.2.4 Knowledge Inputs

Knowledge inputs, generally identified in the problem frame, must be prepared in a way that facilitates their easy use in the session. In general, the goal of preparing inputs is to ensure that the group has access to the necessary knowledge while in the course of their work. A secondary goal is to create a knowledge-rich environment. This has long been part of the DS approach, but has become less central in the digital era, since participants typically have access to all the information they could need in the palms of their hands. In contemporary practice, knowledge inputs are prepared with the focus more on curation than on volume.

In this particular case, two sets of inputs were specified in the problem frame:

1. Examples of what OCAD U already offers
2. Ministry guidelines

A list of EL/WiL offerings already available within the University was compiled. Preparation consisted of separating each entry onto its own page, formatting them for easy reading, and tacking them to a wall in the workshop space.

The ministry guidelines came in the form of an EL/WiL checklist (see Appendix A) published by MAESD. The checklist was printed tabloid-sized, and posted in various places throughout the workshop space.

In addition to the inputs listed in the problem frame, I identified a set of readings that might be of use in the environmental scan. These items included articles on EL and WiL, articles and papers on the futures of higher education, and copies of the OCAD U academic plan. These additional inputs were printed out and displayed for easy use in the workshop space before the start of day 1.

3.2.3 DesignShop LGI Event

The DesignShop was conducted over two consecutive Fridays in January of 2018. It was facilitated by the author and Ms. Maxfield, the graphic facilitator.[6]

3.2.3.1 Participants

In line with the typical approach, the DesignShop invitees were selected by the Sponsor Design Team with a view to obtaining a good mix of stakeholders for the project. The guidance generally provided to sponsors is to pick a mix of decision makers, influencers, and implementers.

6 It should be noted that such a small facilitation team is extremely unusual in the DesignShop context. A team of 4 or 5 would have been more in line with typical practice. Thankfully, we are experienced and versatile, and we had help from OCAD U Writing Centre staff as required.

In this case, that meant a blend of participants from each of the University's 3 undergraduate faculties, representatives from university administration, staff, faculty, and students.

The sponsors invited a total of 68 participants, of whom 28 were able to attend. A number of participants wished to attend for less than a full day, but were advised that they needed to come for at least the entirety of Day 1 if they wished to be involved.

3.2.3.2 Case Specific Caveats

Though it would have been preferable to conduct the DesignShop session on two consecutive days, circumstances required that it be spread across two consecutive Fridays, with a 6-day gap in between the days. This resulted in participants needing to start day 2 by reorienting themselves with the material from day 1, but was otherwise not a significant issue.

Of greater concern was significantly lower attendance for the second day. The first day was very well-received (see Findings for more), so it was not a case of people opting out of the second day having felt underwhelmed by the first. It seems likely that the participants who didn't attend the second day felt that they had adequate input through the first day.

Part-time participation does not fit well in DesignShop contexts. The iterative nature of the approach means that there are no logical places where people can skip out and not be missed. More worrisome still are participants who arrive late, since they slow the rest of the group down when re-integrating without knowledge of the work already done.

Despite violating the critical DS guideline that all participants commit to being present for 100% of the session, the overall event was a success.

3.2.4 Outputs

As discussed in section 2.2.3.3.4, in general, DesignShop facilitation teams take responsibility for capturing all of the work done by the participants. In the day(s) directly following a DesignShop, the crew cleans up and organizes digital photos of all work from the session, and returns them to the sponsor team in a digital file/folder compendium. In some cases, the facilitation team may also create a more polished "executive summary" that the sponsor team can use to communicate the outcomes of their DesignShop to people who were not present for the session.

In this case, a compendium was prepared, but no executive summary was required. Since the research focuses on participant and sponsor experience of the DesignShop

and the enhanced foresight modules, as opposed to the outputs ("hard results") of the session itself, which form the context, the outputs of the DesignShop are not covered by this research project and cannot be reproduced as part of this study.

3.3. SAMPLING AND INQUIRY METHODS

Given the small pool of potential participants (28 in total), it was not feasible to apply further selection criteria in sampling. All 28 participants were invited to participate in the study.

Those who chose to participate in the research were asked to complete a Reflections Journal (see Appendix C), and offered an opportunity to participate in a semi-structured interview.

Of the 28 participants, 17 (65%) completed reflections journals. 7, including both lead sponsors, agreed to be interviewed. Ms. Maxfield was also interviewed.

3.3.1 Participant Reflections Journal

In order to capture participant reflections on the experience while they were fresh, participants who consented to participate in the research received a paper template entitled "Participant Reflections Journal" at the start of the DesignShop session. The journal consisted of a series of 12 questions intended to explore their overall experience of the DesignShop and their reflections on the Foresight Enhancement (FE) aspects of the DesignShop.

Participants were encouraged to capture their reflections throughout the day, and some submitted their journals at the close of the first day of the DesignShop or in the week following the first day.

DesignShops are intense experiences, and several participants expressed a desire to capture their reflections after the close of the day. In order to make this as easy as possible, a web-based version of the Reflections Journal was created, and participants who submitted after the close of the session were able to do so either in paper or through the web-based form. A copy of the reflections journal can be found in Appendix C.

3.3.2 Semi-Structured Interviews

Of the participants who completed reflections journals, 7 expressed willingness to participate in semi-structured interviews. Of those 7, 2—Deanne Fisher, and Susan Ferguson—were the lead sponsors of the DesignShop, and consented to be named in this report. The remaining 5 participants who were interviewed are denoted by the number they were allotted when they submitted their reflections journals.

The semi-structured interviews were divided into 2 parts. The first half of the interview explored the interviewee's overall experience of the DesignShop, and the second half of the interview explored their experience of the Foresight Enhancement aspects of the DesignShop. A copy of the participant interview questions can be found in Appendix C.

Of the 5 participant interviewees, only 3 were present for the second day of the DesignShop. Lamentably, Participants 4 and 15 were only present for the first of the two days, so only experienced the Futures Swarm portion of the Foresight Enhancement portion.

3.4. WORKSHOP EXPERIENCE AND REFLECTIONS

The workshop felt like a success to myself and Ms. Maxfield, and was widely reported to be a success by the participants and sponsors. Multiple interviewees have reported that the first half of the DesignShop has taken on the name "big Friday" or "big day" within the client organization, and it is gratifying to know that the session had sufficient impact to take on a name in portions of the OCAD U faculty/administration vernacular. I would like to thank the staff of the OCAD U Writing Centre for their help in staging the workshop.

Conducting research while facilitating a group of 28 participants is no mean feat, especially given the small size of our facilitation team. Given the need to pay careful attention to the work that the participants were engaged in (the context of the study), it was nearly impossible to pay careful attention to the participant experience of the DesignShop and Foresight Enhancement, which are analyzed in this study. Were it possible to do this over again, it might be beneficial to add ethnographers to the research team to facilitate observation of the process as it unfolds.

Although a single case approach was merited, the reflections and interview questions were focused on participant experience of the DesignShop process. So, though each DesignShop is unique, it might be possible to run a multiple-case design in the future providing that the methods focus on participant experience, and endeavour to abstract participant experience from the specifics of the context (the work being done in the DesignShop). Were it possible to conduct several case studies, we might be able to make more definitive conclusions about the DesignShop process through comparison across multiple cases.

The need to separate the two days of the DesignShop by a week was unfortunate, especially since a comparatively small number of participants attended day 2. The day 2 agenda included the Scenarios and Test module, and it would have certainly been preferable to have the whole large group present for it, since it was the more exten-

sive of the two foresight modules. Getting participants full attention for multiple days poses a significant challenge to contemporary DesignShop practice, especially in markets such as Canada, where the process is not well-known, and participants are thus unaccustomed to trusting their time to DesignShop facilitators. It may be hoped that future research aiming to build on this study will be able to build on the trust earned through this workshop, and thereby retain a larger portion of the participant group for the full duration of the session.

4. FINDINGS

The results from this case study DesignShop engagement and the Foresight Enhancement (FE) proof-of-concept are encouraging. Overall, it is clear that the process was effective, and apparently universally well-received. Participant experience of the FE portion of the DesignShop was also positive, leading me to conclude that the proof of concept was a success.

This study analyzed two different units of the DesignShop engagement—the overall DS engagement, and the foresight enhancement (FE)—with a view to exploring 3 questions.

1. In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight?
2. In the context of the broad field of innovation design, what is different or unique about the DesignShop approach?
3. How might the DesignShop process be used to develop a collaborative approach to foresight?

Responses to the first two questions form the core of the findings presented here. The third question is responded to through reflections and suggested future research directions.

The synthesis presented below is based on analysis of the Participant Reflections Journals and a number of quotes selected from the interviews. Some quotes pertain to the general experience of the DesignShop and the Foresight Enhancement modules. Others relate to specific aspects of the experience, and are presented in the sections to which they pertain. Where possible, quotes have been presented alongside my commentary and context. For a full listing of the quotes selected, please see Appendix D.

4.1. RESULTS

Participant Reflections Journal responses provide an overall view of the results. Participants were asked to reflect on their experience of the DesignShop overall and their experience of the FE. A copy of the reflections journal can be found in Appendix C.

Participants reflecting on their experience responded favourably to the overall DesignShop experience, and reported feeling more confident in their future-preparedness around EL/WiL needs in Ontario after the session.

Participants who submitted a Reflections Journal also tended to report feeling that they had designed for a future different from today.

4.2. DESIGNSHOP

Participant interview responses and reflections were analyzed to generate answers to the second research question: In the context of the broad field of innovation design, what is different or unique about the DesignShop approach?

Although the lack of prior research on DesignShop obviated the generation of hypotheses to test in this study, DesignShop philosophy and practice does have a per-

Table 8. Summary of responses to question 13 from the Reflections Journal.

Q13. What are your thoughts on the process we used for the EL workshops? Would you support using a method like this again?			
Yes	No	Neutral (text not indicative of yes/no)	No Answer
9	0	1	7

Table 9. Summary and comparison of responses to questions 5 and 7 from the Reflections Journal.

	mean response on Likert scale of 1-5
Q5. **Before the EL workshops, how confident did you feel** in your understanding of how the needs and requirements around Experiential and Work-Integrated Learning in Ontario might change over the next 10 years?	2.88
Q7. On a scale of 1 to 5, **how confident do you feel today** in your understanding of how the needs and requirements around Experiential and Work-Integrated Learning in Ontario might change over the next 10 years?	4.12
% Change	24.71%
Number of Respondents	17

Table 10. Summary of responses to question 9 from the Reflections Journal.

Q9. Do you feel that the vision the group arrived at for Experiential and Work-Integrated Learning is designed for a future that is different from today?		
Yes	No	No Answer
10	0	7

spective on what separates DesignShop from other methodologies. Moreover, the methodological context explored in the literature review generated further expectations around what we might expect to hear from LGI participants reporting their experiences.

In line with Shmulyian et al's (2010) findings, the interview responses and participant reflections did not converge on any one particular distinguishing characteristic that set DesignShop apart. Instead, the research calls out a range of characteristics, which this analysis synthesizes into some conjectures that might serve as hypotheses to be tested through future research.

> I thought it was very effective, because with each opportunity for people to share what they had developed, or their various insights, it was often very topical, was considered, and often quite practical as much as it was forward-thinking. And there seemed to be an innate shared understanding of the objectives, and the value of different viewpoints and approaches and ideas. (Participant 16)

Participant 16 speaks eloquently to this combination of factors. The DesignShop emphasis on pragmatism can be seen here as well.

Each of these conjectures are explored in greater detail in the following pages.

4.2.1 Conjecture I: The benefits anticipated from diversity of perspective and an inclusive co-design approach are reflected in the experience that DesignShop participants report

As mentioned previously, the value of diverse perspectives is well-documented (e.g. Page, 2007), and Ashby's Law of Requisite Variety (Beer, 1973) suggests that we should see better results in addressing complex challenges through the inclusion of more cognitive capacity (i.e. more people) and attendant diversity of perspective. The results of this study support these well-established theoretical expectations, suggesting that the DesignShop process can successfully reproduce the anticipated effects in practice. Several interviewees, including the two quoted below, spoke to the value they experienced through a broadly inclusive co-design approach.

> I found it very helpful to identify the challenges, or the pressure points of how people come to consensus, or how we identify terms that are malleable or open to interpretation from different types of people. So, having the opportunity to work with people who were coming at it from very different points of view—faculty, students, and staff—was very informative. (Participant 17)

> I think [it was successful] because it was the first time that I've actually seen a range of people from different parts of faculty and staff and students collected and really questioning a lot of the similar things with a shared vocabulary. (Participant 4)

Participant 4's mentioning of shared vocabulary is a good sign that the Scan phase of the DesignShop did its job. Helping the group converge on a shared vocabulary is one of the goals of the Scan phase of a DesignShop.

4.2.2 Conjecture II: The benefits expected from LGIs can be obtained through DesignShop

> I think the results that we managed to come to, as well as the way that the group felt and talked about the session really reiterated its value. (Participant 17)

According to DesignShop lore, the 3 types of benefits listed by Shmulyian et al (2010)— "hard results," people benefits, and long-term sustainable change—are co-dependent, and must be concurrently generated. The high quality of the hard results is believed to stem from including more people (stakeholders), who bring diverse perspectives, organizational knowledge, and aggregate cognitive capacity. The people benefits emerge from inviting the people to participate in the inclusive co-design of the hard results. Long-term sustainable change cannot be expected to emerge from a single DesignShop, but we might expect to

Table 11. Summary of DesignShop conjectures

Conjectures: what is different or unique about the DesignShop process?
I. The benefits anticipated from diversity of perspective and an inclusive co-design approach are reflected in the experience that DesignShop participants report
II. The benefits expected from LGIs can be obtained through DesignShop
III. The DesignShop approach is differentiated from other innovation methods and LGIs by the combination of several key factors a. Co-design process b. Design principles c. Dialogic scaffold d. Self-led teams e. Sponsor commitment to hierarchy suspension f. Visual sensemaking and learning

see it accumulate over time thanks to the virtuous circle set up between the hard results and the people benefits.

> It sounds a bit silly now, but the biggest thing that I learned was that other departments had similar concerns to me, and I guess they were concerns that I thought were unique to my perspective on experiential learning or experiential learning demands, but other positions were having the same kinds of conversations. (Participant 15)

This fairly straightforward aspect of people benefits, mentioned in Shmulyian et al (2010), can be very valuable in some contexts. By working across silos and inviting people from throughout the organizational hierarchy, leaders enable the formation of bonds and allyship between peopl who don't typically work together.

> Is it effective in generating buy-in? As far as I can tell, 100 percent yes. People feel really connected to this effort and it's super-effective at getting full participation. And it definitely was effective in getting people who would not normally [do so] to interact...with people who would not normally be offered the opportunity to be on a task force. (Deanne, sponsor)

"Buy-in" is a key aspect of people benefit.

> The fact that it ...was viewed with such credibility and excitement actually, externally...I mean: by the people in the room, and therefore, beyond as [people] talked about it. That was gold! So that was very important. The fact that everyone had a good experience and felt like their time was well used, and that we brought them together. That was very positive. (Susan, sponsor)

The "gold" described by this sponsor speaks to the mix of benefits generated.

> What I've said numerous times since [the DesignShop] is that your process enabled us, as a group, to cut through the old kind of rhetoric that inevitably emerges around particular topics of discussion in the university... And people then proceeded to talk about this in a celebratory way for months. So...it really had an impact—almost on the mental health—of the people who were there. People started to complain about not being there, and like...it's kind of taken on a life of its own. (Susan, sponsor)

Hints of the possibility of future long-term sustainable change can be seen here in the positive impact on the group's "mental health" described by a sponsor.

> For us, the first big workshop was quite a remarkable day, in that...there was no moment where we had an explosion...Because usually at some point in any day like this... there's always a moment where it's just like "I give up." And we never had a moment like that. So there has been a lasting positive impact as a result of actually getting through a day [of dialogue about the University] without conflict. (Deanne, sponsor)

Anecdotally, DesignShop adherents believe the process is effective at overcoming the sort of organizational baggage described in this quote and the one above. Future research might also explore how this particular aspect of people benefit is obtained.

4.2.3 Conjecture III: The DesignShop approach is differentiated from other innovation methods and LGIs by the combination of several key factors

In the context of a full DesignShop engagement, these 6 factors combine to generate a differentiated experience that uses design to go beyond creating a container for dialogue to create a bespoke dialogic design scaffold within the container of the DesignShop LGI event.

These keys are not a recipe. Some of the artistry described by Shmulyian et al (2010) is required to design interventions that combine all of these keys to produce an actual DesignShop event. Nevertheless, it may be hoped that elucidating these keys will assist future researchers and practitioners seeking to build on this work.

4.2.3.1 III a: Co-design process

> [It was different from other workshops] In a couple of ways. One [was] the problem framing piece, where you worked with us for half a day before we even opened it up. That was different... [In previous workshops], we had framed it ourselves in text-based form...And—I think, in typical fashion—it was reframed partway through workshop! It made us realize... First: frame the problem correctly! (Deanne, sponsor)

Collaboration pervades the DesignShop approach. This cannot be overemphasized. The process begins with the establishment of the Sponsor Design Team, and ends with that team taking final ownership of the outputs created. Throughout the process, every decision the facilitation team makes is informed by collaboration with the SDT or the entire participant group.

> It felt like you, in partnership with people like Deanne and Susan, led a pre-discussion, which led us to collectively do a little bit of work and factfinding prior to the gathering moment. I know you did a little research too, but [the co-design process] was important because there were some responsibilities downloaded onto the organizers, and that had them bring more institutional context to the exercises...It brought details to the experience which could otherwise have been very abstract. (Participant 16)

The co-design process, which includes the problem definition and approach design phases, function as early iterations and help prepare the way for a successful DesignShop LGI event. The problem frame, which is a key output from the co-design process, serves as an input in the crafting of the Dialogic Scaffold (conjecture III c).

4.2.3.2 III b: Design principles

Whereas many workshops seem to be organized linearly, DesignShops are organized iteratively. In cases where multiple objectives are in scope, a linear mode of organization would seek to tackle objectives one at a time, and thus allot some time for each objective. An iterative approach, by contrast, addresses all objectives simultaneously across the entire workshop. Structure is provided by exercises that take different looks at the problem, and time limits on each exercise to ensure that the work is indeed iterative.

The entirety of the DesignShop process can be understood as a series of iterations, nested in recursive sets. Within each iteration, variety is managed by segmenting the stakeholder group in a variety of ways (parallel processing).

The participants do not experience these design principles directly, but the experiences they report reflect the iterative parallel processing approach.

> We went on tangents, and we got distracted, but we never got off schedule. It's like there was space for that, and the tangents and distractions aren't a problem...Often people start to focus on implementation..."we need to talk about course releases." And that takes up way more space than it should. But, we didn't get knocked off the schedule. These conversations get derailed by institutional practicalities... We didn't snowball. (Participant 2)

Self-led teams working within the iterative approach are expected to get on tangents, but the risk of tangents "snowballing" is limited by the iterative nature of the agenda. We can also see some of the deferral of judgment mentioned by VanPatter and Pastor as a key behaviour in innovation design in the way the dialogue avoided focusing overly on implementation concerns.

> I think it was a really great workshop in terms of... zooming in [and] zooming out—really looking at something as broad as the range of drivers, and looking outwards to the trends that are not necessarily what we would immediately associate with things happening on campus, or at least not everybody in every department is going to be thinking along those lines. And then, that being followed by an exercise [around] what is a student's experience and coming up with a persona...I thought that was great. (Participant 4)

Participant 4's experience of "zooming in and zooming out" provides a good description of the way an iterative DesignShop agenda works. Especially earlier in the process, DS iterations tend to look at the challenge in different ways.

In the context of this set of conjectures, the design principles (IIIb) are used in conjunction with the problem frame outputted from the co-design process (IIIa) to craft

the dialogic scaffold (IIIc) which forms the structure the agenda of the DesignShop.

4.2.3.3 III c: Dialogic scaffold

Thanks to rigorous problem framing in the co-design process, DS practitioners are able to approach the creation of bespoke exercises armed with a perspective on the challenge phrased in language that will resonate within the participant group.

The multi-faceted descriptions of the problem that are included in the problem frame can be woven into each assignment in the form of specific triggering questions. This provides an easy way to structure specificity into the exercises, allowing practitioners and sponsors to empower teams to self-facilitate without undue risk.

These triggering questions, in conjunction with the Design Principles (Conjecture IIIb), form the dialogic scaffold that supports and focuses the dialogue within the DesignShop.

> I was just in another workshop. It was more blue sky, but really should have been more detailed. Because there wouldn't be any triggering questions. It was just like: begin state; end state; 45 minutes to group presentations; go! And, for our group, we didn't feel like there was a way of going from step one to step two, except by saying "my lived experience is this; this is the way we can do it." ... We came up with stuff, but it wasn't anything more than our conversation. And it could have been largely anticipated by just looking at our daily jobs. (Participant 2)

The dialogic scaffold provides sufficient structure to support the next conjectured key: self-led teams.

4.2.3.4 III d: Self-led teams

Although DS is not the only LGI to recommend self-facilitated teams, significant emphasis is placed on self-facilitation, which Evans (2017, p. 202) describes as "sapiential leadership." As mentioned previously, the belief that self-led participation promotes ownership can be traced back to Wheatley (1992).

Of the several interviewees who noted how self-facilitation affected their experience of the DesignShop in positive ways, one quote seems most incisive.

> There was this very direct sense of ownership. For example, in other forms of workshops, where you perform this sort exercise, you share the information back, and the workshop leader tells you why the exercise was important, and tells [us] what we've learned through the sharing. This was "devise or die," because otherwise there was no opportunity to come away with the insights. (Participant 16)

To the interviewee above, the value was not just in ownership, but in working without the net provided by a consultant taking ownership of a share of the work, and thus removing the onus from participants.

4.2.3.5 III e: Sponsor commitment to hierarchy suspension

Simply by committing to a co-design approach, sponsors send a powerful message to participants. The change in hierarchy was clearly well-received by participants, and was called out repeatedly in reflections journals and interview responses. It should be noted that hierarchy suspension is found in other LGIs such as Future Search (Weisbord and Janoff, 2010) and Open Space (Owen, 2008). While it is not a DS-specific attribute, it is nevertheless a key to the success of the DS process.

> Yeah [it was collaborative]. Absolutely. Just, in the sense, that everybody could talk—everyone did talk—and there were people in very different power roles, and that didn't affect what they said, or how they talked about it, or the importance in it. (Participant 2)
>
> This seemed to negate a lot of the power dynamics. I think it enabled people to more adequately share their opinions without fear of [someone] saying 'you're just a student' or 'you're just a staff member.' It put people on a more even playing field. (Participant 17)
>
> I think it's something about power. It somehow levels out peoples' normal roles and allows people who would normally defer to what they perceive as authority to contribute meaningfully. Somehow it really does feel more like people are authentically contributing to some kind of common purpose, as opposed to going through the motions. (Deanne, sponsor)
>
> ...at the very beginning...Deanne and Susan said, very openly: we just want to learn from this; we want to blue sky about it. It wasn't [prescriptive], like 'we need to come up with three problems and three solutions.' It was very much like we want to know what the scope of this [is]. And from there, I think people really did feel encouraged to really dive in, and to not have to be experts, because they were also aware that there are so many pieces in the process...It wasn't like an ego thing. It was like people could all see that there are many pieces to a very big pie, and there wasn't anybody who had an authoritative role. (Participant 4)

Although the sponsors did kick off the DesignShop, it should be noted that no one explicitly explained that hierarchy was suspended. It appears that the style of the DesignShop experience helped convey the hierarchy suspension very clearly, since all interviewees commented on the change in power dynamics.

4.2.3.6 III f: Visual sensemaking and learning

This conjectured key is comprised of two connected, but also quite different aspects of the DesignShop experience.

Gail Taylor's history as a Montessori educator (Gronsky, 2004) has long been credited as a key influence on the DesignShop approach to learning. To the DS practitioner, everything supports learning, and any specific learning that must occur in the session should be embedded in the assignments. Rather than run a learning activity, followed by a co-design activity, the DS practitioner will run a co-design activity that includes time and resources for any learning that must take place. In the context of the self-led teams (IIIe), this promotes the people benefits expected from Conjecture II.

This inclusive and experiential approach to learning also manifests as a practice of supporting multiple learning styles, with a particular emphasis on supporting visual learners. Visual sensemaking, generally supported by a professional graphic recorder, has long been viewed as a differentiator within DS practice.

> The documentation of session one is a difference. Live public minuting, with an aesthetic design sense. [Showing Kathryn's scribe] I looked at this while it was happening. I was drawn to it, but I wasn't distracted by it. Because I could... see the documentation process. I know it's being captured, and the way it's been captured represents the focus of what we're doing. (Participant 2)

Participant 2 hits directly on the two main goals of having a graphic facilitator present for plenary dialogues: support for visual learners while they engage in the dialogue, and capture as a signal that people are being heard.

> I think it was pretty effective. I think it was an amazing way for someone who's only peripherally on the edge of anything relating to experiential learning to get the scope of what's going on, and what we're thinking about. Normally, that sort of training, or bringing someone up to speed, could take a full day, let alone bringing someone up to speed and having them be part of the process of moving forward. I was learning about [EL at OCAD] while also doing, which I think rarely happens in meetings. (Participant 15)

This quote from Participant 15 points directly at the type of learning experiences that DesignShops aim to facilitate. This style of learning experience tends to be very well-received by participants in my experience, because it dovetails with the value of authentic self-led participation (IIIe). When we assume that participants can learn what they need from each other (and perhaps from the knowledge-rich environment, or the prepared inputs, or the internet) in the course of their work, we treat them like capable adults. Unsurprisingly, they appreciate this. Moreover, it is my considered professional opinion that

this style of learning, which is contextualized in actual real-world work, is far more effective than less-well-contextualized alternatives.

4.2.4 Overall DesignShop experience

In addition to comments supporting the conjectures, interviewees described experiences that align well with aspects of the DesignShop methodology described in the literature.

> It was structured enough that there was effective conversation, but not so structured that it felt like we were being talked down to in any kind of way. And it was nice to be forced, in a good way, to work with colleagues from across the institution that I otherwise wouldn't necessarily have those kinds of brainstorming interactions with. We don't talk at that depth about our roles. (Participant 15)

This balance of structure and spontaneity is described by Matt Taylor (2008a). It is certainly encouraging to see it reported back unsolicited by this interviewee.

> It was definitely a really fun day. I had a lot of fun. I thought it was really exciting to have a lot of people churning ...getting these ideas bubbling, in ways that I could actually see a lot of them being implemented, instead of ... predictable, repeatable, obvious things just being on the table. (Participant 4)

No analysis of the DesignShop experience would be complete without fun. "If you can't have fun with a problem, you will never solve it" is an MG Taylor Axiom (Evans, 2016, p. 444). The DS value of pragmatic utility can also be seen in this quote.

> I think the amount of time in which we spent really focusing on experiential learning through the exercises was really necessary. I've done a couple of workshops on campus now where it's been like three hours as opposed to ... what was it... six hours? seven hours? ... it was super-nuanced because we got to that point where we're not just repeating the obvious things. (Participant 4)

Though DS practitioners must frequently overcome resistance to devoting sufficient uninterrupted time prior to the session, the value of sufficient time tends to be clear in hindsight. Evans (2016, pp. 55-57) speaks eloquently to the value of time to focus and concentrate on complex challenges.

> My sense, from the reactions and engagement, is that it didn't feel like they were they were responding to something prescribed, or that was being attempted to be imposed. Instead, it felt like they were working from the ground up. And that's what, I think, feels authentic and self-determined, and grounded in actual needs and perspectives and genuinely collaborative. Instead of..."OK now we have to get into this defensive mode because it feels like it's about to be foisted upon us." (Susan, Sponsor)

DesignShop practitioners aim to create conditions for an authentic meeting of minds, and to avoid even a hint of a predetermined outcome being "foisted" on the group (Evans, 2016)

4.2.4.1 The Sponsor Experience

The experience of DesignShop sponsors is a special case. LGI sponsors, as Shmulyian et al (2010) noted, must make a leap of faith. They must be willing to trust the group to co-design a shared future state. This requires a relinquishment of control, and an embracing of ambiguity. Several quotes from the sponsor interviews speak to this leap of faith and ceding of control, but the quote below from Susan sums it up nicely.

> It was very successful. There were a few things that I took away from that...You seem to advocate for a very very broad and inclusive kind of approach. [What] ended up being one of my key take-aways was the value of that cross-stakeholder dialogue....It was wide-open; it got people working, and there were broad parameters, but within that, it was kind of anything goes. And I think it sets a different tone. It's almost like it sets a tone where people are automatically...they automatically feel heard, or something, so there's not this fight for territory and to be heard, that I think often ends up happening. (Susan, sponsor)

4.2.5 Summary: DesignShop Findings

The exploration of the overall DesignShop process experience certainly seems to have been a success. Participants were overwhelmingly positive in their reflections and interview responses, and the sponsors were very pleased with the outcomes obtained. The benefits we would expect to see based on theory, from the requisite variety of perspective and aggregate cognitive capacity suggested by Ashby's Law to the 3 types of benefits outlined for LGIs by Shmulyian et al (2010) were visible in the results. Given that DS seeks to apply research insights and theory to obtain pragmatic utility (Evans, Taylor, & Bird, 2018), we should be unsurprised, but it is nevertheless encouraging.

The conjectures presented in this section, especially the keys grouped under Conjecture III, are, to my knowledge, by far the most concise articulation of what makes DesignShop unique and successful in the space of innovation design.

What is perhaps most exciting about this perspective on DS is that it is not bound to any specific process model despite being a process tool. While Gail and Matt Taylor have long insisted that DesignShop need not rely on Scan Focus Act (Taylor, Evans, & Bird, 2018) or the Creative Process model (ibid) as a process architecture, it has not always been easy to separate those models from the rest of DS in practice contexts.

The conjectures, especially the DesignShop keys grouped under Conjecture III, should ideally be tested through future research. In taking a comparatively concise position on what makes DesignShop different, I have tried to build on the work of Evans and others and further open the door to making DesignShop techniques, tools, and benefits more accessible to practitioners in parallel niches. I am hopeful that scholars without a professional background in DS will find ways to explore this space in greater depth in the coming years.

4.3. FORESIGHT ENHANCEMENT

The headline innovation explored in this study, the Foresight Enhancement intended for integration into DesignShop, is sufficiently new that it may deemed a success simply by virtue of it being well-received. As discussed above (Section 4.1), participants who submitted reflections journals reported feeling more future-prepared after the session, and also reported feeling that they had designed for a future different from today. This alone, in my view, constitutes success from a proof-of-concept perspective.

> [Our typical approach is] not thinking about the whole process in terms of: what does five years from now look like, or 10 years from now? Or how does the external focus affect the internal policies and regulations of the universities? So I think it was a it was more comprehensive, and it was more [like] forecasting. (Participant 17)

One way in which the FE was innovative is that it incorporates foresight in the context of strategic decision making. In my view, this interviewee is describing the gap between 100,000 feet and agile being filled.

> ...here we are with a Doug Ford government...[and] one of these scenarios was actually changing government. I guess my question is: how effectively did we actually treat this?.. . Now we're in a new moment. It's really fascinating, because, though I think we did definitely think that the scenarios were—unfortunately—feasible, now it's real. (Participant 16)

As this participant noted, one of the scenarios explored wound up coming true within a much shorter time frame than had been envisioned. There can be no better measure of success for foresight than a plausible scenario becoming a reality.

> the mapping process about hypothetical futures that took place... I thought was really informative. And it was because of the collaborative nature of the experience. It felt reflective of a variety of different points of view. So it felt like it would be more informed than something I would just come to on my own. (Participant 17)

It is encouraging to have a participant call out the value of conducting foresight exercises within the context of a collaborative session. This study is also interested in a collaborative approach to foresight because of the benefit expected from bringing diverse perspectives to bear in the SF context.

> I think it definitely planted seeds. And it's a good way to open the mind, because really, we're talking about the world of work. We have no idea what's about to transpire...I think one group did #metoo, and a year and a half ago, we wouldn't have even known what that was. And now we're thinking of it in the context of the future of work, and ... student-faculty and student-mentor relationships—all of those things— [yet, 1.5 years ago], we wouldn't even have had that [conversation]. We would definitely have known about sexual harassment. We would not have understood the degree to which these things would no longer be tolerated. Yeah. And so, obviously, ... the day after tomorrow, something else will happen that we don't know about. So, it works as a mind-opening exercise to remind us all that change is constant; that we can't predict. But it doesn't necessarily create, I guess, a model that can react to those unknowns. We're not seeing, necessarily, the connection between the model that we came up with and that exercise. It doesn't have to be linear, but that's the one thing... If someone said to me, at the end of the day: "OK, so how does your model deal with the fact that women are going to be placed in vulnerable relationships with male mentors and bosses... in these small studio environments?" I'd say "We haven't dealt with that yet. Right—that! Gotta deal with that." And I think the same could be said for any number of trends or signals that we identified is that we haven't gone the distance yet...I'm sure the model can respond, but that's all in the details. (Deanne, sponsor)

This is exactly the sort of result I would hope to obtain. The FE shouldn't be expected to predict the future; it should open the mind to the realm of possibilities that the model (the strategy being created) must be designed to accommodate.

> Yes [the foresight exercises] did [affect the final solution], although I'm struggling to remember exactly how. But certainly, especially in the second one. That's really when we got into the substance of the model, right? So yeah, absolutely, because it was tied so closely to developing and refining the model. I think that, for me especially, concretized it, and made it relevant. (Susan, sponsor)

Further reflection of the success of the proof-of-concept here in terms of filling the gap between 100,000 feet and agility.

> One of the things I learned... it's not a small increase in complexity. Taking what is already a significantly complex challenge and then layering on alternative futures through a time horizon and all of a sudden, you've multiplied that complexity minimum tenfold. And so that has implications for how much time we spend on it. (Susan, sponsor)

This is certainly true, and future research and praxis will need to bear this in mind.

The experiences of the FE that interviewees reported strengthens the view that the FE was successfully integrated into the overall DesignShop experience, was generally deemed relevant and valuable by the participants, and that participants believed that the FE affected the dialogue and the final solution.

4.3.1 DesignShop Collaborative Foresight

The final research question to be considered is: how might the DesignShop process be used to develop a collaborative approach to foresight?

Although it cannot be satisfactorily explored through this study, the success of the proof-of-concept FE sets the stage for using DesignShop to stage truly collaborative and inclusive strategic foresight interventions. Given the modularity of the DS methodology, there is no reason that we could not conduct a truly collaborative foresight LGI by combining an FS framework such as 6 Pillars with the DesignShop models in a new glass bead game. Figure 9 on the following page depicts a model that might be used for such an intervention.

It is my hope that opportunities to explore more collaborative co-design of foresight will manifest through my professional practice in the months and years to come.

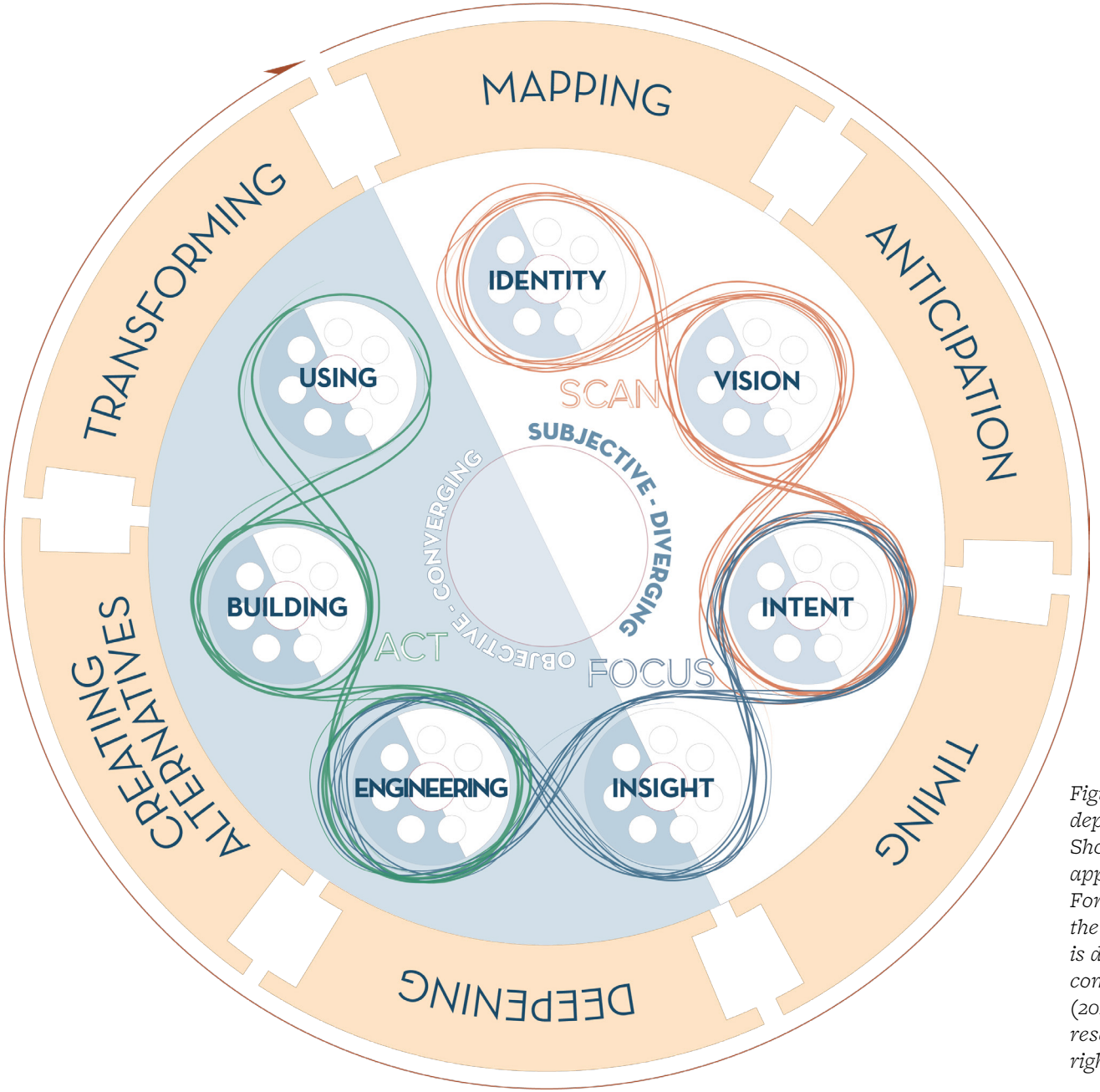


Figure 9. Hybrid model depicting a Design-Shop-driven collaborative approach to Strategic Foresight. The hybrid of the two MG Taylor models is depicted inside a wheel comprised of Inayatullah's (2015) 6 Pillars. Rights reserved by original copy-right holders.

5. CONCLUSION

Despite 5 decades of broad-based effort, we still struggle to address wicked problems through systemic change. This should come as no surprise; wicked problems are incomprehensibly complex and almost perversely resistant to change. Yet we have little choice but to face them—especially those that, like climate change, threaten our long-term survival as a species. In this paper, I argue that a practice of Collaborative Sustainable Innovation Design could help move the needle on these critical issues. In this final chapter, I will briefly summarize the research and argument, and will enumerate future research and practice directions across several of the domains touched on in the study.

5.1 SUMMARY

Any practice of sustainable innovation design wishing to reliably address complex challenges must be able to: incorporate new definitions of value and harness our best intentions; integrate across a transcontextual range of specialized perspectives without losing the depth of detail included in those perspectives, and; include sufficient foresight to allow decision-makers to anticipate consequences of their decisions and lead us toward a preferred future.

This study proposes: that the DesignShop process, an established hybrid innovation/LGI methodology in which I am an experienced practitioner, might serve as a foundation for this proposed practice of Collaborative Sustainable Innovation Design, and; by updating and enhancing the Strategic Foresight already present in the DesignShop body of knowledge, a key gap between what is required for sustainable innovation design and the foundation provided by DesignShop might be filled.

Seeking to further progress toward a practice of CSID, this study sought to explore 3 questions:

1. In what ways might the DesignShop process be made more effective by the integration of alternative futures based strategic foresight?

2. In the context of the broad field of innovation design, what is different or unique about the DesignShop approach?
3. How might the DesignShop process be used to develop a collaborative approach to foresight?

To set the context, several different fields of academic literature were reviewed. Contemporary perspectives on complexity and wickedness, especially Andersson and Törnberg's (2018) meta-ontological map of complexity and wickedness, were explored, and the DesignShop process was proposed as a pragmatic means of effecting change in trans-complicated, trans-complex, and sub-wicked systems. DesignShop was considered through two different methodological lenses: that of Innovation Methods, and also that of Dialogic OD and Large Group Interventions. A detailed summary of the DS approach was provided. Strategic Foresight, including its connections to DesignShop and design, was also explored, with a view to identifying a framework that could be integrated into a Foresight Enhancement for DesignShop. Inayatullah's Six Pillars was proposed as an SF framework that might be a good fit for DesignShop.

The research questions were explored through a real-world case study DesignShop engagement, conducted at OCAD University between late 2017 and early 2018. An exploratory single-case was used, with an embedded design to facilitate the concurrent exploration of DesignShop and the proposed Foresight Enhancement.

The findings from the case study were encouraging. A series of conjectures describing what makes DesignShop work, and what makes it different from the methods in parallel niches, were proposed.

Conjectures

I. The benefits anticipated from diversity of perspective and an inclusive co-design approach are reflected in the experience that DesignShop participants report
II. The benefits expected from LGIs can be obtained through DesignShop
III. The DesignShop approach is differentiated from other innovation methods and LGIs by the combination of several key factors
    a. Co-design process
    b. Design principles
    c. Dialogic scaffold
    d. Self-led teams
    e. Sponsor commitment to hierarchy suspension
    f. Visual sensemaking and learning

The integration of the Foresight Enhancement into the case study DesignShop application was also deemed suc-

cessful as a proof-of-concept. Participants reported feeling more future-ready, and co-designing a strategy for EL/WiL for OCAD for a future that is different from today. Finally, a model for the integration of Inayatullah's Six Pillars into DesignShop was proposed as a potential means for future praxis to develop and deliver a collaborative co-design approach to Strategic Foresight.

5.2 FUTURE DIRECTIONS

Since this paper forges new connections between multiple methodologies and disciplines of practice, the charting of future directions must encompass a number of regions of practice. I will outline the immediate next steps that future research could take to build on the results described here, consider how scholars and practitioners in innovation design and foresight might apply some of the DS-specific innovations discussed above, delve into future directions for DesignShop practice, in terms of SF enhancement, and in respect of other avenues of innovation already being explored in the community of practice, and close with some thoughts on the overarching challenge: means to address wicked problems through systemic change, by design.

5.2.1 Building directly on this study

This was a good time to conduct this study. The spate of recent publications by DS practitioners has opened the door to scholarly exploration of DesignShop. Had Rob Evans not set down the detailed knowledge he encoded through practice in the "Collaboration Code," I could not have written this paper. It may be hoped that future research might build upon this study and the emerging body of DesignShop literature to more thoroughly document the phenomena seen in DesignShop practice.

The most straightforward next steps should include additional design research case studies of real-world DesignShop applications. I believe that the model used in this study—focusing on participant experience, and treating the organizational "hard results" pursued in the DesignShop as the context—addresses two key issues that would otherwise tend to limit research on DesignShop. First, since DesignShops are frequently confidential, it might be difficult to gain research access that includes the content. Secondly, since all DesignShops are unique, comparison between applications of DesignShop, or between DS and other methods, would prove difficult if we attempted to include the work being done in the DesignShops in the analysis. In building on this research, continuing to abstract the experience/process from the content should permit multiple case designs, which would help confirm the findings from this study. Future researchers will hopefully get a boost by using the con-

jectures listed in section 4.2 to generate hypotheses. A multiple-case explanatory design would be easily within the reach of researchers with access to busy DS practices, such as those in the Australian market. As mentioned earlier, future case studies could employ a range of methods including ethnography to more thoroughly document some of the many innovative techniques that can be found in every DS practice.

5.2.2 Unlocking and Democratizing DesignShop Innovations

Until recently, in my view, the DesignShop secret has been a little too-well-kept. Students in programs like OCAD's SFI should be learning co-design best practices such as iterative agendas and dialogic scaffolding. Today's broad interest in applying design to all manner of challenges presents a one-time opportunity to democratize some of the best ideas developed by the Taylors, their collaborators, and heirs, potentially unlocking orders of magnitude more value than DS practitioners can manage on our own, no matter how dedicated we may be. With co-design being so broadly applied, the ability to design effective structures of participation is fast becoming a critical skill that should be available to all. How can we ensure that the best practices from DesignShop are indeed reflected in the next generation of approaches? What contributions might other heretofore-unresearched methodologies make when similarly documented? Given the wide range of approaches mentioned in the literature, it seems unlikely that DesignShop would be the only source of methodological wisdom not mentioned in the design literature that designers working in systems and innovation might draw on.

The conjectures presented in this study's findings are by no means a recipe for reproducing DesignShop benefits across other methodologies. Being able to succinctly state that DesignShops succeed in part because they use iterative agendas and dialogic scaffolds is not the same as knowing how to design an iterative agenda, or how to weave a dialogic scaffold from a well-crafted problem frame. Additional work will be required if we wish to unlock and democratize the valuable kernels of knowledge to which DesignShop practitioners have until recently had sole access. It is my hope that this work will continue, and that this study will contribute to this effort.

5.2.3 Strategic Foresight and Structures of Participation

Futures practitioners face unique challenges as our societies and economies teeter toward the second quarter of the 21st century. Technology innovations, especially trans-complex digital ones, have driven the overall rate of change to unprecedented levels. Pre-digital institutions in all sectors, the world over, must contend with massive uncertainty and complexity, and—more daunting still—this already wrenching rate of change seems likely

to continue to accelerate. As Leah Zaidi (personal communications) provocatively lays it out: *in light of the scientific consensus on climate change, futures practice is running out of its own medium—time.*

Given this rate of change and the proliferation of near-future concerns, leaders of all types must urgently find ways to help lead us toward a preferred future, one characterized by sustainable systems. The gap between SF's 100,000-foot view and "agile" management thinking should be bridged with transcontextual sensemaking, and that sensemaking should be linked to pragmatic action. SF's experiential turn (Candy & Dunagan, 2017) is certainly a move in the right direction. From the DS perspective, experience is the currency of true learning—learning that changes minds.

Foresight has a critical role to play as we grapple with the need to co-create sustainable futures. Many futurists are engaged in important work to make foresight more experiential and multisensory, inclusive, and collaborative. On top of this already lengthy list, I would add one more initiative: how might foresight better support pragmatic action? The ability to produce an experience of the future that is interesting, fun, and potentially instructive is valuable. The ability to produce such an experience of the future that motivates pragmatic, tangible action, and drives progress toward a preferred future would be of substantially more value in our era of climate crisis. DesignShop and other LGIs have proven successful in creating long-term sustainable change in organizational settings; Can foresight practitioners help produce similar results in the much more complex domain of our shared future? We may hope that the answer is yes, and that foresight practitioners interested in this vein will continue to learn from—and collaborate with—practitioners from DesignShop and other formerly siloed contexts. The tools and techniques best suited to make sense of and anticipate likely futures are in urgent need of democratization and recombination in a wide range of contexts if we are to successfully take ownership of the future itself.

5.2.4 Next Steps at the Intersection of DesignShop and Strategic Foresight

This study proposes two related but slightly different innovations at the intersection of SF and DS: a DS-based collaborative foresight LGI, and; enhanced foresight for everyday DS practice. My colleagues and I in my professional practice are keen to vigorously pursue both of these directions.

5.2.4.1 Collaborative Future Navigation

Certain aspects of the DesignShop methodology make it an excellent fit for collaborative foresight, a topic of current interest to many foresighters. The scale of an LGI affords the opportunity to convene collaborative efforts

that include an order of magnitude more diversity of perspective and aggregate cognitive capacity. The collaborative problem framing typical of the co-design process goes a long way to ensuring that the dialogue within the LGI event will be highly relevant and timely. The action planning that characterizes the Act phase of DesignShops could provide a valuable segue from sensemaking about the future to action in the days and weeks following the intervention, increasing the probability that the experiences and visions of the future explored in the intervention catalyze real, tangible progress toward better futures.

In my view, a DesignShop approach to foresight based on the hybrid model depicted in Figure 9 could form the basis of a new hybrid practice methodology, which I have tentatively called Collaborative Future Navigation. This new proposed practice might engage diverse large groups in inclusive, authentic dialogic co-design of shared futures. Such a group, working intensively and iteratively across all of Inayatullah's 6 Pillars (or a similar SF framework), could generate exciting results. In our professional practice, we will be seeking opportunities to put this model into practice in the coming months and years.

5.2.4.2 Enhanced Foresight for all DesignShops

While it is true that adding alternative futures significantly increases the complexity inherent in the already-complex problems typically undertaken in DesignShops, that does not mean that the practice can do without enhanced foresight. Unless it includes time and space to make sense of alternative futures, the co-design of target future states is tantamount to doubling down on what Dator (1979) termed a "growth future": the indefinite extension of business-as-usual and its attendant assumptions. Though DesignShop was developed to help us "rebuild Earth as a work of art for all living things" (Coullomb & Collingwood-Boots, 2017, p.7)—an early iteration of transition design (transitiondesign.net), I argue—the contemporary practice is, too often, helping clients reproduce the unsustainable systems of the present.

In my view, enhanced foresight should be included in all DesignShops. At a minimum, DS participants should *always*: make sense of the range of plausible futures they are designing for; wind-tunnel their proposed strategies in that range of plausible futures; model the future ramifications of their decisions (inside and outside of the problem frame), and; endeavour to ensure that the outputs they create help lead us toward a preferred future.

Taken together, DS practitioners have tremendous access to powerful decision makers and the resources they command. The excellent work of organizations such as The Value Web, a collective of DS practitioners who seek to "transform decision-making for the common good" (thevalueweb.org), and the Impact Assembly, a DesignShop practice that "harnesses the power of many to create social

impact that lasts" (www.pwc.com.au/about-us/social-impact/systemic-change/the-impact-assembly.html), are but two of many signs that DesignShop practice culture places value on sustainable futures. With enhanced foresight, we could help our clients make those futures real.

The work of developing new DS models and modules to update and extend foresight within DesignShop could be a great shared project for the global DS community of practice. I am excited to see how far my dedicated colleagues in the DesignShop world can take these ideas in the years to come.

5.2.4 Where DesignShop Practice Innovation Might Lead

This paper has barely scratched the surface in describing DesignShop practice, and has largely ignored a number of innovation streams already being explored by DesignShop practitioners around the world. Given that the findings include taking a position on what DS is and what differentiates it from other approaches, I would be remiss if I did not briefly address where DS seems to be headed.

A number of aspects of the typical DS approach (as described in this paper) limit the affective potential of the methodology, and have been identified by various practitioners as potential opportunities for innovation.

5.2.4.1 PatchWorks and Type I DesignShop: Beyond Intensive Synchrony

The Type II DesignShop model upon which this paper's analysis of DS focuses is constrained by the need for intensive, synchronous in-person participation. Plenary sessions such as Report Outs become unwieldy for larger groups. Though I have worked with him on sessions nearly twice that large, Evans (2016, p. 53) pegs the optimum DesignShop participant group size at 64. When the group gets larger, he argues, the Report Outs start to become obstacles to progress. When dealing with larger numbers, DS practitioners can circumvent this limitation by employing a Patchworks Architecture (mentioned in section 2.2.1.1 above; covered in Evans, 2016, pp 51-56) to create a Type I DesignShop.

Removing the need for stakeholder participants to be in the same room at the same time opens the door to other possibilities. Not only can a Type I DesignShop attain much larger scale than the "classic" Type II; it can also more easily accommodate geographically distributed participation, and need not be entirely synchronous (e.g. different teams could work at different times). So long as it still facilitates inclusive co-design through authentic dialogue, the Type I approach might conceivably generate the same benefits while further broadening inclusion and diversity of perspective within DesignShop interventions by an order of magnitude.

Practitioners such as Philippe Coullomb of Openfield (openfield.design) have been using the PatchWorks approach to work at the systemic scale. Openfield describes the approach they took to facilitate the co-design of a 30-year strategy for New Zealand education by over 1500 participants in a case study on their website (Openfield).

As practitioners continue to explore the possibilities afforded by the PatchWorks Architecture, it would be interesting to augment their efforts with research. Do the benefits expected from LGIs translate to these larger scales? Are the keys grouped under conjecture III evident in this new class of DesignShop interventions? How might we augment foresight within these large and decentralized dialogic co-design scaffolds?

5.2.4.2 Data-Driven Collaboration and Machine Learning

A different thread of innovation, focused around data and AI, is being spearheaded by Brandon Klein and The Difference (US) (thedifferenceconsulting.com). Klein and Newman's (2017) book offers some reflections on the ways in which machine learning and artificial intelligence might change facilitated sessions and collaboration more generally. Klein and his collaborators have created a service, collaboration.ai, which reportedly uses a patented AI engine to convert participant data into "intelligent teams." Seeking to improve on the ad-hoc methods that we use to identify DesignShop participants and to group them into teams, collaboration.ai proposes a data-driven approach. Through social network analysis and other emerging techniques, we might potentially map the human networks within organizations and other human systems, and use that insight to identify leverage points and other valuable data. Through such approaches, we might know better who to include in conferences and collaborative sessions such as DesignShops, and know better how to structure the teams within those sessions.

I have yet to have any professional experience with these new algorithmic tools, so I can offer little insight into how these tools change the DesignShop approach in practice. Regardless of whether the collaboration.ai model proves to be visionary, it seems clear that digital/algorithmic methods for engaging diverse perspectives will play some role in the future of Collaborative Innovation Design.

5.2.4.3 What's Next for DesignShop

These emerging innovations within DesignShop practice may herald the development of a new focus for DesignShop practice that looks beyond the LGI approaches of the late 20th and early 21st century, toward something more digitally-mediated, asynchronous, bottom-up, and decentralized.

Though the LGI literature (e.g. Shmulyian et al, 2010) has focused on the importance of the lead facilitator, and pointed to the time and dedication required to learn LGI facilitation as a potential limitation on affective scope of LGIs, the conjectured keys to DesignShop described in this study paint a different picture, and might support the emergence and formalization of this new practice. All of the 6 conjectured keys could be applied in the context of a data-driven and/or Type I DesignShop, and we might eventually see dialogic scaffolds being used to coordinate decentralized collaboration at truly massive scales.

While we should not rush to replace the classic DesignShop model with this new form of practice, the possibility of a truly inclusive and bottom-up decentralized co-design model is tantalizing. Providing that this new practice can retain the benefits provided by the old one—and this is far from assured at this early stage—it could confer a number of additional benefits and broaden the potential application range for DesignShop further still. It would certainly be interesting to see such massive interventions used to make sense of and anticipate the future.

While digital platforms have thus far not proved effective in the facilitation of productive dialogue, that does not mean that such facilitation cannot be effectively done. The central difference between complex human systems and complex systems comprised of other species is dialogue. Innovators seeking to further trans-complex means to facilitate collaboration and change in human systems must bear this in mind. If these new more decentralized DesignShop-based approaches can remain successful in supporting authentic dialogue and iterative co-design, then the opportunity afforded to take an even more inclusive approach should be welcomed. Equally valuable would be the potential to collaborate across distance, which would reduce the DesignShop carbon footprint substantially.

While I continue to believe in the power of in-person connection and dialogue to bring us together and change minds, I see no reason that we cannot update the tools with which we conduct this work. DesignShop is a trans-complex approach, which uses the complicated (process structure) to harness the complex (authentic dialogue and emergent participant collaboration). The question that must be answered through praxis is: what portions of these structures of participation should we be assembling, and where should we letting the people self-organize through dialogue? If we algorithmically encode the means to assemble DesignShop structure, such as iterative parallel processing agendas, how can we ensure that we haven't de-humanized this most humane of technologies? More DesignShop research would be helpful, and the succinctness of the DS perspective described in this study will hopefully support that work.

5.2.5 Final Thoughts

The tendency for methodology streams and academic disciplines to remain contentedly unaware of potentially valuable wisdom in parallel niches and contexts should come as no surprise to those who have read this paper in its entirety. The alternative—transcontextual collaboration using the best methods and techniques to be found in any accessible context—is dauntingly complex. Yet the theory and the evidence strongly suggest that it is the best way forward. In the 21st century, wicked problems are demanding our immediate attention. We cannot continue to reinvent the methodological wheel in each and every discipline, nor can we continue to assume that the context we bring to a challenge affords sufficient understanding to robustly address it.

From a theoretical standpoint, I would like to close by encouraging us all to open ourselves up to the transcontextual multiplicity of perspective for which Nora Bateson so eloquently argues. There is no limit to how many ways we can see the world around us and the problems it spawns. When we encounter diversity of perspective, we should respond with yes-and; and iteratively repeat, indefinitely.

And from a pragmatic perspective, I am energized to pursue a practice of Collaborative Sustainable Innovation Design and Future Navigation. We must learn to successfully address wicked problems through systemic change, and this nascent hybrid practice is the best next step that I know how to take toward a preferred future for today's children and generations to come.

6. GLOSSARY AND LIST OF ACRONYMS

6.1 GLOSSARY OF TERMS

Term	Description
Complex (in SOS)	A system comprised of many independent subcomponents. Subcomponents are generally independent agents. Emergent patterns may arise from the interaction of subcomponents within complex systems. Examples include traffic, herds, flocks. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.
Complicated (in SOS)	A system assembled from many components of different types. Subcomponents generally cannot function independently. Examples include organisms and technologies. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.
DesignShop	The practice tradition based on the application of the MG Taylor System and Method to large-group collaborative design (20+ participants).
Foresight Enhancement	The headline innovation proposed in this study; an updated philosophy and approach for strategic foresight within the context of the DesignShop methodology.

Growth future	A future scenario in which current trends and assumptions continue indefinitely. One of Dator's (1979) four futures.
Knowledge Worker	Title used in DesignShop practice to denote a member of a DesignShop facilitation team.
Large Group Intervention	A class of methodologies that engage large groups (typically more than 20; often many more) of participants in co-design of change. Often associated with Organizational Development.
Problem Structuring Method	A class of methodologies that attempt to effect change by sensemaking—modelling or mapping problems and systems.
Sponsor Design Session	A workshop in which a DesignShop Sponsor Design Team engages in co-design to find and frame problems to be solved. Outputs a problem frame. Often used to kick off a DesignShop co-design process.
Sponsor Design Team	A small team, typically drawn from senior ranks of client organizations, who lead the co-design of a DesignShop.
System of Overwhelming Systems (SOS)	A meta-ontological map of types of complex and complicated systems. A framework proposed by Andersson and Törnberg (2018).
Straw Dog	A draft agenda for a DesignShop.
Sub-wicked system (in SOS)	A category of complex systems which exhibit the characteristics of wickedness, but at scales that humans can potentially comprehend. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.
Target future state	A conceptual model of a desired future outcome.
Trans-complex (in SOS)	A system where humans have used elements of complicated design to harness the affordances of complex systems. Examples include "sharing economy" organizations and social media. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.

Trans-complicated (in SOS)	A system that humans have assembled from other complicated systems. Central examples are hierarchically organized organizations. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.
Transcontextual	An adjective that describes the spanning of multiple contexts (e.g. research, academic, personal). If context describes the broadest perspective that any individual can bring to bear, a transcontextual perspective would aggregate the contexts brought by multiple individuals with diverse perspectives. Intended to remind us that no one discipline or area of study or specialization is sufficient to understand complex systems. Proposed by Nora Bateson (2016)

Wicked system (in SOS)	The largest systems with which we are familiar. Systems comprised of a multitude of complex sub-systems that exhibit an almost perverse resistance to change. Examples would include economies and ecosystems. A subcategory from Andersson and Törnberg's (2018) System of Overwhelming Systems framework.
Wicked problem	A problem defined within a wicked system. The definition of a problem requires the articulation of a target future state and a current state of affairs we wish to change. For example: the global economy is a wicked system. A wicked problem would be: how might we transition the global economy to sustainable levels of greenhouse gas emissions?
Wind-tunneling	The process of testing strategic options in alternative future scenarios.

6.2 LIST OF ACRONYMS

Acronym	Term
ASE	Accelerated Solutions Environment
CSID	Collaborative Sustainable Innovation Design
DS	DesignShop
OD	Organizational Development
FE	Foresight Enhancement
KW	Knowledge Worker
KreW	Facilitation team; sometimes “crew”
LGI	Large Group Intervention
OR	Organizational Research
PSM	Problem Structuring Method
SDS	Sponsor Design Session
SDT	Sponsor Design Team
SF	Strategic Foresight
SOS	System of Overwhelming Systems
VSM	Viable System Model

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LIST OF APPENDICES

A. INPUTS TO CASE STUDY DESIGNSHOP

- MAESD EL/WiL Checklist
- List of readings provided available by request

B. PROCESS TOOLS FOR FORESIGHT ENHANCEMENT

- Scanning template
- Scenario context scripts

C. RESEARCH TOOLS USED

- Participant reflections journal
- Semi-structured interview guide

D. RESEARCH RESULTS

Full list of quotes selected from semi-structured interviews and reflections journal responses available by request

Appendix A: Inputs to Case Study DesignShop. MAESD EL/WiL Checklist

EXPERIENTIAL LEARNING *Checklist*

What is the Goal?

Supporting students in getting the hands-on learning opportunities that help them transition to employment. It is also to address employers' needs for new graduates or young employees to "hit the ground running."

What counts as an experiential learning activity?

For an experience to count, it must check these six boxes:

- The student is in a workplace or simulated workplace.
- The student is exposed to authentic demands that improve their employability, interpersonal skills, and transition to the workforce.
- The experience is structured with purposeful and meaningful activities.
- The student applies university or college program knowledge and/ or essential employability skills.
- The experience includes student self-assessment and evaluation of the student's performance and learning outcomes by the employer and/or university/college.
- The experience counts towards course credit or credential completion OR is formally recognized by the college or university as meeting the five criteria above.

Employment Laws
All opportunities must comply with all applicable laws and regulations including health and safety.

Access
Experiential learning partners are reminded to provide students with accessible EL experiences in inclusive environments.

Ministry of Advanced Education and Skills Development

Ontario

EXPERIENTIAL LEARNING
Examples

Experiential learning takes many forms. Here are a range of illustrative examples. All EL-activities will need to satisfy the checklist on the previous page.

Apprenticeships: Students are sponsored by an employer as part of the cabinetmaker trade program.

Performance and Artistic Productions: Young artists and dancers organize and participate in an annual student art showcase that attracts industry representatives.

Bootcamps/ Hackathons: Students develop a workable solution to a technology, data, or design problem, supported by mentors or peers.

Clinical Placements: Nursing students receive practical training at local health centres.

Co-Ops: Computer engineering students alternate four-month school terms and four-month paid work terms with technology companies.

Field Experience and Placements: Criminology and Criminal Justice students are offered field placements at a correctional facility or victim services agency, etc.

Incubators and Accelerators: Students build a start-up company, working in a campus-linked incubator.

Industry-Sponsored Research Projects: Students are approached by a fitness company to create a virtual personal training app to track workouts.

Job Shadowing: A Paramedic program offers students supervised ride-out time in an ambulance with a requirement to complete 450 hours.

Mandatory Professional Practice: For an Aviation Operations program, students complete their Industry Canada radio license by working at an airport.

Practicums: Early Childhood Education students complete practice teaching courses to gain in-class experience in a public school.

Service Learning: Students in a Peace Studies program participate in voluntary placements aimed at helping acclimatize refugees as part of a course on community peace building.

Workplace Simulations: Students in a Dental Hygiene program practice on life-like patient models in a model clinic.

Work-Study Programs: Library Science students participate in paid work experiences in a campus library.

And any other comparable activity that meets the checklist on the previous page.

Appendix B: Process tools for Foresight Enhancement. Scanning Template

HYPERPERSONALIZATION

SIGNAL TREND DRIVER UNCERTAINTY | SOCIAL TECHNOLOGICAL ECONOMIC ENVIRONMENTAL POLITICAL VALUES

DESCRIPTION

Digital technology enhances modularity, allowing increased personalization

BY 2023, WE MIGHT NEED TO THINK ABOUT . . .

Self-serve Experiential Learning match-making, digitally mediated.

Build your own Scenarios

2023 Scenario Context: Crisis for OCAD

The latest round of employment statistics for OCAD graduates got too much of the wrong kind of media attention, and now we're in trouble. The numbers were ugly: 25% of our grads unemployed, and most of those who are employed are making minimum wage. On average, they're carrying $25K in student debt. Meanwhile, corporate co-optation of design has continued, leading to a widely held perception that Design Thinking is a played out fad. Applications to study at OCAD are down considerably. This threatens to impact our funding.

Spend some time exploring the scenario, considering the effects of the trends/signals/drivers posted on the wall, and then discuss and answer the following questions:

- How would your model for EL at OCAD U hold up under this scenario?
- What should OCAD do between now and 2023 to avoid a scenario like this unfolding?
- How might OCAD U react in order to mitigate the impact of a scenario like this?

2023 Scenario Context: Disciplined Inclusion

While we've been at work putting our EL model in place, some of the trends and drivers we considered have changed OCAD U overall. Today, in 2023, we at OCAD U are most famous for our inclusive design. We've also made lots of progress on putting decolonization into practice, and this has dovetailed with a broader societal shift toward sustainability.

Spend some time exploring the scenario, considering the effects of the trends/signals/drivers posted on the wall, and then discuss and answer the following questions:

- How would your model for EL at OCAD U hold up under this scenario?
- How would student needs/wants change under this scenario?
- How would you change our EL model to anticipate those changing needs and wants?

Build your own Scenarios

Scenario: Neoliberal Growth

The PCs won a majority in the 2018 Ontario election, and felt they had a mandate to eviscerate arts education funding. With Trumpian tax policy in place across the border, funding is very scarce. The PC platform in 2022 called for exploring standardized testing to benchmark undergraduate programs. They won another mandate, and have convened a commission to explore.

Spend some time exploring the scenario, considering the effects of the trends/signals/drivers posted on the wall, and then discuss and answer the following questions:

- How would five more years of neoliberal austerity politics affect OCAD U?
- How would your model for EL at OCAD U hold up under this scenario?
- How would student needs/wants change under this scenario? What could OCAD do to help them deal with precarity and the attendant challenges?
- How might OCAD U react in order to mitigate the impact of a scenario like this?

Scenario: Digital Transformation of Higher Learning

Released in 2020, Microsoft's Hololens2 is to Augmented Reality what the iPhone was to smart phones. In 3 years, it has changed the way we work and live, and the way it has changed the younger generations--the digital natives--is difficult for the older generations of digital immigrants to understand.

In this new world, reality is blended. Our visual fields are overlaid with digital information. Students are very impatient with the idea of having to physically attending lectures, and many international students are seeking to study from home, virtually.

Spend some time exploring the scenario, considering the effects of the trends/signals/drivers posted on the wall, and then discuss and answer the following questions:

- How would student needs/wants change under this scenario?
- How would your model for EL at OCAD U hold up under this scenario?
- How might OCAD U react in order to mitigate the impact of a scenario like this?

Appendix C: Research tools used. Participant reflections journal

REFLECTIONS JOURNAL YOUR NAME:

To be completed at the start of the day

1. On a scale of 1 to 5, how confident do you feel in your understanding of how the needs and requirements around Experiential and Work-Integrated Learning in Ontario might change over the next 10 years?

Not confident	1	2	3	4	5	Highly Confident

2. Can you describe why you feel this way?

To be completed at lunch time

3. On a scale of 1 to 5, how confident do you feel in your understanding of how the needs and requirements around Experiential and Work-Integrated Learning in Ontario might change over the next 10 years?

Not confident	1	2	3	4	5	Highly Confident

4. Has your confidence level changed? Can you describe how?

To be completed toward end of day

5. On a scale of 1 to 5, how confident do you feel in your understanding of how the needs and requirements around Experiential and Work-Integrated Learning in Ontario might change over the next 10 years?

Not confident	1	2	3	4	5	Highly Confident

6. Has your confidence level changed over the day? Can you describe how? If it has not changed, can you describe why?

Appendix C: Research tools used. Participant reflections journal

7. Do you feel that the vision the group arrived at for Experiential and Work-Integrated Learning is designed for a future that is different from today?

    a. If yes, in what ways:

    b. Did you design for a single future, or a range of possible futures?

8. What did you learn today?

9. What are your thoughts on the process we used for the workshop? Would you support using a method like this again?

10. What aspects of the method did you find most valuable?

11. Were there aspects of the workshop content or method that you found less valuable? Explain.

12. Additional Comments and Notes

Appendix C: Research tools used. Semi-structured interview guide

Interview guide: participants

1. Walk through reflections journal--if responded already, review; if hasn't responded, collect responses
2. Dive deeper on 2 themes:
    a. Experience (in the workshop) and perceived value of Collaborative Strategic Design (in the MGTDS tradition)
    b. Need for and effectiveness of foresight component of workshop

A. Experience and perceived value of Collaborative Strategic Design

a. In what ways was the EL workshop different from OCAD's "standard operating procedure" for situations like this? Please describe.

b. In your view, how effective was it?

    i. Overall

    ii. In comparison to the typical approach

c. Have you had previous experience with similar workshop methods?

d. If yes, how differentiated was this workshop, as compared to the others you experienced?

e. The DesignShop method is intended to be highly collaborative. Did you experience it as more collaborative than other workshops? Please describe.

B. Need for and effectiveness of foresight components of workshop

Going back to the discussion of confidence in future EL needs . . .

a. Do you feel that the dialogue in the workshop(s) helped you make sense of the range of possible futures for Experiential and Work-Integrated Learning for Ontario? Describe how.

b. In your view, were the foresight exercises (scanning, DIY scenarios) relevant and valuable?

c. Do you think that the dialogue in those exercises affected the solution that the group ultimately landed on?

d. Were you familiar with the notion of Alternative Futures Scenarios prior to the workshops?