

## **Languaging Design Methods**

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### ***Abstract***

Design methods have been integral to design studies research, with initial goals of bringing rationality and objectivity to design activities, later shifting to the creation and provision of methods as tools to encourage more reflective, meaningful, and socially responsible design practices. However, little research exists that describes how methods are created, what knowledge is used to inform this creation, or connects elements of methods to performance by designers. In this research note, I describe performative, codification-oriented, and presentation-oriented stances towards design methods, articulating a vocabulary that languages aspects of methods. I describe areas where this vocabulary may support design researchers, including building new design methods, informing descriptive accounts of methods in use, and supporting the creation of a theory of method.

### ***Keywords***

*design methods, design theory, design practice, design tools*

### ***Research Highlights***

- A vocabulary that informs researchers' engagement with design methods
- A set of performative, codification-oriented, and presentation-oriented stances towards design methods
- Opportunities for researchers to create new methods, describe methods, and build a theory of method

The notion of design methods has been at the heart of design research since its birth in the 1960s—underscored by the “Design Methods Movement” that launched the 1962 Conference on Design Methods and later interest in first-generation and second-generation design methods (Jones, 1970, 1984; Rittel, 1984). What began as an attempt to bring a sense of rationality and objectivity to design activities later shifted into the creation and provision of tools to encourage more reflective, meaningful, and socially responsible design practices.

In the modern design era—often dominated by the language of IDEO and the Stanford d.School (cf., Laursen & Haase, 2019)—design methods have emerged as explicit tools to aid the designer in their work. However, despite the rapid creation and dissemination of hundreds of such methods across a range of traditional to business-focused design framings (e.g., Curedale, 2012; Kumar, 2013; Martin & Hanington, 2012; van Boeijen et al., 2014), most existing research focuses on characterizing design knowledge in relation to methods, with virtually no descriptions of how methods are created (and with what sources of knowledge), and few examples of how elements of design methods may relate to the performance of methods by designers (see Goodman, 2013 and Reeves, 2019 as rare examples).

In this research note, I will seek to build a fuller account of how methods are language, identifying a preliminary vocabulary to describe the knowledge bound up in methods that may point towards patterns of performance. I build upon the linguistic and critical theory denotation of *linguaging* in the work of Krippendorff (1995) and other scholars, positioning the use of particular vocabulary as a means of enacting a design discourse. This vocabulary allows design to be constituted as social engagement with multiple forms of existing and potential knowledge(s) that can be structured in many forms. By making explicit the ways in which we always already language our existence as designers through methods, it is my intention for this preliminary vocabulary to lead to greater precision in creating, evaluating, and characterizing methods, providing new translational opportunities among design researchers, educators, and practitioners. I build explicitly both on prior work from researchers who have studied methods in multiple design practice contexts; for instance, creativity support (Chulvi et al., 2012; Mose Biskjaer et al., 2017), interaction design (Gray, 2016a; Harrison et al., 2006; Löwgren & Stolterman, 1999; Stolterman et al., 2008), engineering design

(Roschuni et al., 2015), software development (Cohn et al., 2010), or from a broader design theory perspective (Gray, 2016b; Hanington, 2003; Lee, 2014).

## **1. The Evolution of Design Methods**

There is relatively little work that has directly addressed design methods and student and practitioner conceptions of these methods in the past two decades. Person et al. (2012) and Gray (2016a) have described methods engagement as part of a “mindset,” while other sources focus on pragmatic use of methods (Harrison et al., 2006), methods as mental or designerly tools (Daalhuizen, 2014; Löwgren & Stolterman, 1999; Stolterman et al., 2008), performative dimensions of methods (Goodman, 2013; Reeves, 2019), or codification of methods (Martin & Hanington, 2012; van Boeijen et al., 2014). To situate the notion of design methods, I begin by building on early work on design methods during the transition from second-generation design methods to modern design studies research. Cross (1980) describes an historical account of this transition, beginning with deconstruction- and systems-oriented methods that positioned design as a logical system in the “first generation” of design methods (Alexander, 1964), reframed by Rittel as a more participatory set of “second generation” methods in the 1970s and 80s (Rittel, 1984). Cross concludes by articulating the potential for third or fourth generation methods that engage with a wider range of design disciplines, while also addressing some of the logical contradictions between design as what Nelson and Stolterman (2012) describe as a “third way” and the scientific underpinnings of methods in their first-generation role.

Lloyd (2019) provides an extensive historical overview of the framing of design methods in design studies scholarship that further elucidates these various attitudes towards design methods, complementing early views of a potential generic design process that positions design work as inherently social and situated (Bucciarelli, Goldschmidt, and Schon, 1987). Lloyd described the transition and tensions between a scientific view of design that has a tendency to reduce complexity into prescriptive abstractions and a more designerly view that frames design inquiry as inherently “about making things and trying them out.” (p. 168). These differing epistemological stances towards methods reveals early underpinnings that positioned methods as primarily *prescriptive* (i.e., first generation methods) and later theoretical work that engages the designer’s work in a more situated and subjective stance that relies upon methods as *descriptive* texts that allow for the possibility of multiple readings and resulting actions (i.e., second generation methods and beyond).

I build upon both Cross (1980) and Lloyd (2019) in framing a working definition of design methods—with methods operating both as “step-by-step, teachable, learnable, repeatable, and communicable procedures to aid the designer in the course of designing” (Cross, 1980, p. 242) and as tools that “guid[e] and challeng[e] designers to consider things outside of their intuition and preconceptions” (Lloyd, 2019, p. 170) in situated contexts. This working definition engages both prescriptive and descriptive qualities of design methods, privileging an interpretivist paradigm that has primary commitments to subjectivity, pluralism, and situativity.

This language of methods as tools and a means of communication is largely reflected in contemporary methods reference manuals with increasing attention to participatory engagement and sociality, with the *Universal Methods of Design* text asking the reader: “Consider these 100 methods and techniques as a means to get to better design, rather than ends in and of themselves. [...] Treat them as conversations. We have.” (Martin & Hanington, 2012, p. 7). Similarly, the *Delft Design Guide* positions their text as closer to application and performance as opposed to mere description or prescription: “Methodological textbooks usually focus on detailed descriptions of methods and barely address their application. The authors of this book have explicitly opted for the latter perspective.” (van Boeijen et al., 2014, p. 5). Across these contemporary texts, design methods are increasingly framed as context-agnostic, with many methods revealing potential utility for both researchers and designers; this is consistent with modern approaches to research (which increasingly incorporates design work as a key tool for inquiry; cf., Research through Design) and design (which increasingly relies upon user research to frame the problem space). We do not seek to resolve the potentially competing needs of each of these communities in this paper.

Based on this historical and contemporary engagement with design methods, several substantial questions remain for design studies researchers which I seek to provide a vocabulary to better address in this paper. I return to each of these questions in Section 3, outlining opportunities for future design researchers to build upon the vocabulary of design methods I describe in Section 2.

1. What work do method designers engage in when creating a new method? How do they depict and inscribe their expectations of the method into the method presentation?
2. What aspects of methods are perceived as most salient to potential designers when the designer selects, modifies, appropriates, combines, or creates a wholly new design method?

How do designers fit or alter methods to address particular needs in practice, and how do they decide when a method has served its purpose?

3. How can methods be productively collected, described, and disseminated? How do these descriptions of methods point towards a future theory of method?

## **2. The Language of Methods**

To describe the range of knowledge contained within methods, I first identify and synthesize three different stances towards methods knowledge that relate to distinct sets of taxonomic features and vocabulary that may add precision to the description of extant methods, identification of key components of methods use in education and practice, and in generating opportunities for new methods support. In doing so, I build upon descriptions in the literature that alternatively focus on method description as the formation of propositional knowledge that can be interpreted, organized into taxonomies, and validated (Frey & Dym, 2006; Roschuni et al., 2011) and method description as informing the potential for performance by designers in nondeterministic ways (Daalhuizen, 2014; Goodman, 2013; Reeves, 2019). In particular, I build on the work of Gray (2016b), who previously argued for engagement with both prescriptive and performative attitudes towards design methods, describing opportunities for cross-cutting elements of these perspectives to impact how methods are viewed, created, articulated, theorized, and adapted. In synthesizing these different philosophical, research-oriented, and pragmatic attitudes towards methods, I will describe three distinct-yet-overlapping stances towards methods that will inform the development of a vocabulary to describe design methods: 1) codification-oriented, 2) performative, and 3) presentation-oriented.

CODIFICATION-ORIENTED	PERFORMATIVE	PRESENTATION-ORIENTED
<b>Sensitizing Concept</b> a conceptual vocabulary that orients the method in relation to existing theories, concepts, practices, or outcomes	<b>Input</b> something that the designer selects for the method to operate on	<b>Publication Format</b> the means of dissemination, which reveal assumptions about intended audience, relative availability, and perceptions of rigor
<b>Attribute</b> explicit characteristics of the design method that foreground affordances of the method or opportunities to act	<b>Mechanic</b> potential actions for the designer to use their input material in a transformational, generative, evaluative, or adaptive way	<b>Type of Guidance</b> the level of abstraction and scaffolding through which the prescribed knowledge is communicated and structured
<b>Core</b> the framing metaphor that makes the entire method, or a portion of the method, coherent and potentially interchangeable	<b>Output</b> tangible or intangible outcomes that emerge from the designer's performance relating to input, mechanic, and intent	<b>Medium</b> a presentation layer between the prescribed method and the potential performance that might be undertaken by a designer

**Figure 1.** Summary of three stances towards design methods and related vocabulary.

A *codification-oriented* or prescriptive stance reveals the extent to which procedural and descriptive knowledge is bound up in the method itself. In this stance, methods are distilled as recipes or blueprints, indicating potential support for particular forms of design action, yet in inert and inactivated form. A *performative* stance reveals aspects of embodied and designerly engagement with methods as it relates to design action *under the control of a designer*. In this stance, methods are taken up as tools to aid the designer in forming design judgments and making decisions about how to traverse the design space, with more expert designers often engaging with methods without full awareness of how these methods are shaped by emergent properties of the design situation, examples from their repertoire, and elements of the codified methods that already exist and appear salient in the moment. Building on these two existing stances proposed by Gray (2016b), I also introduce a third stance that relates to how a method is *presented*, relating both to form and knowledge type. In this stance, methods are presented in particular media formats that reveal assumptions or opportunities for use that range from didactic to playful, academic to practice-oriented, in ways that can have profound impact on performative qualities of the method.

To support this investigation, my colleagues and I collected and evaluated a set of design methods relating to ethics and values as part of a larger project on supporting pragmatic ethics in technology practice. During this process, we collected a set of 63 ethics-focused methods and evaluated these

methods to describe their characteristics. These methods were drawn from multiple disciplinary traditions, including Human-Computer Interaction (HCI), Science and Technology Studies (STS), and Privacy and Cybersecurity—many methods with explicit links back to one or more dominant design traditions. Through extensive searches on Google Scholar and the ACM Digital Library, along with searches including the keywords “values,” “ethics,” and “design” on Google, we identified a range of methods that were published in diverse forms, including downloadable PDFs or toolkits on websites, card decks available for purchase, online forms, and formal academic papers. All methods were published in the last two decades, and many in the past five years. To activate some of the vocabulary described below, I will use three examples from this larger corpus of methods, detailed in Table 1.

Table 1: Examples of Ethics-Focused Methods

Method Name	Description	Codification-Oriented	Performative	Presentation-Oriented
<i>The Tarot Cards of Tech</i>	“...a set of provocations designed to ... help you foresee unintended consequences—they can also reveal opportunities for creating positive change” (“The Tarot Cards of Tech”, n.d.)	<u>Sensitizing Concepts:</u> Ethics <u>Attributes:</u> Foreseeing the Future, Exploration <u>Core:</u> Critically Engaging, Evaluating	<u>Input:</u> Design Artifact <u>Mechanic:</u> Filtering, Evaluating <u>Output:</u> Opportunities	<u>Publication Format:</u> Website <u>Type of Guidance:</u> Lenses <u>Medium:</u> Card Deck
<i>Judgment Call: The Game</i>	“...product teams identify their stakeholders, then write fictional product reviews from those stakeholders’ perspectives related to ethical principles.” (Ballard et al., 2019)	<u>Sensitizing Concepts:</u> Value-Sensitive Design, Design Fiction, Human Values <u>Attributes:</u> Product Reviews, Generation, Evaluation <u>Core:</u> Defamiliarizing, Evaluating	<u>Input:</u> Design Artifact <u>Mechanic:</u> Storytelling, Altering, Filtering <u>Output:</u> Users/Stakeholders, User Information, Evaluation	<u>Publication Format:</u> Academic Paper, Website <u>Type of Guidance:</u> Steps, Lenses, Guidelines <u>Medium:</u> Card Decks and Templates as Part of a Collaborative Game

<i>Ethics Canvas</i>	"...a collaborative tool that assists in the identification, analysis and solving of ethical implications in research and innovation projects." (Reijers et al., n.d.)	<u>Sensitizing Concepts:</u> Value-Sensitive Design <u>Attributes:</u> Structured Questions, Planning <u>Core:</u> Framing	<u>Input:</u> Design Artifact <u>Mechanic:</u> Altering, Mapping <u>Output:</u> Users/Stakeholders, Values, Procedural Information	<u>Publication Format:</u> Website <u>Type of Guidance:</u> Questions <u>Medium:</u> Template
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As part of this empirical work, we built a set of terms to identify characteristic qualities across methods, resulting in an articulable vocabulary. Through engaging deeply with this set of methods, we identified three related sets of vocabulary. First, codification-focused vocabulary includes the use of sensitizing concepts, primary generators that shape and frame the purpose of the method, the “core” of a method that functions as its “script,” and appeals to existing frameworks, theories, concepts, or other methods. Second, performative-focused vocabulary includes implied or explicit inputs, mechanics, and potential outputs. Finally, presentation-focused vocabulary includes the type of guidance, the format of publication, and the primary medium. I will describe each of these sets of vocabulary further in the following sections, foregrounding aspects of the methods described in Table 1.

## 2.1 Codification-Oriented Vocabulary

A codification-oriented vocabulary describes aspects of a method that relate to procedural or propositional knowledge, revealing opportunities for potential performance by designers. Procedural knowledge is oriented towards action (knowing-how) and can be applied directly to a task (e.g., steps to use or apply a method in an authentic design context), while propositional knowledge is oriented towards facts (knowing-that) which is generally represented more abstractly in declarative forms (e.g., theoretical commitments of a methods, placement within a design process). Within a codification-oriented stance, a method is viewed through the lens of its authored description, which in its construction, offers springboards for potential future designer engagement. The method—viewed through a prescriptive lens—contains procedural knowledge that supports “how to” action, with varying levels of abstraction to encourage higher or lower levels of anticipated interpretation by a designer attempting to utilize the method in their own practice.



The codification of a method includes anticipation of: a) one or more actions that move the design process forward, often in relation to goals of creativity, generativity, evaluation, or confirmation; b) a set of procedures to frame and instantiate the prescribed actions; and c) attendance to logistical and situational characteristics that offer suggestions for adaptation, required tools or personnel, or other conceptual or theoretical mappings that situate and/or motivate the prescribed actions. In this way, the codification of a method focuses on the creation and authorial intent that drives the potential for future action.

First, the **sensitizing concepts** chosen by the method designer provide a conceptual vocabulary to frame the design space, orienting the method in relation to existing theories, concepts, practices, or outcomes. This notion of sensitization builds upon a concept by the same name in the grounded theory literature, where these concepts can be considered as “interpretive devices [that form] a starting point for a qualitative study” (Bowen, 2006, p. 14). These concepts form a vocabulary that is consistent and supportive of the ecosystem defined through the method prescription, indicating connectedness to prior published papers, existing methodologies, design concepts or other design methods, disciplinary traditions, or research paradigms. This set of sensitizing concepts, taken together, has the potential to impact the way in which the core and attributes are understood and framed in a performative sense, implicitly supporting the potential for some kinds of designer engagement over others. In the set of methods listed in Table 1, sensitizing concepts frequently related to the Value Sensitive Design methodology, indicating an ethics-focused framing. Other sensitizing concepts for methods beyond those with an explicit ethics focus might include relationships to behavior change or motivational theories, grounding in how humans respond to each other, or appeals to color or compositional theory, among many others.

Second, the **attributes** selected by the method designer represent characteristics of the design method that are explicit in its published form, including indications of structure, sequencing, required materials, levels of abstraction or action orientation, and other descriptive language that foregrounds affordances of the method or opportunities to act. Attributes are the most common way that methods have been defined, described, filtered, and curated in modern design methods guides, imposing particular kinds of structure on methods based on anticipated types of engagement. As examples of

this behavior, *The Design Exchange* site<sup>1</sup> referenced in Roschuni et al. (2015) includes dozens of attribute dimensions with which to filter, with dimensions ranging from audience to fidelity to purpose to unit of analysis. In contrast, other design methods guides such as *Universal Methods of Design* provide a smaller set of attributes integrated into a printed text, including mapping potential design phases, types of participation, and level of exploratory/generative/evaluative engagement. Unlike sensitizing concepts, the attributes often point towards key requirements or conditions that may inform the designer's success when using the method, signalling "guardrails" through which the designer's use of the method might be most successful. Critically, attributes are explicitly articulated, while sensitizing concepts or cores are generally implicit, and must be inferred by the designer as they seek to match their intentions with the apparent support the method might provide. In Table 1, attributes relate more closely to the specific activities indicated by the method, including foreseeing the future, creating fictional product reviews, or asking structured questions in a group setting.

Third, the **core** of the method points towards the central conceit or framing metaphor that makes the entire method, or a portion of the method, coherent and potentially interchangeable. This notion of a core builds upon what Woolrych et al. (2011) interrogate as the "unit of contribution," with a desire to focus on the "impact of specific aspects of a method" rather than using a categorical label to ignore the differences among methods within a single type. In Woolrych et al.'s metaphor, design methods as cores could be considered as "recipes" that could be combined into multiple different "meals," with attributes of methods being analogous to "ingredients." This metaphor is in parallel with a similar framing of research methods by Williams, Jones, and Roberson (2014). Thus, I situate the "core" as an action-oriented framing of the method that can be considered indivisible and able to interact with, be adapted through, or combined with other "cores." Some examples of cores include elicitation, defamiliarization, framing, generating, filtering, or consensus building. In relation to the methods in Table 1, the core frames the activity in terms of its teleology: Tarot Cards of Tech help you to critically engage with future realities; Judgment Call: The Game forms a space to defamiliarize present realities; and Ethics Canvas provides a frame to engage with existing organizational or logistical complexity. Cores and mechanics (defined in Section 2.2) also interact, with the successful

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<sup>1</sup> [https://www.thedesignexchange.org/design\\_methods](https://www.thedesignexchange.org/design_methods)

performance of a method as codified relying on a link between the core of the method and the mechanic used to situationally engage with that core.

The codification of a method is a critical part of methods creation, representing a meta-design process in its own right—seeking to provide a balance between over-specification (which could inhibit uptake of the method) and under-specification (leaving a designer unsure how to proceed), all of which could impact the resonance of the method in particular design settings. As with any design activity, the creation and specification of a method inherently includes curation of design goals, inclusion of affordance-oriented language which signifies the potential for future action, and a framing of certain types of interaction or engagement. Different levels of formal or implicit guidance can also emerge in the codification stance; Tarot Cards of Tech and Judgment Call: The Game promote an open, questioning, and even playful stance in relation to potential performance, while the question-driven approach of Ethics Canvas pre-frames the kinds of conversations that might be supported by the method in a more formal way. Additionally, the design of a method often benefits from selective ambiguity as well, allowing for the “core” to be accomplished even if not all situational factors anticipated by the method creator can be satisfied in a given design setting. In this sense, the design of a method could be considered as similar to the creation of a Shakespearean play. While the initial play was created with a particular time period and context in mind, a director might adapt the play—maintaining its core, but displacing the structure into a completely different historical period. D

## **2.2 *Performative Vocabulary***

A performative vocabulary describes aspects of a method that are revealed only as the method is used in a particular context by a designer, often with implicit connections to the codified form of the method. Within a performative stance, a method can be productively viewed as a script that is read, interpreted, and extended by the designer-as-actor, in which the designer themselves is in control of what elements of the method are read and taken into the design situation, with a given intent, that drives towards particular goals or anticipated outcomes.

A performance of method begins with an anticipation of: a) a particular aspect of design complexity in the designer’s context of work; b) one or more questions that focuses the designer’s attention to this particular aspect of complexity; and c) connections of questions to the designer’s interpretation of appropriate inputs, mechanics, or outputs in relation to those implied or made explicit in the method

text. Thus, a performative vocabulary begins with the felt need for support along one or more dimensions of the design situation, which then relates to anticipated and actual outcomes.

First, the designer must define one or more **inputs** into the method to provide something for the method to operate on. In relation to craft work, we can consider an input as the “stock” or lumber that is acquired and prepared for use, to be transformed into something else. In relation to design methods, the use of the affinity diagram method can illustrate how inputs function. Affinity diagramming is a common design method used to inductively organize, cluster, and sort many data points, typically accomplished through a physical sorting of sticky notes in a public setting with multiple stakeholders. For affinity diagramming, an input might include unitized data from interviews, while for speculative fictions, the input might be a particular aspect of dystopia that is desired to better understand future design situations. Inputs may represent diverse types of design information, including material such as design artifacts, scenarios, research material, user information, or values. This input may be implied or explicit in the method text, but ultimately the designer is in control of negotiating the appropriate scale, type, quality, or quantity of existing material to be used in relation to the method “action.” In other examples from Table 1, an input can also be a current design artifact, including a project context or an explicit designed outcome.

Second, the designer must leverage one or more defined **mechanics**, which define potential actions that may be expected of the designer as they use their input material in a transformational, generative, evaluative, or adaptive way. While the mechanic inscribed into the method text anticipates certain forms of action that may be more desirable, it is up to the designer themselves to identify, interpret, and perhaps even subvert the desired action. Some examples of mechanics include filtering, creating, mapping, evaluating, storytelling, or altering. These mechanics themselves may be viewed as methods in their own right, albeit in abstracted form, indicating genres of performance rather than specific choreography. As with inputs, the mechanic represented in the method text may serve as a “launching off” point, but in the sense of an improvisational prompt, leaves open the possibility of defamiliarized interpretation, subversion, or redirection to another mechanic that may feel more salient to the designer as they navigate design complexity in their own grounded context. In the examples from Table 1, the power of the mechanic in shaping the potential performance is evident: in Ethics Canvas, the primary focus is on mapping existing realities through a pre-set framework, while

in Tarot Cards of Tech and Judgment Call: The Game, a storytelling-focused approach created a more generative and evocative space for engagement.

Third, the designer creates one or more tangible or intangible **outputs** that emerge from their interpretation and performance relating to input(s), mechanic(s), and the intent that led to their method engagement. While particular outputs are often implied in methods text, the robustness of these outcomes are under the control of the designer, and may be specified at varying levels of scale, quality, or fidelity that capture productive or unproductive responses drives to the particular goals or anticipated outcomes for which the designer originally took up the method. Some outputs identified in our analysis bear similarity to inputs from other methods, including concepts, procedural information, research outcomes, evaluation results, design opportunities, and values. In the examples from Table 1, the outcomes drive the design process forward in different ways, with Ethics Canvas resulting in the identification of specific values, Tarot Cards of Tech resulting in potential design opportunities, and Judgment Call: The Game revealing evaluative outcomes and user information that may support future design work.

While separating out the input, mechanic, and output clarifies some of the process orientation, this separation is often quite immediate—or even “automatic”—in the context of actual design activity. As an example from another creative context, a woodworker might carve a block of wood, first picking up a chisel, then a rasp, and later some sandpaper in an often rapid and choreographed way, each segment of engagement with a different tool might represent an anticipated set of inputs (the block of wood as it is at present), the mechanic (the anticipated affordance of the tool that has the potential to transform the block of wood in ways that appear salient or desirable to the woodworker), and the output (the new physical state of the block of wood, which can then be assessed in relation to initial or emergent goals). So too, designers often rapidly switch among tools that have perceived salience. In a state of “flow,” an expert designer often quickly performs these loops of method engagement, which while related to the method prescription, often quickly exceed prescription in ways that are emergent, personal, embodied, and often difficult to parse or separate.

### ***2.3 Presentation-Oriented Vocabulary***

A presentation-oriented vocabulary describes how the method is communicated, packaged, and disseminated, focusing on the ways in which methods are articulated to their anticipated audiences.

Within a presentation-oriented stance, a method is viewed as a coherent message that contains both action possibilities and modes or means of engagement with that message. In this sense, a method is not only defined by its specification, but also in how it anticipates uptake by designers and structures its potential for use in one or more contexts.

The presentation of a method includes attention towards: 1) eventual dissemination to one or more communities of interest, using patterns of communication and expectations that are deemed to be acceptable or normative for that community; 2) framing within a particular type of guidance that anticipates particular patterns of use and provides a means by which the method can be abstracted in relation to the design situation; and 3) the use of a medium that informs or supports types of engagement with designers or other users. Thus, a method's presentation focuses on translating prescriptive intent into potential avenues for performance.

First, the **publication format** and **dissemination strategy** selected by the method designer includes assumptions regarding the intended audience for the method, its relative level of availability to the audience being targeted, and the ways in which these presentation qualities might be perceived as rigorous, trustworthy, or useful. Currently, the most common and successful mechanisms for publishing methods include the curation of general-purpose design methods into edited collections, as in the *Delft Design Guide* and *Universal Methods of Design*, alongside more widely known resources such as Ideo's *Design Kit*<sup>2</sup>, available as a website. These popular curated sets of methods—often with large images and minimal instructions and references, reveal assumptions about the level and type of detail designers may be willing to tolerate, or the level of specification that is needed to inform successful use of a given method. Other methods are distributed in less accessible ways, including through academic papers and books—modes of dissemination that are far less accessible to everyday designers and the public—while also taking on additional connotations of prestige and using more complex language. Because both method creators and curators can impact publication format and dissemination strategy, different forms of distribution may indicate higher levels of success in communicating the core or other attributes of a design method, with a detailed account of a method in a formal academic paper perhaps providing more detailed guidance, but a two page summary of that same method in a methods textbook providing less guidance but still clearly articulating the method's

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<sup>2</sup> <https://www.designkit.org>

core to a general audience. These forms of publication can also overlap, with Ethics Canvas published both as an interactive website and downloadable PDF; Tarot Cards of Tech exists only as an interactive website but could also point towards downloadable resources; and while Judgment Call: The Game originated as an academic paper, the method is also available using downloadable and printable resources and has been distributed to design practitioners as a physical game as well.

Second, the **type of guidance** selected by the method designer describes the level of abstraction and scaffolding through which the prescribed knowledge is communicated and structured. The type of guidance indicates the level of control and types of interactions on which the designer may be able to build their performance, with some types of guidance pointing towards stepwise procedures and others towards less structured engagement. Types of guidance include communication structures such as: steps, lenses, questions, heuristics, methodologies, frameworks, and guidelines. While types of guidance can be seen as detached in some ways from the method as it is prescribed, there is a strong relationship between a method's core and mechanic, signaling the types of guidance that may be used to communicate performative potential. In the examples from Table 1, types of guidance often overlapped, with Judgment Call: The Game including steps, lenses, and guidelines which overlapped as part of the game structure. Other methods such as Tarot Cards of Tech provide a more open form of guidance, offering a new set of lenses through which to view present reality but not providing instructions on how to *use* these lenses.

Third, the **primary medium** selected by the method designer structures the kinds of interaction that the method may be able to support. The medium of engagement creates a layer between the method as it is prescribed and the potential performance that might be undertaken by a designer. Common media used to engage the designer in use of a method include templates, card decks, templates or worksheets, videos, physical manipulatives, and games. While these media indicate physical or digital form, these media also point towards particular kinds of performances—with templates or worksheets perhaps indicating more solitary or mundane forms of interaction, while card decks or games might point towards interactions that attract and engage stakeholders in more entertaining or engaging ways. The medium is not always intrinsically attached to the method as it is prescribed, and instead can be considered as a presentation *layer* through which the prescription's performance can potentially be supported. For example, a worksheet may be transformed into a game, or a deck of

cards into a list of heuristics, thereby greatly impacting the ways in which designers might engage with the method. In contrast, the extent to which the medium dominates in framing the method—explicitly closing down or opening up particular performative stances—the medium could perhaps be re-framed as co-constitutive of the method. These presentation shifts could be considered as a method design activity in its own right, or as a means of adaptation or appropriation for a particular context through the instrumental judgment of a designer. For example, a method presented through the medium of an interactive game, such as Judgment Call: The Game, privileges certain kinds of interactions by designers, which if taken up in the performance of the game, co-constitutes a space in which method engagement is playful. However, a manipulation of the presentation layer may allow for methods that are more direct in forms of guidance and interaction to be altered more permanently as well; for instance, the questions implicit in Ethics Canvas could be reframed as a card deck, a game, or even a physical device to prompt the designer to consider a certain aspect of ethical concern, transforming the method to be used in new and different contexts.

### **3. Opportunities for Design Researchers to Build Upon the Language of Methods**

In conclusion, I will identify three potential areas where this vocabulary might support future design research efforts, building across the performative, codification-oriented, and presentation-oriented perspectives described earlier in the paper: 1) identifying gaps and opportunities to build new design methods, articulating dimensions of methods creation and identifying tensions between prescription and performance to create methods that have a “rationality resonance” (Stolterman, 2008); 2) informing descriptive accounts of how designers in practice use, adapt, remix, and create methods to address felt forms of design complexity; and 3) identifying features of the methods landscape that may articulate elements of a future theory of method that may more fully describe the design of methods, the formation of a methods “mindset,” and means by which methods can be taken up as an ontological dimension of design work.

#### ***3.1 Creation of New Methods***

One of the least explored areas of work in the design studies literature relates to the intentional design of methods. While there is parallel work that may be of strategic value in the co-design, co-creation, and participatory design literature—other contexts where design is used to provide a platform or space for other forms of design work to occur—little is known about the particular conditions through



which successful methods are created. These conditions include how methods designers anticipate conditions that will allow methods to be flexible and resonant, and which dimensions or stances towards methods may appear particularly salient for a combination of particular methods designed for use in particular contexts. In particular, considerations of method “validation” and articulation could consider Stolterman’s (2008) notion of “rationality resonance,” which describes how supports for design work (or a new “rationality”) must resonate with existing practice “rationality” in order to be successful. High resonance could result from a method that is appropriately flexible to take into consideration contextual or practical limitations while also fitting culturally into existing design work practices, while low resonance could result when attempting to use a method that assumes particular conditions or control over existing design processes, wherein the method becomes brittle and fragile under real world conditions. Future research could build upon the vocabulary and stances offered in this paper to describe the “meta-design” work of methods creation, including the contextual factors that drive particular framings of methods, the ways in which cores are supported by combinations of attributes and sensitizing concepts, and the ways in which synergistic connections are formed across codification, presentation mode, and opportunities for performance.

In addition, this vocabulary can be used to recognize existing relationships among method components, while also imagining other paradigmatic relationships that may not have been anticipated by the original method creator. For instance, using the concept of *figural complexity* from Schön (1990), a new method might be created (or at least imagined) by switching out inputs, mechanics, outputs, presentation formats, or other particular dimensions of a method. An evaluative method might easily lend itself to generation with reframing, or a method presented as a series of procedural steps might be reimagined as a game. Languageing methods in this paradigmatic sense allows for active exploration of methods as a design space, wherein “new” methods are not wholly new, but rather paradigmatic expressions and extensions of dimensions or components of previously designed methods. Of particular note in regard to creation, it may also be important to investigate which of these paradigmatic relations may be selected, reinforced, or made flexible by the method creator, which relations are inscribed into the method as a form of prescription, and which relations are apparent as affordances in the presentation format or method medium. Thus, the design of methods could also be explored through differing types of constraints that solidify certain parts of the

method, while allowing more flexibility or degrees of freedom in relation to other dimensions or stances.

### ***3.2 Description of Designers' Use and Adaptation of Existing Methods***

As shown in the work of Daalhuizen (2014), Goodman (2013), Reeves (2019), and others, method use in the context of professional design is complex and highly situated. Researchers seeking to more fully describe how designers select, adapt, transform, remix, create, and share methods may benefit from contrasting the vocabulary of performative qualities with codified and presentation qualities. This adaptation work is consistent with the design and re-design of methods presented in the previous section, but rather than a formal design of methods that is recognized as such (i.e., a design process that is engaged in with a method as a specific and desired outcome), designer-led adaptation focuses attention on the everyday praxis of designers in which methods are used to articulate and realize design judgments. Potential types of research engagement to investigate these adaptive practices could include investigation into the designer's own sense of design complexity in relation to the tool support of a method, the use of methods to deliberate, facilitate, or build common ground with other disciplinary or organizational partners, or as a means of describing how methods encode and support cultural values particular to specific design disciplines or traditions. Additionally, designers may benefit from reflecting on their own adaptative practices to design, adapt, transform, or otherwise use methods as a way of languaging their felt design complexity, using a legitimate and intentionally-formed set of designerly practices to ground and support their work in relation to that complexity.

### ***3.3 Towards a Theory of Method***

The vocabulary I have introduced to describe the knowledge contained within design methods also points towards the ability of methods to impact the designer *themselves*, and not only the design activity through which a performance of the method might be framed. Thus, I propose that this vocabulary may also point to a potential expansion and theorization of design methods—moving beyond only viewing methods as enabling tools, mindsets, or a means by which a designer might be guided through a design activity, to instead represent a socially-aware ontology. In this sense, methods point towards a designer's “way of being” in the world that is simultaneously normative and subjective, bringing forward commitments at the intersection of social responsibility, normative claims relating

to design work and outcomes, and manifestations of professional expertise and disciplinary responsibility.

Building on this nascent ontological view of design methods, I propose that the vocabulary and set of stances I present in this paper may support further theorization of design methods as a series of normatively-infused ontologies, positioning methods as representing a designer's way of being in the world, illuminating how the designer seeks to sensitize themselves towards, build, enable, support, and evaluate intentional change. This ontology is languaged into existence (cf., Krippendorf, 1995) at least in part through the vocabulary of methods, supporting a broader discourse that is externally visible and referential, staking out acceptable ontologies both for design activity as a type of inquiry and action in general, and in relation to what kinds of intentional change are appropriate for designers to engage in. Future theories of methods can consider the productive overlaps and tensions explicit in codification, performance, and presentation, while also anticipating complexity on the level of designer, discipline, organization, and societal level. In addition, a theory of method may also build from additional empirical work that seeks to describe interactions or relationships among elements of the vocabulary I have described. For instance, to what extent are method cores, mechanics, and mediums co-constitutive? Do the orientations of these method components differ when taken up by method designers seeking to create a new method versus a designer that is seeking to support a particular portion of their design process?

In staking out a theory of method, care should be taken to provide space for designers to be able to exist in relation to multiple ontological stances, only some of which may focus on engagement with methods in a direct manner. Future work should prioritize working with design practitioners themselves, seeking to open up and complicate the realities of design practice when theorizing these “ways of being” rather than seeking only to abstract or conclude generalities about the nature of design practice as it relates to methods.

#### **4. Conclusion**

In this research note, I have articulated a provisional vocabulary of design methods that facilitates the languaging of methods in current and future design research. Building on performative, codification-oriented, and presentation-oriented stances towards design methods, I have identified vocabulary that relates to the creation and specification of methods, the relationships between specification and

interpretation as a designer performs methods in design work, and the ways in which the presentation and structure of methods impacts dissemination and uptake by designers. I propose multiple paths forward in building upon and utilizing this vocabulary to support the creation of new design methods, describe patterns of method use and adaptation, and provide some initial guidance regarding what a formal theory of method might include.

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