Navigating the "Policy + Design" Landscape

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Abstract

Scholarship from the design discipline and policy sciences has produced rich empirical and theoretical knowledge focused on the intersection of policy and design. Importantly, they use concepts that pair "policy" and "design" in various ways, attaching different meanings. These differences can create confusion, particularly among practitioners not engaged in either body of scholarship or who have access to it. This academic literature is highlighted. Practitioners are more likely to learn about policy and design concepts from search engines like Google. We then analyze "Policy + Design" terms from a Google Search Engine scraping tool and, in doing so, identify four approaches: "policy design," "design for policy," "design-in-policy," and "design policy." The results are presented through issue mapping, and the content of these results is discussed. Finally, we suggest strategies for bridging the gap between "Policy+Design" academics and practitioners and then provide a preliminary description of these terms.

Introduction

Over the past decade, there has been growing interest in adopting design approaches (e.g., design thinking) to innovate in the public sector and policy design. Design has a long history in the commercial sector (e.g., graphic, product, and service design). The recent popularity of public sector innovation units and labs and their enthusiastic uptake of co-design approaches (i.e., collective creativity in the design process) is an example of its influence on the public sector (Bason, 2014; Blomkamp, 2018; Lewis, McGann, & Blomkamp, 2020; McGann, Blomkamp, & Lewis, 2018; Wellstead et al, 2021; Villa et al., 2022). While commercial design concepts are a newcomer to public policy scholarship, a well-established public policy design discipline exists. This approach originated in the rationalistic planning discipline and has significantly evolved within the policy sciences. Others have also analyzed the potential of design approaches in public administration and their application to public policy (Howlett, 2020; van Buuren, Lewis, Peters, & Voorberg, 2020). Over the past five years, *Policy Design and Practice* has attracted papers from policy science and design-based scholars. This paper is a collaborative effort between a policy scientist and a design professional that makes sense of what we call the 'Policy + Design' discipline. This elaboration and clarification are essential for the scholarship and will benefit practitioners since many do not regularly read academic literature or have access to it. However, they are more likely to consult web search engines like Bing, Firefox, Google, or Yahoo for information. The multidisciplinary nature of the field and the potential interchangeably of these terms by academics and practitioners may lead to potential confusion. These differences may be further exacerbated, particularly with the variety of Policy + Design information available online, which includes, in addition to peer-reviewed articles, books, reports, blogs, courses, and the individual websites of prominent scholars, practitioners, and policy actors.

We begin by reviewing significant contributions from the well-established policy design and design literature and more recent contributions that apply both traditions. A Google search engine scraping tool[1] exercise produced four distinct combinations of *design* and *policy* concepts of what we label the "Policy + Design" field, namely: "policy design," "design-for-policy," "design-in-policy," and "design policy." From the Google Search scraping exercise, we use mapping tools to identify the key authors in the field, their country locations, and the types of information each of the Policy + Design fields provides, followed by a discussion of content and availability of this information to practitioners. We compare and contrast policy

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[1] We use the Google Search Engine Scraper tool "Search Engine Scraper" from the Digital Methods Initiative available at https://digitalmethods.net/

design, design-for-policy, design-in-policy, and design policy. There are significant differences in some cases, but in others, they are more subtle, particularly between "design-for-policy" and "design-in-policy." Finally, directions for future research are made.

Literature Review: Major Academic Contributions

Below, we highlight the notable scholarly contributions from our respective fields in the policy and design sciences, as well as hybrid publications. This review is a benchmark when comparing what is readily available online and to what extent practitioners are accessing this literature.

Policy Design and the Policy Sciences

Linder and Peters (1984) state that the early inspiration for policy design originated from the planning field, emphasizing rationality and quantitative methods.

Howlett adds that:

> "[p]olicy design involves the effort to more or less systematically develop efficient and effective policies through the application of knowledge about policy means gained from experience, and reason, to the development and adoption of courses of action that are likely to succeed in attaining their desired goals or aims within specific policy contexts." (Howlett, 2014, p. 281).

They also point out that a broader policy design theory must include causation and evaluation. May's (1991) early work pointed out the necessity to include political context when matching the content of the policy design goals.

These early contributions are highlighted in Siddiki and Curley's recent (2022) survey of the policy design literature, in which they discuss two approaches. The first, outlined above, is 'policy designing,' focused on the process and determinants of selecting tools, targets, and other elements. The second approach they call 'policy design as policy content' examines "what information is actually conveyed within public policy" (p.122).

The policy designing approach involves bundling of policy tools to achieve government goals. Howlett and Mukherjee (2018) argue that policy design combines design processes, instrument choices, and policy outputs. Complementing the design process is the integration of tools with multiple goals. Cashore and Howlett's (2007) taxonomy illustrates policy designers' long-term challenges (Table 1).

Table 1. Taxonomy of policy elements

		Policy Content		
		High-Level Abstraction	*Program Level Operationalization*	*Specific On-the-Ground Measures*
Policy Focus	*Policy Ends or Aims*	**GOALS** What general ideas govern policy development?	**OBJECTIVES** What does policy formally aim to achieve?	**SETTINGS** What are the specific on-the-ground requirements of the instruments?
	Policy Means or Instruments	**LOGIC** What general norms guide preferences of implementation?	**MESO-LEVEL POLICY MECHANISMS** What specific policy instruments are used?	**CALIBRATIONS** What are the specific ways in which the instrument is used? How are the calibrations used in order to employ the settings?

Source: Cashore and Howlett (2007) and Howlett (2019).

Although policy design is often associated with a specific form of policy formulation, it also involves the deliberate and conscious attempt to define policy goals and connect them in an instrumental fashion to tools expected to realize those objectives (Gilabert & Lawford-Smith, 2012; Majone, 1975; May 2003). Howlett and Mukherjee (2018) argue that policy designers must be aware of three aspects of policymaking that must be coherently linked to achieving policy success: design processes, instrument choices, and policy outputs.

Not discussed by Siddiki and Curley (2022) is a growing interest in policy design-related causal mechanisms (Capano et al., 2019; van der Heijden, 2021). Howlett (2019) argues that meso-level policy instruments activate mechanisms leading to behavioral changes. Similarly, Capano et al. (2019) and Capano and Howlett (2021) recently introduced a mechanism-based policy design framework. Central to this approach is first- and second-order mechanisms. First-order mechanisms are triggered by the tool's application of state resources to affect the behavior of individuals, groups, and structures. Typically, activators that trigger policy design mechanisms are policy calibrations and setting through which decision-makers set up policy instruments and tools to influence group behavior and, ultimately, new outcomes (Capano & Howlett, 2021). A new outcome often influences second-order mechanisms, including policy learning, diffusion, policy layering, and civic engagement.

Siddiki and Curley (2022) and Clarke and Craft (2019) provide a succinct overview comparing *design thinking* and its influence on policy design. They conclude that the design thinking approach, while promising, could not account for political constraints on design, the role of policy capacity, the influence of policy styles, and the realities of policy mixes.

Siddiki and Curley (2022) highlight Schneider and Ingram's 1997 book *Policy Design for Democracy* as an early contribution to the 'policy design as policy content' approach. They describe policy content as "focus[ing] on the development of approaches for characterising the information that actually ends up being conveyed within public policies" (p.122). Schneider and Ingram argue that policymakers organize societies into target groups, and central to their response is policy information expressed as 'policy elements,' which include goals or problems to be solved, policy targets, or those whose actions are affected through the implementation of policies, and tools through which target and target behavior is compelled.

Ostrom's (1990) well-known rule typology is identified as another policy design as another key policy content contribution. Rule-type categories include those pertaining to actors' positions, the choice of actions actors can take, the information flows, and the payoffs from particular actions. All of which are critical for governing across many different contexts. The most recent and ambitious contribution, also inspired by Ostrom's earlier work, is the institutional grammar approach, which focuses on the syntactic component of language and distinctive meaning relevant to public policy. While this approach focuses on the broader topic of institutional analysis, policy design represents an "institution-in-form" (Siddiki et al. 2022). All institutions are comprised of one or more institutional statements that "identify what actors are permitted, required, and forbidden to do" within a particular context (Siddiki et al., 2022, p.321). These statements share a linguistic syntax with six components: Attribute, Aim, Object, Deontic, and Or Else. They, in turn, shaped institutions' strategies, norms, and rules.

The Design Discipline: 'Designerly' ways of knowing, design thinking, and co-design
Design[2] as an academic field can be traced to the 1960s with the "*design methods movement"* and the late 1980s with Design Studies publications regarding the discipline of

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[2] *Design* is a word with multiple levels of meaning. Etymologically, the *design*, has its origins in the 1580s indicating "a scheme or plan in the mind," from the French *desseign, desseing* "purpose, project, design". In the 1630s' art, it referred to "a drawing, especially an outline". While the verb *design* comes from the Latin *designare* "to make, shape," and the Italian *disegnare* "to contrive, plot, intend, [...] to draw, paint, embroider", originated in the 14th and 16th centuries respectively (Online Etymology Dictionary, 2020).
Heskett (2005) illustrates this using a nonsensical sentence: "Design is to design a design to produce a design" (p.3). Breaking it into pieces, Heskett explains that *design* is: a noun (Design), meaning the concept of a field or

design (Cross, 2007; Cross, 2019; Kimbell, 2011). The Design disciplines also drew inspiration from Herbert Simon's (1969) *Science of the Artificial.* Simon argued that design is "concerned with how things ought to be in order to attain goals and to function" (p.13), which implied an intention of change by conceiving courses of action that could lead to preferred situations.

The "design methods movement" concentrated on the study of design methodology (or process), most notably in the 1962 Conference on Design Methods. It was championed by scholars such as Alexander (1962), Archer (1968), Jones (1992), Pahl, and Beitz (1984), who found their way into disciplines such as architecture, planning, engineering, and industrial design (Cross, 1993). Scholars in this movement were interested in investigating and systemizing processes and methods for problem-solving and supporting creative processes that address design problems (Jones & Thornley, 1963).

Moreover, Design Studies scholars such as Cross (1982) argued that "*designerly ways of knowing"* are embedded in the process and products of designing, which generate solutions to ill-defined or "wicked" problems. Studies on the cognitive design approach to problem-solving led to a generalized "design thinking" concept, further elaborated as "an intellectual approach to problem framing and problem-solving" (Kimbell, 2009, p.4). The term *Design Thinking* (DT) appeared as a title in Rowe's (1987) book examining design process and form in architecture and urban planning as a way to describe designers' inquiry and how they operate and reason. Since the initial Design Thinking Research Symposia series meeting in Delft in 1991, DT has attracted many scholars (Cross, 2018). While in the United States, DT by design consultants from IDEO and business disciplines gained commercial interest (Brown, 2008; Martin, 2009).

The extensive spread of DT is also evident in business schools and distance learning training. For instance, since 2005, the Hasso-Plattner-Institute of Design at Stanford University in California (d.school) and Postdam, Germany, has been training DT students from disciplines such as engineering and business, and external participants from the private and public sectors to innovate products and services (Meinel & Leifelr, 2011). This training is based on the belief that "design thinking is a catalyst for innovation and bringing new things into the World" (p.xiii).

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discipline (e.g., graphic design, product/industrial design, service design); a verb (to design), suggesting an action or process, a noun (a design) referring to a concept or proposal, and again a noun (to produce a design), meaning a final output or product.

The adoption of DT worldwide led to multiple design methodologies conceptualizations. Two of these methodologies have become popular heuristics for practitioners: the Double Diamond developed by the Design Council (2005) and the d.School's (2011) design thinking. Developed in 2005, the Double Diamond represents four stages central to the design process: *discover, define, develop,* and *deliver* (Figure 1). The first diamond represents the understanding of the problem, while the second represents the generation of solutions. Both are iterative processes of convergent and divergent thinking (Design Council, 2007). The d.School's design thinking framework consists of five stages: *empathize, define, ideate, prototype,* and *test* (Hasso Platner d.school, 2011). While there may be methodological differences, design methodologies worldwide share two common 'spaces of work': the problem space (noticing, understanding, and (re)defining a problem primarily through qualitative research) and the solution space (ideating and testing solutions) (Dorst, 2019; Dorst & Cross, 2001).

Figure 1. Double Diamond Model
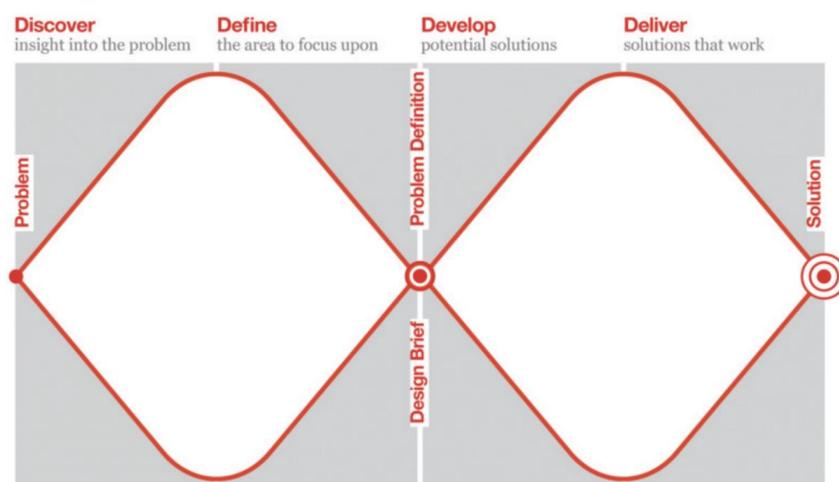
Source: Design Council (2019)

Increasingly, designers have involved users in design processes building on participatory design processes (Simonse & Robertson, 2013) and collaborative activities known as co-creation and co-design (Sanders & Stappers, 2008). These collective and collaborative activities advocate for involving actors such as -potential- users and other experts who are not typically engaged in design processes (Mattelmäki & Sleeswijk Visser, 2011). The participatory design approach emerged in the 1970s as a design process in which users act as partners providing their experience and knowledge (Mattelmäki & Sleeswijk Visser, 2011; Sanders & Stappers, 2008; Simonse & Robertson, 2013). Within this participatory approach, the concepts of co-creation as an "act of collective creativity" and co-design as collective

creativity along the design process (Sanders & Stappers, 2008, p.6) have become part of the shared language about creative activities in organizations (Mattelmäki & Sleeswijk Visser, 2011).

While several other popular *design* terms exist within the design discipline (e.g., human-centered design, user-centered design), the ones described in previous paragraphs suggest a conceptual richness in approaches and applications. For instance, *design* implies specific ways of knowing embedded in the processes and products and cognitive approaches to problem-solving and innovation. Also, design is characterized by considering the user experiences and involving multiple actors in the process for potentiating collective creativity. These varied characteristics of the design reflect the complexity of selecting a single word to embrace them all.

Overlapping Scholarly Approaches: The Policy Sciences Meets Design
Many policy scholars have investigated design. Terms such as *design thinking*, *co-design,* and *design-for-policy* have begun to appear in policy science and public management literature (Howlett & Mukherjee, 2018; Clark & Craft, 2019; Howlett, 2020; van Buuren et al., 2020). Policy concepts have also become a topic of interest in design literature. Below, we provide examples of this cross-fertilization.

Responding to the policy science's interest in the design practice, *Policy and Politics* published a special issue in 2020, "Policy-making as Designing: the added value of design thinking for public administration and public policy." In the introductory article, van Buuren et al. (2020), reflect on the influence of Simon's (1969) rational design and the emergence of perspectives such as "*design as optimization,*" "*design as exploration,*" and "*design as co-creation.*" The notable issue contributors discuss the "designerly" co-design and DT concepts we introduced above to address public issues (Hermus et al., 2020; Howlett, 2020; Lewis et al., 2020; Olejniczak et al., 2020).

From the design perspective, Bason's (2014) frequently cited edited volume *Design for Policy* frames the recent application of design disciplines for public services and policy innovation by examining the collaborative experiences of policy and design practitioners through approaches such as co-creation, co-design, and participatory design and the (re)design of services. The volume outlines the emerging design approaches (usually collaborative) to address public problems and innovate in public policy by collecting the experiences and knowledge from design practitioners, public managers, and academics

worldwide. The *design for policy*[3] scholarship originates from service design in public sector reform that has adopted user-centered design, participatory design, and co-design" to address "from high-level (macro) 'policy design' to the more tangible 'service design' of human-system interactions.

Bason (2014) identifies three key components of this approach. First, it understands public problems and their root causes through a design research lens (e.g., ethnographic, qualitative, user-centered research), prototyping, and data visualization. Second, facilitated collaboration that enables dialogue and mutual understanding among actors (e.g., policymakers, lobby groups, external experts, and citizens) allows for ownership of solutions through the above design methods. Finally, giving form and shape to policy by creating -tangible- artifacts that people can engage with (e.g., graphics, templates, maps, products) and creating experiences for products and services.

Data and Methods

We identify policy and design-related information available to a broader audience by examining the Google search engine results. From the emerging "Policy + Design" field, we "describe, deploy, and visualize the actors, objects, and substance of a social issue" (Rogers et al., 2015, p. 9).

Questions may arise on the validity of the capacity of Google to function as a research tool whereby online activity is a proxy for the real world (Rogers, 2013, pp. 99–104). Despite these concerns, this method is appropriate for our research. First, Google is among the most popular search engines worldwide (StatCounter Global Stats, 2019). Second, it is an essential source of information for practitioners. Third, it indexes sources that would not appear in academic databases but provide social significance to the term (e.g., the book *Design for Policy*). We employed digital methods and issue-mapping techniques to identify four distinctly Policy + Design approaches through data collection, data processing, data visualization, and data analysis from July to October 2022.

Digital methods and issue mapping are used together for researching and visualizing a particular topic (issue) on the World Wide Web. Central to our analysis of the Policy +

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[3] Lately, in the design discipline the conjunction "for" has been used to differentiate the traditional design practices (e.g., product design, interior design) from the emerging practices in which design is applied to new contexts and purposes (Sanders and Stappers, 2008). Following this trend, the Routledge publisher edited since 2007 a book series on what they call "Design for Social Responsibility". The book "Design for Policy" is part of this collection which has titles such as "Design for Behaviour Change", "Design for Sustainability" and "Design for Services". This evidences the trend of "the design disciplines' focus on designing for a purpose" (Sanders and Stappers, 2008, p.10-11).

Design field were the results of the Google Search Engine (GSE), which rank the relevance of a data source by combining "in link with click count and freshness"[4] (Rogers, 2013, p,99). For collecting data from the GSE, we used a Google Scraper (GS) tool that returns *google.com* results in a file, avoiding cookies and reducing the tracing of our navigation history and country.

The GS tool output collects online data of each result, such as title, URL, and description, in the form of unstructured text. Moreover, for each result, we scanned the online document (e.g., blog, website, academic article), finding the Policy + Design term used. Then we categorized these findings in a spreadsheet identifying content type, author name, author type, and location. Finally, a free online tool visually presented the results from this spreadsheet database. This research describes Policy + Design terms according to the categorization of the results and the content of the key actor's sources. Table 2 summarizes the steps for collecting, processing, visualizing, and analyzing data described below.

Data collection

First, we collected data from the Policy + Design terms by identifying common combinations of the words *policy* and *design* and then searching these combinations in GSE. Identifying the common combinations in GSE consisted of searching the two queries "design*policy" and "policy*design" separately.[5] The first ten results of each query (equivalent to the first page of results frequently visited by users[6]) were examined by searching which combination of the words *design* and *policy* was used in the content of each result. This first step led to identifying four common terms emerging from the two queries' results: "policy design," "design for policy," "design in policy," and "design policy,"

The second step involved searching through a GS tool for each of the four terms identified. The GS tool was used for this search in English in three countries, Colombia and Italy (not native English-speaking countries) and the United States, taking advantage of the location of the researchers and the availability of the GS tool in order to triangulate data and decrease residual country tracing. In total, 120 results (10 results for four queries in three countries)

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[4] GSE considers inlink count (number of links found in one page into another site and the content of the link), and the clicks of people in those links in previous searches (Rogers, 2013)

[5] In these queries, the quotation marks imply the request for the exact match of the words (not synonyms or equivalents), and the asterisk (*) acts as a wildcard to get a variety of combinations between the two words (e.g., replacing the asterisk with connector or preposition).

[6] Users often choose only from the first results page or often look only at the first page of their search results (Schultheiß,, Sünkler & Lewandowski, D, 2018).

were collected in a database classified by query, article title, article URL, and article description for their further analysis.

Data processing

The processing of the 120 results in the database included categorizing and reclassifying the results under each query group. The categorization of the results in the database was developed by examining each URL's content. This examination aided in verifying, categorizing, and filtering the results. For instance, the verification entailed inquiring whether the searched query effectively corresponds to the one(s) within the URL's content. Afterward, the content categorization implied the further classification of each result according to the type of content (e.g., article, book chapter, blog), actor name (i.e., person's or organization's name), type of actor (e.g., practitioners, public sector agencies) and location of the actor. These categories are presented in Tables 2-5. Simultaneously, the verification step allowed us to find and remove the results irrelevant to the search from the database. Among the 120 GSE results, we marked two as "Not applicable" (N/A) due to their lack of connection to the topic of interest (e.g., company's policy terms), and one as "Not found online" (N/F), narrowing down the results to 117.

The data processing also involved reclassifying 31 of the results because the same actor and content appeared under multiple terms' query results. By doing, we eliminated overlapping results. For example, the book *Design for Policy,* edited by Christian Bason, a practitioner, appeared multiple times under the results for the queries *Design for Policy* (19 times) and *Design Policy* (twice). The two design policy results referred to his book and were moved to the *Design for Policy* category.

Data visualization and analysis

Finally, the categorized queries in the database were inputted into open-source data visualization tools, allowing us to visually represent the results and analyze key information to provide meaning to each of the terms (country, type of actor, and type of content). The visualization results are later presented in Figures 3 and 4.

Table 2. Summary of the data collection and data processing processes.

Stage	Step	Google Search Engine (GSE) results	Action	Output
Data collection	1. Search query: "design*policy." "policy*design" to identify Policy + Design terms	20 (10 per query)	Identify terms using the words "design" and "policy."	Four terms were identified as common to both queries: policy design, design for policy, design policy, design in policy.
	2. Search queries: "Policy Design,"; "Design for Policy,"; "Design Policy,"; "Design in Policy."	120 (10 per term in 3 countries)	Obtain GSE results per query in 3 countries: Italy, Colombia, and the United States.	Four terms of GSE results were collected in a database for further analysis, classified by query, article title, article URL, and article description.
Data processing	1. Categorize results	120	Read each URL and categorize GSE results manually in the database.	120 GSE results verified, categorized, and filtered: a) verification: Review the query term correspondence in the URLs content and correct the terms. b) categorization of terms: type of content, actor name, type of actor, and their location. c) filtering: remove from the database Among the 120 GSE results, 2 were "Not applicable" (N/A) for not belonging to the context of interest (Policy + Design), and 1 was "Not found online" (N/F).
	2. Reclassify results under each query	117	Read GSE results in detail and move them to the list of another query due to better fitting.	31 results moved to the list of results of other queries.
Data visualization	1. Visualize results	117	Insert the re-classified results in a data visualization tool	Two figures: One presents the four terms categorization in: country, type of actor, and type of content. The other tool presents the GSE results for the four terms related to the actors.
Data analysis	1. Analyze the contents per term	-	Examine the descriptions of each term according to the key actors (higher number of GSE results)	Description of each term elaborated from the content examined by the key actors.

Results

Descriptive Overview

From the GSE search results, the distribution by country of origin, types of terms, content, and authorship are highlighted in Tables 3-6. First, Denmark, the US, and the UK were the most prevalent sources for Policy + Design information (Table 3). As expected, the term "policy design" was the most prevalent term, followed by "design for policy" (Table 4). Consistent with our argument regarding the importance of practitioner-oriented Policy + Design sources, blogs, courses, and workshops were as crucial as scholarly peer-reviewed journals, books, or chapters, typically found in edited volumes (Table 5). Nearly two-thirds of the content was authored by individuals, in particular researchers (Table 5). Practitioners were also prevalent. Non-profit organizations and universities were the two main organizational contributors.

Table 3. Distribution of Countries

Country	Location (code)	Total
Austria	AUT	1
Canada	CAN	6
Croatia	HRV	1
Denmark	DNK	28
Germany	DEU	1
India	IND	2
Italy	ITA	19
Netherlands	NLD	3
United Kingdom	GBR	23
United States	USA	26
Varied	Var	4
European Union	EU	3
Total		117

Table 4. Distribution of Terms

Query validation	Total
Policy Design	53
Design-for-Policy	38
Design-in-Policy	13
Design Policy	13
N/F	1
N/A	2
Total	120

Table 5. Distribution of the Content type

Content type	Total
Journal article	17
Blog / Post	29
Book / Chapter	44
Course / Program	14
Definition	1
Event/ workshop	7
Group / Network	2
Policy	1
Report	1
Toolbox	1
Total	117

Table 6. Distribution of Author type

	Author type	Total
	Researcher	40
Individuals	Civil Servant	8
	Practitioner	26
Organizations	EU funded consortium	1
	Non-profit organization	15
	Public sector agency	4
	Research group	8
	University	14
	Other entity	1
Total		117

Characterization and Visualization of "Policy + Design" Terms

The information presented in the descriptive statistics was combined in the two mapping visualizations (Figures 3 and 4). Figure 3 identifies the key actors (outer circle) and the four Policy + Design categories (inner circle). The inner circle reflects Table 3's findings that *policy design* was the most dominant of the Policy + Design categories that emerged from the GSE scraping, followed by *design for policy, design in policy,* and *design policy*. The outer circle illustrates the specific authors (Table 6) associated with the respected four Policy + Design approaches. We colored the most prevalent authors for each Policy + Design category in a darker tone. Academic scholarship and teaching dominate the policy design category, while NGOs are prominent in the design policy category. One author, Christian Bason, was most prevalent in the design-for-policy category.

The Figure 4 visualization presents the five terms categorized according to the country, type of actor, and content they produced (e.g., books, articles, blogs, and courses.). Authors from the policy design disciple originated primarily from Canada, Italy, the UK, and the US. However, the scholarly nature of the field meant that their content output was academic (e.g., books, journal articles, university courses). Design-for-policy primarily originated from Denmark (Bason), with minor UK and US contributions. It was overshadowed by the book, and chapter references from *Design-for-Policy.* There were some practitioner and non-profit sources such as blogs and conferences. For example, the Design Research Society (DRS) launched the Design for Policy and Governance Special Interest Group (PoGoSIG), whose

goal is to articulate better the link between design approaches and public policy (Design Research Society, n.d.).

Design-in-Policy and Design Policy were dispersed and dominated by practitioner-based sources. The UK was the sole location associated with the *Design-in-policy* term, particularly the Design Council and UK Policy Lab, which were mainly associated with prominent civil servants (e.g., Andrea Siodmok), the public sector, and research groups. Their primary output was blogs or web posts.

Figure 3. "Policy + Design" Issue Mapping by Actors and terms visualization

Figure 4. "Policy + Design" Issue Mapping by location, author type, and content
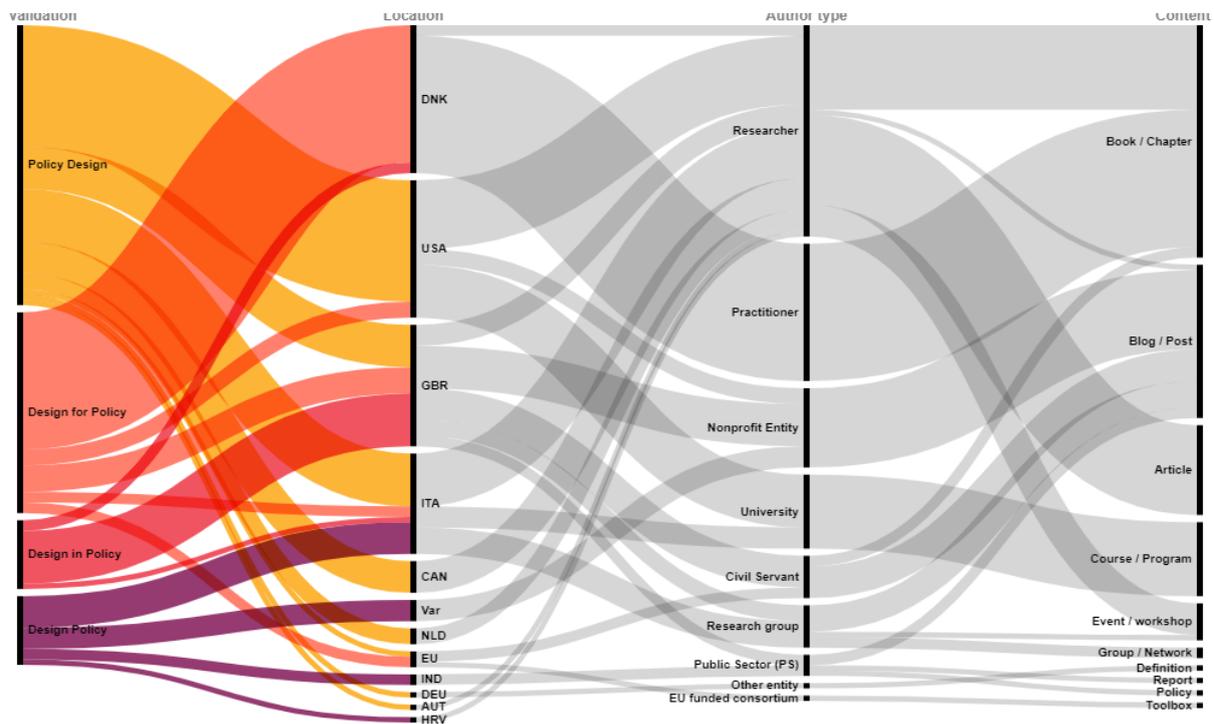
Content overview

The mapping and visualization tools identified the key authors, their location (geographically and by sector), and the type of information available. They also identify the proportionality between these characteristics. In this section, we describe the key content of the Policy + Design search results by reviewing the URL links from the individual results.

Policy Design

Some of the academic authors discussed above were prevalent in the Policy Design GSE results. Van Geet et al. (2020) elaborated on Howlett's policy mix framework, while Cairney considered the role of other policy theories in policy design. Except for Peters and Rava's 2018 workshop paper, all were peer reviewed and not open-access. Peter and Rava provide an overview of how policy design engages with overlapping concepts from very different disciplinary perspectives and its changes to the traditional policy design literature. In

addition to academic scholarship were academic websites promoting policy design programs.

From a practitioner's perspective, Knight's 2022 blog, "Public Policy Design' outlines five areas of policy design work underway in the UK civil service: advocacy and embedding design; design community and events; design training; future design workforce; future design practice. The 2023 blog "Public Policy Design" provides updates following up on Knight's blog. However, neither reference the academic policy design literature we identified in the literature review or from our Google Scraping exercise.

Design-for-policy

The key author for the *design for policy* terms in the visual and mapping exercise is Christian Bason, CEO of the Danish Design Center, who is also the editor and author of the well-cited book *Design for Policy* highlighted above (Bason, 2014). This book was listed eight times in the GSE--specifically on bookseller websites.

According to Bason (2014), the potential contribution of the design-for-policy field centers on three themes. First, the design research approach involves qualitative methods (e.g., cultural probes). A second theme is an emphasis on collaborative design (e.g., participatory design, co-design, and co-creation), which suggests the collaboration with multiple policy actors in the design processes by involving "policymakers at different levels of the governance system, interest and lobby groups, external experts and, not least, end-users such as citizens or business representatives themselves" (p. 5). Finally, visual representations are required to help form and shape policy in practice by creating tangible artifacts, user experiences, service processes, and products that people can engage in.

Although a well-cited book in academic circles, it is not freely available to practitioners. Kimbell's academic book review of *Design for Policy* provides a succinct overview but is also inaccessible to most practitioners. The accessible academic chapter "Chapter 13 - Design for Policy" by Rudkin and Rancati (2020) describes the development of the EU Policy Lab. In it, they discuss similar themes raised by Bason, specifically the need for exploratory sessions, 'state of the art research,' and stakeholder/user/ citizen workshops. Leoni's open access (2020) conference paper "Design for policy in data for policy practices. Exploring potential convergences for policy innovation" considers design for policy approaches in public sector reform, consistent with Bason's work.

Junginger's 2013 open-access conference paper provides a scholarly critique of the divide between the realm of policy-making and the realm of designing. She argues that designers have been engaged in the implementation stage of the policy process when there should be all stages of the policy process, "policy-making as designing." The remainder of the paper focuses on design and public sector reform.

The Centre for Public Impact, a think tank, published an open access non-peer-reviewed paper, "Design for Policy." In it, they outline the three major steps in the design-for-policy process, which include understanding the human experience, generating ideas and solution space, and developing prototypes. Common tools include shadowing, body storming, and prototyping. The Design Council's blog "Using Design to improve policy" outlines the design approaches used by the UK Civil Service's Policy Lab via a five-minute video.

Design-in-policy

Following the same theme, the UK Design Council defines design-in-policy as applying design methods (including data science) in the public sector, particularly for policy development and implementation, by improving frontline services. The interest in design-in-policy is mainly a UK phenomenon fostered by a community of civil servants with the support of the UK government's Policy Lab, housed within the Cabinet Office. Andrea Siodmok's blog highlights the importance of 'service design approaches' in the public sector. Design, she argues, is "a highly useful tool for building government around the needs of citizens, not bureaucracies" and is being introduced in governments and incorporated as "one of a number of new methods in policy development" (Design Council, 2014). Siodmok further explains that in the Policy Lab, they use a design approach to policymaking in parallel to other methods such as ethnography, digital, and data science (Design Council, 2020), Chari, another leading civil servant, also commented on his blog on how the Policy Lab "designers learn more about policy and give policy-makers design tools that work for them" while learning from each other in a creative environment. Important tools include ethnographically-informed research and prototyping.

Design Policy
Mortati and Maffei (2018) state that design policy refers to a process in which governments develop policies to support the design sector and its use in the country, accelerating the inclusion of design in innovation policies. Marjanovic's accessible 2003 conference proceedings paper also echoes this perspective. This approach is somewhat different from

the three other approaches. Here the focus is on governments encouraging different sectors to adopt design approaches in various sectors. The GSE found design policy in UNESCO's (2020) work in Iceland promoting education of design-related subjects, working environments, and support networks of designers. India's National Design Policy document outlined and promoted the design as an approach to improving innovation across many sectors.

Discussion and Conclusion: Just a matter of semantics or meaningful differences?

The term design alone, particularly in English, represents a source of confusion because it often has various meanings (e.g., design thinking, co-design) and engages different methodologies referenced (e.g., Design Council's, d.school's). Adding the concept of policy, which also has different disciplinary traditions, only compounds the complexity. In response, we call for developing a "Policy + Design" field by clarifying the meanings of various terms and, thus, being able to use them consistently and communicate unambiguous messages, particularly to practitioners.

While debate among scholars from this lack of agreement on terms has become more prevalent, ambiguity among practitioners is more problematic. In this direction, we examined the terrain of the Policy + Design field online through issue mapping and digital methods, where practitioners and academia meet.

The GSE scraping produced four possible Policy + Design combinations: policy design, design-for-policy, design-in-policy, and design policy. With it, we identified the key actors, their locations, roles, and online information types and content. Our research examined if there were meaningful differences between the four terms.

The key findings are outlined in Table 7. When searching the term "policy and design" on Google, content from the mainly academic policy design field was the most frequently found in our searches. The major type of content is scholarly articles or books, of which many in our search were behind journal paywalls. Fortunately, many scholarly contributions are becoming more readily available on academic-oriented sites such as Academia.edu, Google Scholar, and Research Gate. Design-for-Policy and Design-in-Policy were the most similar, with the former discussing design as a process and the latter as a product, particularly UK public sector reform. Design-for-Policy was heavily influenced by Christian Bason, a design practitioner with a growing academic following. Regardless of the content, both approaches

presented a normative perspective, namely that design approaches ought to be part of policy design content and processes. Their understanding of the policy process was limited to the policy cycle heuristic.

Like Design-for-Policy and Design-in-Policy, Design Policy was also influenced by design science. All three described a wide variety of design-based discipline tools (e.g., prototyping, experimenting) and collaborative approaches (e.g.,co-design and co-creation). However, Design Policy had little to no focus on actually designing policies but rather on the broader role that design science would have in the economy. Public servant practitioners who discussed Policy + Design concepts in blogs used Policy Design, Design-for-Policy, and Design-in-Policy terms interchangeably.

Table 7 Summary of Policy + Design Characteristics

Policy Design	Design-for-Policy	Design-in-Policy	Design Policy
Largest field Academically oriented, but many papers or books are not freely available. Policy design is understood as both content and process. Focus on policy instruments but new areas, such as institutional grammar, are emerging. Acknowledges design influence in policy design but is limited to design thinking.	Single author (Bason) dominates, but many other scholars use the term. Design is a process to create products or services (e.g., public services). Design methods and collaborative approaches are applied in different moments of policy processes (co-design and co-creation). Focus on design approaches within the policy cycle/stages. Growing academic following	UK-focused Public sector reform Design is a process to create products or services (e.g., public services). Desgin methods and collaborative approaches are one of varied methods (e.g., data science) applied to the policy process and particularly on designing public services..	Design theory is central Government interaction with the design community Broader application of design in the economy
	Normative perspective of policy design		
Public servants use the terms interchangeably			

Future research should more rigorously validate the four Policy + Design categories we identified and develop more structured definitions of what was introduced in Table 7. The low cost and accessibility of the data mean that future digital analyses using online tools such as Google Scraper will readily lead to comparative and longitudinal analysis of the query results. Alternatively, researchers could conduct key informant interviews or focus groups with researchers or practitioners to further interrogate the Policy + Design landscape. This strategy would be particularly beneficial for non-English speaking policy communities. Finally, during our study and the preparation of this paper, natural language processing tools driven by artificial intelligence (AI) technology became more readily available to researchers and practitioners. The most well-known AI program is ChatGPT[7], a language model developed by OpenAI. It can extract a vast amount of diverse text data from the internet, allowing it to acquire knowledge on various topics. It is designed to generate human-like text responses to user inputs, enabling it to engage in conversational interactions. A preliminary analysis of the Policy + Design terms using ChatGPT supports our findings.

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[7] Generative Pre-trained Transformer

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Appendix

Data is available [here](#).