

Using Discourse Genres for Knowledge-Building Activity  
in a Government Organization

by

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## **Abstract**

Building knowledge in professional organizations involves complex discursive practices. In 2014 a group of employees at the Public Health Agency of Canada (PHAC), including senior managers, project facilitators, and other staff members, collaborated in managing a communication problem involving PHAC's scientists and policy writers, an effort known as the Science to Policy Project. This study investigates how an activity system, with its genre set, was used to build knowledge regarding the causes of the problem and also possible solutions. As well, the study looks at key genres from the government-wide genre system in which this activity of knowledge-building was situated. At the same time, the study describes PHAC's attempt to implement a new organizational culture to facilitate the knowledge-building activity the employees were engaged in.

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# 1 Chapter: Introduction

Most organizations have areas within their administration that need improvement, whether this includes one or several inefficient work processes or ineffective management styles. Through an initiative called *Blueprint 2020*, the Canadian Federal Public Service (the Public Service) is currently identifying work processes where collaboration and innovation could be enhanced. The *Blueprint 2020* initiative also recognizes the connection between organizational culture and resistance to change, and therefore is attempting to implement a new culture across its various departments and agencies. In 2013-2014 one of the government agencies, the Public Health Agency of Canada (PHAC)<sup>1</sup>, organized a project in which a team of employees and senior managers at PHAC collaborated to investigate the cause of a previously recognized communicative disconnect between the agency's scientists and its policy writers. This project was known as the Science to Policy Project.

This thesis presents a study of the activity, discourse, and collaborative knowledge-building associated with the Science to Policy Project. The study conceptualized the discursive knowledge-building activity as an activity system. The research focused on the written and oral genres used within the activity system as well as the culture in which it was situated.

Research in Writing and Discourse Studies has examined the discursive processes involved in collaborative within organizations. Some of this research has shown that collective identities are developed discursively through social interactions within an

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<sup>1</sup>Health Canada and Public Health Agency of Canada are governed by shared corporate services, and this includes the *Blueprint 2020* team. Researching the communication problem between scientists and policy writers, however, was a project specifically aimed at PHAC. For the sake of brevity, the research site will be referred to as 'PHAC', even though Health Canada employees were also included in the project.

organization, allowing for effective group cohesion (Hardy, Lawrence & Grant, 2005).

Other research has shown that effective management of collaborative writing projects can increase creativity and innovation through expanding the perspectives of individual writers because it prompts them to consider the perspectives of their audiences as well as those of their peers (Ede & Lunsford, 1990). Research has also shown that eliminating formal hierarchies within a collaborative team allows each individual in the group greater agency (Bate, 1984; Ede & Lunsford, 1990; Hardy, Lawrence & Grant, 2005).

Organizational culture has also been seen to play a key role in defining the social context in which writing and texts are situated (Cross, 2001).

These studies have revealed how collaboration can enhance writing in organizational settings (Allen, Atkinson, Morgan, Moore, & Snow, 1987; Ede & Lunsford, 1990; Hardy, Lawrence & Grant, 2005), and how an organization's culture can increase, or decrease productivity within a collaborative project (Cross, 1990). Little or no research, however, has explored these aspects of discursive collaboration specifically within a government bureaucracy, focusing on the genre-supported activity of discursive knowledge-building and on the culture that provides the context for this activity. The study presented in this thesis attempts to fill this gap in the literature by addressing the following questions:

1. What was the nature of the collaborative knowledge-building activity associated with PHAC's Science to Policy Project?
2. What role did discourse genres play in this knowledge-building activity?
3. What part did the genres play in implementing a new organizational culture for the Science to Policy Project?

To address these questions, I collected and analyzed key documents from the larger *Blueprint 2020* initiative and from the Science to Policy Project.

## **1.1 Overview of Chapters**

Chapter Two gives the reader necessary background information on the *Blueprint 2020* initiative and on the Science to Policy Project. Chapter Three provides an overview of previous research related to the study, including research on collaborative projects within organizations as well as on the communication problem that can occur between an organization's scientists and policy writers. Chapter Four provides an overview of the theories used to orient the research and to analyze data collected for the study. Chapter Five discusses the method used to collect and analyze data, including a statement of the standpoint of the researcher. Chapter Six reports the findings of the study, and Chapter Seven summarizes key findings and outlines the implications of the research.

## **2 Chapter: Background**

The project in this study was prompted by the Canadian federal government's *Blueprint 2020* initiative, and it is therefore important for the reader to have a general understanding of this initiative. This chapter includes a description of *Blueprint 2020*, how the initiative was administered at the Public Health Agency of Canada (PHAC), and how this led to a project that investigated the communicative disconnect between the agency's scientists and policy writers. The chapter also gives a brief description of the Science to Policy Project and the people and texts involved.

### **2.1 Blueprint 2020**

The Clerk of the Privy Council (the Clerk) is responsible for dictating the administrative agenda for the Canadian Federal Public Service (the Public Service), and *Blueprint 2020* was the Clerk's plan to reform the administrative body of the federal government. A federal government-wide initiative, *Blueprint 2020* called for the implementation of a new organizational culture across the entire Public Service as a context for individual projects within each of its departments. The larger goal of *Blueprint 2020* was to create a culture that favours collaboration and innovation, more specifically, *Blueprint 2020* aimed to improve the efficiency of bureaucratic work processes through eliminating unnecessary "red tape", reducing employees' reliance on hierarchy and improving communication between employees at all levels and across different branches, directorates and divisions. The Clerk initially introduced *Blueprint 2020* through a document referred to in this study as the *Blueprint 2020 Report*.

Following the launch of the *Blueprint 2020 Report* in June 2013, each federal government department and agency was responsible for deciding how to apply the vision

of *Blueprint 2020* to its own priorities. One of the priorities for PHAC was to, “create a better conversation between scientists and policy [writers]; bridge the two solitudes; understand that knowledge is our currency” (Public Health Agency of Canada, 2013, p. 4), in order to produce better informed science-based policy. The identification of this priority led to the Science to Policy Project.

## **2.2 Overview of the Science to Policy Project**

To research the communication problem between scientists and policy writers, two individuals referred to in this study as ‘facilitators’ were appointed to organize the knowledge-building activity, to elicit ideas from employees in different roles and at all levels at PHAC, and to summarize this knowledge and present to the agency’s senior managers. The facilitators used several different methods of engaging PHAC employees to generate ideas. They started with an online forum called “Idea Spark”, which the team used to crowd-source employees’ opinions. Following the Idea Spark discussion, the team held two “Idea Jams”. The Idea Jams were in-person sessions that invited employees to give their perspectives regarding the problem and possible solutions, and involved collaborative brainstorming. The facilitators then summarized the cumulative ideas from the Idea Spark and Idea Jams and presented them to the senior managers in a “Prezi” presentation. Two other genres, the “Champion’s Blog” and the “PHAC progress reports” worked in synergy with the Idea Spark and Idea Jams throughout the progression of the Project. The Champion’s Blog played a major role in promoting the Idea Spark and Idea Jams to PHAC employees and hosted discussions on the *Blueprint 2020* initiative, while the PHAC progress reports reported on the cumulative outcomes of the project as it proceeded.

Though not directly involved in the genre set used in the knowledge-building activity of the Science to Policy Project, the *Blueprint 2020 Report* and subsequent *Blueprint 2020* progress reports are also included in the study presented in this thesis. These genres were also included because they played an important role in introducing and attempting to implement the organizational cultural values that provided the social context for the genre set employed in the activity of the Science to Policy Project.

### **3 Chapter: Literature Review**

This chapter gives an overview of previous research on different methods of discursive collaboration employed in professional organizational settings. Below, there are three main sections. The first looks at collaborative writing within organizational settings, including a consideration of why collaboration is used in organizational settings and how different methods of organizing group members can be leveraged to improve the final product. This research connects to the study presented in this thesis because it provides a context for the later discussion of how the PHAC employees involved in the Science to Policy Project deliberately changed the way they went about collaborating within the project.

The second section discusses previous research on collaborative writing situated within organizational cultures. This research investigates how culture influences collaborative practices within an organization, and how social norms and values that are reflective of the organization's culture manifest in the discourse genres used within an organization. The section also points to previous work linking the inertia of an organization's culture to the collective identity that employees develop within the context of that culture. The section closes with a discussion of how 'charter documents', that is, documents that inform the way that organizations act and communicate (McCarthy, 1991) can be used to instill new cultural norms and values. The section is important because the project described in this study was heavily influenced by a cultural shift within the Public Service introduced by the *Blueprint 2020 Report*.

The final section in the chapter investigates how communication problems between scientists and policy writers have been researched in past studies. The section

includes discussions of the respective professional cultures and discourse practices of scientists and policy writers, and is followed by an overview of research on ‘boundary objects’. The section gives the reader an overview of research on the nature of communication problems that have occurred and continue to occur between scientists and policy writers. The section also describes research that has explored the rhetorical causes of miscommunication between scientists and policy writers. This section gives the reader a discursive understanding of the communication problem that employees were investigating through the Science to Policy Project.

### **3.1 Collaborative Writing in Organizational Settings**

This section discusses collaboration in the workplace, including how collaborative writing can benefit organizations and how different approaches to hierarchical structure effect collaboration within an organization.

#### **3.1.1 Why organizations use collaborative writing**

Research shows that in many organizational settings, it is faster and more effective to mobilize multiple individuals with diverse skills to complete complicated writing tasks (Allen, et.al, 1987; Stratton, 1989; Ede & Lunsford, 1990; Cross, 2001). Increasingly, businesses are looking at how they can create diverse teams comprised of employees from different work groups, or in some cases from different organizations, reflecting research suggesting that collaboration can facilitate innovation (Ede & Lunsford, 1990), with collaborative writing often producing a better final product than an individual author would (Allen et al., 1987). Research also demonstrates that collaboration can help to stimulate creativity that leads to more effective problem-solving.. Multiple authorship directly adds additional perspectives to the cognitive

processes of individual authors (Ede & Lunsford, 1990). Writers in collaborative projects not only have to consider the perspective of their audience, but also consider how the other writers in the group would interpret what they had said.

This research on collaborative writing is important because, in the study presented in this thesis, the *Blueprint 2020* initiative stressed the need to break down the invisible barriers that can exist between teams, and argued that increased collaboration between different professionals will increase innovation in the federal government department or agency.

### **3.1.2 Organization of collaborative writing structures**

The organization of the members of a collaborative group can have a significant effect on the effectiveness of the writing process and the rhetorical quality of the document produced. Research in writing studies identifies two methods of group organization that are relevant to this study: a “hierarchal” organizational model that includes strict adherence to a hierarchy and clearly defined roles for each group member, and a “dialogic” model that favors open communication, fluid roles, responsibilities that shift between group members, democratic decision-making (Ede & Lunsford, 1990). The hierarchal model is similar to the traditional hierarchal model of the Canadian Federal Public Service, while the collaborative model that that Public Service is currently attempting to move towards through *Blueprint 2020* can be viewed as a dialogic model

Hierarchal models of collaborative writing typically have a primary leader for the whole group and in cases with larger numbers of people, second-tier leaders of subgroups (Ede & Lunsford, 1990). Responsibility is distributed throughout the system, with each subgroup and/or individual member responsible for specific elements of the project

(Stratton, 1989). Though formal hierarchy can be rigid and lead to a lack of diverse representation, it does have benefits. Appointing team leaders and focusing on building a collective set of rules to govern interactions between team members at meetings can help to streamline collaborative writing processes (Stratton, 1989; Ede & Lunsford, 1990; Cross, 2001). This is because each team member has a clear understanding of their individual responsibilities, how to go about completing those responsibilities, and what successful completion of their individual tasks would look like (Stratton, 1989; Ede & Lunsford, 1990). The larger a group of writers is, the greater the need for formal hierarchy because of a dispersion of responsibility, and an increased number of opinions regarding how a project should be organized (Stratton, 1989; Ede & Lunsford, 1990). With one person appointed as a leader, decisions can be made more quickly (Ede & Lunsford, 1990).

While researchers in Discourse Studies have found that formal organizations of hierarchy can be efficient (Stratton, 1989), nevertheless some organizations are foregoing traditionally rigid hierarchies for less structured distributions of authority and responsibility such as the dialogic model (Ede & Lunsford, 1990). Some researchers claim that while workers initially have difficulty without clear instructions and strong leadership, less structured forms of hierarchy can increase creativity and innovation and ensure that opinions and ideas from all employees are considered and included (Hardy, Lawrence & Grant, 2005; Ede & Lunsford, 1990). This approach can help to foster more creative ideas in collaborative writing situations because the writers are able to maximize their diverse strengths through negotiating collective agreements and forming a consensus on various aspects of their writing project (Hardy, Lawrence & Grant, 2005).

In the dialogic model, with the group as a whole negotiating the responsibilities of each group member, in order to play to his or her strength, the individual capacity of each group member can also increase. This way all members take equal responsibility for the success of the writing project, and each member is able to think about how their set of tasks fits into the whole project.

An important philosophy behind *Blueprint 2020* was drawing from the diverse perspectives of employees from all levels within the organization. There were still, however, distinct roles for senior leadership as well as the facilitators who ran the project. Positions within the Public Service are organized in a clearly defined hierarchal structure. Within the organizational system of this study, senior managers have their own distinct role and still hold the ultimate decision-making power. However, the philosophy of the project itself during most of the management of the knowledge-building process resembled a more cooperative approach that deliberately did not value the opinions of employees in lower positions over those of senior employees. Though senior managers still play a leadership role, and facilitators are designated to organize the project, and when employees are asked for opinions in group situations, a “dialogical” governance is imposed upon them, with each employee encouraged to contribute ideas, take on leadership of the group and facilitate the group fluidly. In this way, the organization in this study has both methods interlaced within its greater social context.

### **3.2 Collaborative writing situated within organizational culture**

Researchers have found that organizations create their own cultures, languages, and methods of communication (Cross, 1990; Bate, 1984). An organization’s culture comprises the organizations’ philosophy and ethos. Culture standardizes ways of

performing work, methods of problem-solving, hierarchy and other organizational practices (Bate, 1984). With culture comes specific terminology, methods of argumentation, priorities, and shared assumptions. Problematic cultures can negatively impact the organization because culture influences behaviour (Bate, 1984). The organizational culture in which a group is situated plays a key role in shaping the context of the set of texts the group writes (Cross, 2001), the rhetoric the group adopts and how employees choose to collaborate. Research has found that organizational culture can negatively impact the organization's writing process because it acts as a barrier to positive change (Cross, 1990). In some studies, even if employees were able to acknowledge a problem in organizational processes, and they had the knowledge and resources to implement change, the problem would likely persist because it required resistance to a norm that was engrained within the organization's culture (Smart, 2006). It is difficult for people to break from organizational culture because culture tends to be implicit, in many ways unconscious, and deeply embedded as a shared value system between employees and management (Cross, 1990). When an organization needs to prompt employees to critically analyze the organizations' practices and make significant changes to their processes, the organization would benefit from consciously implementing changes to its culture to align with the new practices it seeks to implement.

Socio-cultural influences from the organization can negatively affect the writing process of a document that involves several collaborative writers (Cross, 1990). For example, in Cross' (2001) study, the organization's deeply embedded adherence to hierarchy valued the opinions of certain senior officials over contributing subject matter experts lower in the hierarchy. Due to this culture, problems and errors were also

routinely blamed on subordinates without question, and writers and decision-makers had little direct interaction, causing a lack of clarity in instruction. The organization's general emphasis on showcasing positive results and taking focus away from negative results was a motivation that some participants valued to a point where some information was being inflated while other important information was left out of the report entirely.

Over-valuing hierarchy leads to a lack of diverse input and a false sense of confidence in leadership (Cross, 1990), and over-valuing positive results creates an environment that discourages acknowledgement of failure, and leaves the organization vulnerable to over estimating the impact of positive results. Ultimately, this creates an environment where employees cannot think critically about errors leaving them unable to learn from them and vulnerable to repeating the same mistakes. In this study, *Blueprint 2020* was met with resistance almost automatically due to the deeply embedded culture of the Public Service. Along with identifying and describing the communicative problem between scientists and policy-writers, facilitators also had to battle a deeply engrained culture resistant to change, and resistant to considering the opinions and advice of people outside of their specifically defined roles.

### **3.2.1 Genre and Organizational Culture**

Researchers have found that an organization's culture is imbedded within the genres that are reproduced in that setting (Yates & Orlikowski, 2000). Genres are texts that respond to recurrent social situations (Miller, 1984). Given the social nature of genres, a newcomer in an organization must acclimate into the organization's culture in order to effectively reproduce genres in that organization (Dias, Freedman, Medway & Par, 2013). Similarly, if an organization is attempting to break out of patterns of thinking

characterized by its former culture, it needs to create new texts with the new philosophy in mind so that users do not regress towards the habitual thinking patterns triggered by genres they regularly use.

Drawing on the idea that genres respond to their socio-rhetorical context, Yates and Orlikowski (1992) conceptualized the idea of “genres of organizational communication”. The concept sees genres as situated in organizational settings, characterized by the value system of the organization, responsive to recurrent situations, existing social relations and past interactions. Genres of organizational communication are dynamic, and have adapted over time to the needs of the organization. In an analysis of the organizational genres used in an acute health care facility, Yates and Orlikowski (2000) illustrated how genres within organizations are developed in context in response to recurrent situations through examining the physician’s order, and the transition from a paper to an electronic system. Through transitioning to an electronic system, the genre adapted to a recurrent social situation, which was nurses reading the form and acting accordingly, and rectifying some flaws with this system. This included being unable to read hand written instructions from the physicians and being unclear on the specific details of the physician’s instructions. The study illustrates how genres within organizational settings evolve with the passage of time, and respond to organizational needs as they arise. This is similar to the genres that were created for *Blueprint 2020*, because old genres were changed and given new conventions for projects prompted by *Blueprint 2020*.

### **3.2.2 Forming a collective identity for effective collaboration**

An important aspect of successfully implementing cultural change within an organization is forming a collective identity. A collective identity is a shared belief about the core attributes that define the organization and its way of functioning, with a shared knowledge of the fundamental defining features of the organization connecting employees through a sense of camaraderie (Hardy, Lawrence & Grant, 2005). An organizational culture is a set of belief systems and social norms tacitly understood by employees, and a collective identity is each individual's sense of connection to that culture. As a group, forming a collective identity helps produce effective collaboration (Hardy, Lawrence, & Grant, 2005). The cultivation of a collective identity is a key aspect of effective collaborative writing because it allows the group to create a meaningful set of assumptions, symbols, common understandings, and rhetorical strategies, which would be otherwise arbitrary (Hardy, Lawrence, & Grant, 2005). A collective identity allows the group to develop mutually shared understandings about the values that shape the culture of their organization, which can increase group cohesion. In collaborative writing, the diversity of individual contributing authors along with the collective identity of the group promoting efficiency in group settings.

Though the formation of a collective identity is helpful for collaborative writing projects in organizational settings, the pattern of thinking encouraged by a collective identity needs to be altered when an organization is undergoing fundamental changes, as with the *Blueprint 2020* initiative. When a collective identity forms in an organizational setting, individual employees can become resistant to change (Brown & Starkey, 2000). The more an organization's collective identity is developed, the greater the resistance to change among employees, regardless of how destructive this resistance can be to an

organization's productivity (Fiol, 2002). This resistance to change can make it difficult for group members to see the benefits of new work practices and cultural values that could benefit the organization.

An example of employees' resistance to organizational change can be found in Smart's (2006) study of employees working to implement a new economic model at the Bank of Canada. He found that two economists who had been tasked with creating and implementing a new economic model of the Canadian economy had difficulty partly due to the organization's resistance to change. It was clear there was a need for a new economic model; however,, the initial reactions from employees to the proposed new model were either negative, or research papers describing the advantages of the new model were ignored entirely. The change in work practices that was being proposed by the two new employees went against the traditional sense of collective identity among the group of employees as a whole, making them resistant to the new model, regardless of its merit.

Evidence of the positive and negative aspects of the formation of collective identity within an organizational identity are apparent in the Science to Policy Project. The project used multiple genres, with their and multiple voices, in attempting to implement solidify the new cultural values advocated in the *Blueprint 2020* initiative.

### **3.2.3 Charter document**

McCarthy's (1991) study used the Diagnostic and Statistical Manual of Mental Disorders (DSM) to examine and cultivate the concept of a charter document. A charter document "stabilizes a particular reality" (p. 359) for a specific group or organization. It sets the tone of a project by establishing rules, or a specific philosophy the group should

use to approach their work. Charter documents often describe the nature of the relationships different group members need to cultivate and specifies patterns of interaction they need to follow (McCarthy, 1991). A charter document can also be amended and republished, or have supplemental documents published to re-stabilize reality and renew its initial purpose.

In this study, the initial *Blueprint 2020 Report* and the subsequent progress reports that supported it acted as charter documents that mapped out the cultural vision for the future of the organization and characterized the value system that was used to define the project that was the object of this study. A charter document is especially important in this study because the traditional business philosophy the Public Service follows is being changed by *Blueprint 2020*, which also sets a new conceptual model for approaching problem-solving, among other things.

The DSM was created by a large group of international psychiatrists to standardize definitions of over 100 mental health disorders (McCarthy, 1991). This standardization was originally called for with the development of drugs for treatment of mental disorders, and continued to be a crucial element needed for productive international collaboration on research in understanding and treating mental illness. The DSM acts as a charter document that stabilizes reality in the mental health field. Before the DSM, there were two conflicting conceptual models in psychiatry, and to rectify this situation, the DSM was created to establish one conceptual model that would be universally used.

The DSM profoundly influenced how knowledge is constructed in the field of psychiatry, including how newcomers are trained and the pedagogical models their

instructors and mentors follow. It also notes that organizations with a political and financial interest in the document can influence the timing and amount of revisions that are made in the document. The DSM was a living document and as new advancements were made in the field of mental health, the DSM was updated and newer versions of it were published.

Though not directly referred to as a charter document, other research has seen evidence of the use of communal documents to organize collaborative writing. When studying the use of collaborative writing for project management at an engineering firm, Ede (1990), found that the use of a communal chart that the team designed for their specific purposes helped to facilitate and determine the collaborative writing process. The participants in the study originally used the chart to define the scope of a project and clearly outline concrete objectives, responsibilities and deadlines. A key element of the tool was that it was developed in response to the needs of the tasks the team was assigned.

### **3.3 Communicative Problems Between Scientists and Policy Writers**

Scientists and policy writers have historically had difficulty communicating due to blurred professional boundaries and fundamental differences in rhetorical and professional practices. Below is a summary of research that looks at how those blurred boundaries and rhetorical professional differences cause conflict between scientists and policy writers, and a discussion of tools that have been used in the past to help facilitate improved communication between scientists and policy writers, called boundary objects. Though this study focuses primarily on the discursive dimensions of the collaborative problem-solving process through which the communication problem between scientists

and policy writers was examined, a discussion of the problem itself is also relevant. It is important for the reader to have an understanding of the problem the employees are discussing because it gives the reader a better understanding of the reasons why disrupting certain cultural practices, such as a lack of collaboration, are important factors in addressing this problem. In the final section of Chapter 6, there is also a brief discussion of the feedback the group provided, and this section situates their findings in the current research on the topic.

### **3.3.1 Blurred boundaries**

Boundaries between science and policy are in fact blurred, and a process of constructing those boundaries occurs when institutions are integrating scientific information into policy (Jasanoff, 1987). Discourse analysts who have previously looked at the process of integrating science into policy have also found that, while people typically believe this to be a clear and linear process, in actuality it is much more complex, with both disciplines intertwining with one another (Lidskog, 2014). With the growing trend towards a more social constructionist view of science and the reality of scientific debate, the lines between science, politics and social issues are not as clear in practice as they appear from the outside.

Historically, science represented an unbiased source from which political figures could draw objective data to support government decision-making (Jasanoff, 1997). This came from the realist idea that scientific data simply mirrored objective reality. From a realist point of view, the scientific method is seen as something carefully designed to ensure that scientific findings presented themselves without human interaction, completely distinct from the influence of social or political values (Demeritt, 1996).

Social and political values, from a realist perspective, are tainted by subjectivity and obstruct the process of acquiring objective, factual information.

The emergence of a more social constructionist view of science, however, complicated this view of science as objective truth. The Social constructionist view of science acknowledges scientific debate, and sees the construction of scientific knowledge as the evaluation of nature, and the use of sound scientific methodology and previous research to form reasonable opinions supported by the data available (Demeritt, 1996). Realists who see science as a reflection of objective truth sometimes dismiss social constructionist views, arguing that the laws of physics, for example, exist regardless of whether or not a person acknowledges them (Demeritt, 1996). Social constructionists would argue that science and political values cannot be separated because the paradigms in which they operate, and the assumptions that are built into the scientific method are a product of social construction (Haas & Stevens, 2011; Demeritt, 1996).

According to social constructionists, having a realist view of science when writing policy, or assuming that simply using objective, fact-based science to build policy is problematic because scientific data does not exist independently of social or political values. Certain scientific paradigms align with democratic political rhetoric (Gutson, 2001). How science is able to be presented in line with the political rhetoric of the democratic versus the republican party in the United States, for example, affects the public trust in it more so than the legitimacy of the science. Republican rhetoric would align with the realist paradigm and argue for concrete, definitive examples of science, and emphasize the opposing scientific opinion of a democratic science-based policy to devalue an opinion that does not align with their agenda (Demeritt, 2011). With the

advent of scientific debate, researchers are finding more and more that while there can be sound scientific theories, based in evidence and research, these theories can still be situated within serious scientific debate. With the climate change debate, for example, policy is written on “uncertain” grounds because there are different and opposing opinions regarding the implications of the data that scientists have collected (Demeritt, 2006).

Social constructionists also argue that science is not immune to subjective constructionism and that the science itself is socially constructed along with the political value systems that are in conflict about how the issue should be addressed, and therefore created with subjective values (Haas & Stevens, 2011). In some cases, such as climate change, the emergent political debate prompts the need for scientific research, which affects how the research is funded, and depending on which political party or corporate interest funded the research, which data will be emphasized, embellished or given further attention, and which data will come under more scrutiny.

### **3.3.2 Different professional paradigms**

Different academic communities are characterized by a culture of shared assumptions, language, rhetoric, norms and argumentative methods (Hyland, 1997). Scientists and policy writers work in very different academic and professional paradigms, characterized by unique terminology, history and professional cultural practices (Lidskog, 2014). Scientists and policy writers can clash due to these conflicting paradigms, resulting in disagreements about how policy should be written (Norton, 1998). They can also have different ideas of what information needs to be shared with the other party, and find that the process of simplifying science for the benefit of policy

writers can result in misrepresentation of scientific information, which is exacerbated once that information is complicated with the social or political implications of policy.

The rhetorical foundation of scientific discourse is characterized by specific methods of argumentation, assumed practices and language, all of which are different to that of policy writers. Scientists are typically concerned with accurately representing scientific data in as much detail as possible, and typically not concerned with relating their findings to social or political issues (Lidskog, 2014). One value that is detectable in scientific writing is a clear distinction between fact and interpretation (Hyland, 1997). While a fact is an indisputable representation of truth, an interpretation involves constructing a knowledge claim through the observation of natural phenomena and the application of pre-existing theories and facts. This is an important distinction because the scientific community values objectivity, and to claim an interpretation as fact would invalidate the claim's credibility.

Scientists' perception of speaking to a scientific versus non-scientific audience, such as policy writers, is typically only understood by them in terms of simplifying concepts and terms (Cook, Pieri, & Robbins, 2004). When speaking to policy writers, scientists address oppositional arguments by assuming that with enough information on the subject, people will reach what scientists believe to be a rational conclusion. In reality, more information does not always help policy writers reach the same conclusion as scientists do when they look at the same data. The point in the discursive transition of scientific information into policy where problems often arise is when the simplified version of science is not entirely understood, and then further complicated by political, social or economic discourse (Cook et al. 2004).

Both scientists and non-scientists tend to see scientific knowledge as pragmatic and unbiased. The predominance of English in the scientific community influences science with a Western notion that language can seamlessly communicate knowledge completely and objectively (Hyland, 1997). In order for scientists to communicate their findings to non-scientists, however, a process of conceptual ‘translation’ is required to help non-scientists understand and find meaning in the data (Jasanoff, 1987; Lidskog, 2014). For policy-writers, this means understanding how the science is connected to the social issues their policies are trying to address (Jones & Salter, 2003; Peilke, 2007). Problems often arise when scientists do not present their findings in a way that accommodates policy-writers’ need to see science in the context of its significance for society. Further, policy-writers often fail to ask scientists for scientific information that is contextualized in this way (Pielke, 2007).

Another cause of the communication issue between scientists and policy writers is their conflicting timelines, and the current political climate in which science is developed for policy, rather than independent of policy (Haas & Stevens 2011). Previously, policy-writers would draw on scientific data that was being generated in research that was independent of government, such as in academia. Currently, however, there is a growing trend towards government institutions hiring their own scientists and asking for scientists to research issues as they become relevant to policy (Peilke, 2007). This is problematic because the scientific process takes significantly longer than policy deadlines typically allow. This creates a situation where scientists are asked to provide information before they are confident in its legitimacy, or before they have a full understanding of the implications of their data. With issues relating to climate change and greenhouse gas

emissions, for example, some policy has reflected policy realities more than scientific fact (Haas, 2008).

### **3.4 Boundary objects**

Since it is these different paradigms that cause confusion, some researchers argue that there needs to be a new paradigm created to discuss science-based policy, so the two different groups can have shared language, assumptions, methods and normatives of judgment (Norton, 1998; Lidskog, 2014). Previous research that has looked at communicative difficulties in science-based policy have also argued that the creation of a neutral paradigm would solve underlying conflicts and help bridge communication (Norton, 1993,1998; Gutson, 2011).

One way that boundaries can be negotiated in interdisciplinary communication is through boundary objects (Schryer, Gladkova, Spafford, & Lingard, 2007; Journet, 1993). A boundary object is a practice, conceptual model, artifact or classification system that reflects values and norms accepted by both disciplinary groups (Lidskog, 2014). Boundary objects are tools that two groups of professionals can use to form a mutual understanding of one another using their own language and their own paradigm. They are used as bridging tools to encourage the breakdown of professional boundaries, and the cultivation of a neutral zone in which they can collaborate better. The use of boundary objects discursively facilitates the process of communication across professional boundaries by translating information and practices in one discipline so they are comprehensible to people in another (Journet, 1993). The focus of boundary objects is neutrality, and they are designed to give two disciplines that operate within very different professional paradigms tools that they can use to communicate with one another. The

negotiation of boundaries also helps individuals in both disciplines better understand their roles, which ultimately reduces territorial disputes and helps each party focus on its own tasks (Schryer, et al., 2007).

Given the fundamental differences between the paradigms in which scientists and policy writers operate, the use of boundary objects would help them to collaborate better because they would have tools to use to mediate their professional differences. Though they refer to them by other names, employees engaged in the Science to Policy Project at PHAC suggest using boundary objects to “bridge the communicative gap” between scientists and policy writers. In its push for a cultural shift, a fundamental principle pushed by *Blueprint 2020* is to break down “silos” between different professions, not just in science and policy but across the department, in order to collaborate better on files that require multi-disciplinary input.

## **4 Chapter: Theoretical Framework**

To investigate how the texts I collected for this study helped to facilitate the collaborative writing process of the Science to Policy Project, I designed and applied an analytical framework using Activity Theory and Rhetorical Genre Theory. Rhetorical Genre Theory and Activity Theory are complementary as the two theories can be combined to give the researcher the conceptual tools needed to analyze the overall context in which the data is situated, and how those individual concepts are connected. A theoretical construct derived from Activity Theory, the ‘activity system’ (Engeström, 1993), allows the researcher to conceptualize a collaborating group of social actors drawing on a division of labour. Distributed cognition, as well as a set of activity-mediating cultural tools—linguistic, material, and social tools— function within the activity system to accomplish shared goals. Rhetorical Genre Theory provides the theoretical approach to analyze the genres used within the activity system, and consider the significance of their social context. Within the activity system, the genres used as linguistic tools were key elements of the problem-solving process. Employing this theoretical perspective, I used Rhetorical Genre Theory to analyze how genres function within the activity system as linguistic tools.

### **4.1 Rhetorical Genre Theory**

Rhetorical Genre Theory views genres as text-based typified responses to recurrent social situations (Miller, 1984). At the same time, the theory also emphasizes the social contexts within which genres function (Dean, 2008). According to Rhetorical Genre Theory, looking at a genre’s social context and the social action the genre is intended to accomplish are as equally important as textual form (Dean, 2008). To look at

social context, a researcher can draw from other texts the genre interacts with, as well as the social environment in which the genre is situated, to determine the cultural values that dictate the genre's content and intended social actions. From the theoretical perspective of Rhetorical Genre Theory, genres are represented as “[s]ocial, rhetorical, dynamic, historical, cultural, situated” (Dean, 2008, p.11), with all these aspects complexly interrelated. Rhetorical Genre Theory provided some of the tools necessary to analyze the data in the study presented in this thesis because the work accomplished by the genres associated with the Science to Policy Project reflected the changing social context in which they were situated.

Performing an analysis using Rhetorical Genre Theory also involves looking closely at the texts that surround genres (Bawarshi & Reiff, 2010). When texts in a genre interact with other texts, this discursive phenomenon is referred to as ‘intertextuality’ (Bazerman, 2004). Looking at how genres interact with one another is an important facet of rhetorical genre analysis. General relationships between texts can be analyzed using intertextuality; however, when genres interact routinely in meaningful ways, they can be called a genre set. A ‘genre set’ can be viewed as the repertoire of genres used by the members of a professional group (Devitt, 1991). All of these concepts discussed in this section on Rhetorical Genre Theory will be used in forming the theoretical framework for my study, and are elaborated on in the following section.

#### **4.1.1 Genres**

Discourse genres are text-based forms of social action. They are typified—in that they follow conventional patterns—and dynamic—in that they evolve overtime. First, genres are typified. Genres and their discursive purposes recur in specified situations,

which signals expected actions from the individuals or teams that are using the genre. Through repeated interactions with genres and similar genres, writers learn how to participate in similar writing situations (Devitt, 2004). It can be difficult to ensure that a reader understands a piece of writing the way the author intended because, unlike in face to face conversation, the writer cannot watch the reader for social cues, nor are they there to correct themselves if they have been misunderstood. For this reason, writers often take steps to ensure that their writing is understood correctly. One way to do this is to write typically (Bazerman, 2004), which happens when the writer follows certain social patterns that are understood by their audience. The recurrent and stable nature of genres makes them ideal for organizations because of the discursive continuity that comes with typified texts (Smart, 2003). Further, this recurrence in genres allows organizations to streamline processes, and manage the expectations of readers more efficiently than inventing a new text each time one is needed.

Though typification is a key attribute of a genre, so is a genre's capacity to remain dynamic. Genres are fluid and they evolve along with their purpose and context (Dean, 2008). As the circumstances of a social context evolve, the purpose or use of a genre may change, causing a need for the genre itself to change. A genre can maintain its continuity and adapt to a new situation simultaneously, allowing organizations to adapt to change while still taking advantage of the efficiency that genre typification allows (Smart, 2003). Alternatively, an organization can deliberately upset a genre's typification by making a major change to a genre's conventions in order to prompt the user to interact differently with the genre, or change the activity with which the genre is associated. This perspective on genres is important in this study because the facilitators used genres that had been

adapted to reflect the new patterns of interaction prompted by the changing value system the *Blueprint 2020* initiative introduced.

#### **4.1.2 Genre sets and genre systems**

A 'genre set' is a collection of texts a person or group of people uses to accomplish their tasks in a specific context (Bazerman, 2004). In her original account of genre sets, Devitt (1991) focused on the sequential nature and direct connections between genres within a genre set. In organizational settings such as a government office, genres usually function in sets, with each genre enacting separate, yet related functions (Smart, 2003). When genres are used in a particular professional setting for similar purposes, such as the genres an engineer uses to complete a project, they often function as genre sets (Bazerman, 2004).

A 'genre system' is also comprised of multiple genres; however, this term focuses on how those genres and genre sets interact with one another across related organizations (Bazerman, 2004). Spinnuzzi (2004) argues that genres in a system play a larger role in within the fuller social context in which organizational genres function.

When a collaborative team have assembled to accomplish a task, they are rarely restricted to one genre. Instead, such work groups typically use a range of genres which interact with one another in order to facilitate action (Orlikowski & Yates, 1994). Understanding how a collaborative team communicates requires an analysis of their genre set and involves looking at where in the process each genre is used, how they are used by different actors in the community, as well as how these different genres interact with one another. The above discussion of genre sets and genre systems is

highly relevant to the present study because it sheds light on how the genres used by the employees participating in the Science to Policy Project team at the Public Health Agency of Canada (PHAC) interacted with one another to produce desired outcomes.

#### **4.1.3 Intertextuality**

Intertextuality occurs when rhetorical or formal aspects of one text are present in another (Bazerman, 2004). In situations involving organizational change, new genres are sometimes adapted from the genres used previously. In organizational settings, the changing technology involved in work processes and the changing needs of the organization will create a need for older genres to be adapted and manipulated, and in some cases merged with other genres to form hybrid genres (Berkenkotter, 2001). Using hybrid genres can be useful when an organization is changing a process or social conventions associated with a particular genre. The remaining conventions of the old genre still typify patterns of interaction the organization wishes to maintain, while the new conventions were added to prompt action embedded with new value systems or processes. Reinforcing new cultural practices across several texts is also important to making lasting changes within an organization. The following is a review of the concept of intertextuality, and how it is used as an analytical concept.

Bakhtin's work on speech genres marked a theoretical shift in Discourse Studies towards focus on the interdiscursivity of texts, rather than individual texts (Berkenkotter, 2001). The term "intertextuality" refers to the different ways texts relate to, and draw from one another to create meaning. The tradition of thought surrounding intertextuality as it is widely used in Discourse Studies began with Bakhtin's (1986) theory of

dialogism, although some would argue that Saussure can also be credited for beginning this school of thought in his work on the philosophy of language and his notion of the differential sign (Allen, 2000). Scholars in Discourse Studies largely attribute Bakhtin to the theoretical foundation from which the concept of intertextuality was created because of his interest in focusing on the social context in which language was situated (Allen, 2000). Bakhtin noted that theoretical linguistics lacked any emphasis on the significance of how utterances, words and texts were meaningfully and socially linked to one another and how they seemingly interacted with one another (Fairclough, 1992).

The application of intertextuality as an analytical tool in Discourse Studies was introduced by Kristeva (1980). Notable scholars in the field then elaborated on its application to research. Fairclough (1992) was able to further operationalize the concept of intertextuality through applying it as a form of discourse analysis. To apply intertextuality as an analytical tool, Fairclough (1992) emphasizes breaking down the heterogeneity of texts. This involves looking at social context, work the text is used to accomplish, form, and drawing similarities or linkages to other texts to make meaningful connections that allow the researcher to gain a better understanding of the text and its social function. Understanding the ways texts are interconnected is a useful tool in discourse analysis that helps researchers to deepen their understanding of how texts interact with one another to facilitate social action. Once established as an analytical tool, other researchers also used intertextuality in research in workplace writing studies.

#### **4.1.4 Types of intertextuality**

In discourse analysis, there are several types of intertextuality used to understand the different ways texts interact with one another. There are many different ways texts

borrow from other texts to communicate to the reader, including direct quotation, paraphrasing, referencing concepts or using the structure of one genre and applying it to a different genre to make a point (Bazerman, 2004). Texts can also respond to one another or incorporate rhetoric from another text, and they can appropriate the stylistic, discursive or formulaic conventions of another text (Fairclough, 1992). The three types of intertextuality evident in this study, which I will discuss in this section, are interdiscursivity, presuppositional intertextuality and intratextuality.

Interdiscursivity is a form of intertextuality wherein the text has appropriated discursive conventions from another text (Fairclough, 1992). It is a helpful method of analysis because it draws attention to the heterogeneity of texts and their intertextual constructions. Analyzing the interdiscursivity of a text illuminates different discourse conventions, including how the discourse is organized and what types of relationships exist between the discourse types that are used in the text (Fairclough, 1992). In this study, analyzing the interdiscursivity of the genres used to gather information by the Science to Policy Project facilitators allows us to see how participants appropriated conventions from focus groups in order to create a new genre that served their own specific purposes.

Presuppositional intertextuality is another type of intertextuality that looks at how a text assumes the reader has prior knowledge either from outside sources or from previous texts the writer has produced (Fairclough, 1992). In the texts that are produced for the Science to Policy Project, writers assume that readers have some understanding of *Blueprint 2020*, as well as some prior knowledge of the communicative gap between scientists and policy writers.

Though I approached these concepts separately, it should be noted that intertextuality is also closely linked to Rhetorical Genre Theory and the recurrent nature of genres. A newer genre may adopt rhetorical discourse from a genre the reader is familiar with, or the conventions of other genres to signal a desired response from the reader (Devitt, 2004).

## **4.2 Activity Theory**

Activity Theory originated in German Philosophy, Marxist ideology, and the Soviet Psychological theory of Vytogotsky, Leonte'ev and Luria (Engeström, 1999), as well as in the Marxist philosophy of labour (Bedny & Karwowski, 2011). These theories posit that the labour and work that people perform has a deep connection to cognition. According to Activity Theory, systems of activity, termed 'activity systems', are viewed as unitary and composed of cognition, external behaviour and motivation (Bedny & Karwowski, 2011). In Activity Theory, the system of activity is also the central unit of analysis. An activity system is comprised of actors, cultural tools and distributed cognition, concepts which will be elaborated on in the following section. Activity Theory allows the analyst to look beyond texts and how texts function to understand how a group are using texts to facilitate action (Bazerman, 2004).

Activity Theory is a way of studying cognitive processes by analyzing object-oriented human activity (Engeström, 2000). Activity Theory is based in constructionist thinking and analyses human action as complex and situated within an environment, characterized by social interactions and cultural norms (Engeström, 2000; Jonassen & Ronrer-Murphy, 1999). The theory posits that people's psyches are unique in that they are influenced by social-historical evolution. Put another way, activity has a complex

relationship with cognition and behaviour, and cannot be reduced to simple, reaction-based behaviour (Bedny & Karwowski, 2011). With this approach, texts are not seen as independent, but as dynamic artifacts that exist in tandem with the social norms and values of their environments. Within Activity Theory, activity itself is defined as a semi-structured system of activities that develop over time. Activity is a goal-oriented practice influenced by the social dynamics of the environment in which it is situated, including historical factors, the different roles each person plays in the activity and the goal the activity is set to accomplish (Engeström, 2000). For this study, I employed Activity Theory to examine the people, texts, and their sociocultural context as an activity system.

#### **4.2.1 Activity systems**

Under Activity Theory, the central unit of analysis is referred to as the activity system (Engeström, 2001). Rather than focusing on individual actions, the lens of an activity system looks at the collective activity of the group of individuals involved in the action and how they interact. The elements that make up an activity system include actors, cultural tools, texts, distributed cognition, division of labour, mediation as well as the product the system seeks to create, which is referred to as the object of the activity system (Winsor, 1999). The activity system is centred around an object with all other elements working towards the common goal of producing that object, outcome or product (Sharples, Taylor, & Vavoula, 2005). The individual aspects of an activity system contribute to its facilitation and how it functions. A researcher can use these conceptual tools to build an analytical framework, rather than a concrete method of analysis. Each concept, its significance and its role in the activity system will be elaborated on in detail below.

Within an activity system, actors engage with different cultural tools, independently and/or cooperatively with others, as well as use these tools to facilitate meaningful interactions with outside stakeholders, or with information, all to produce the desired object. These individual actions overlap with one another as well as other actions to form the activity system (Sharples, Taylor, & Vavoula, 2005). When evaluating the discursive practices of an organization, particularly when focusing on a specific project, the organization can be analyzed as an activity system (Smart, 2003).

The central unit of analysis in an activity system is its product. In this study, the activity system comprises the facilitators, employees and senior managers within the organization who contribute to solving this problem. The object of this study is to use Rhetorical Genre Theory and Activity Theory to understand the communication problems that have arisen between scientists and policy writers. When looking at collaboration as an activity through the lens of Activity Theory, using a discursive approach allows the researcher to understand effective collaboration through participants' communication.

#### **4.2.2 Distributed cognition, division of labour, and social actors**

In Activity Theory, distributed cognition refers to the collective understanding each participant shares, and the awareness of the ultimate goals of the group (Smart, 2003). Each organization has a cognition—conventional, socially constructed ways of knowing, understanding and acting. When looking at a workplace project, its cultural artifacts and its participants, the cognition of that organization is distributed throughout the actors, cultural tools and interactions of the system, which is, again, known as “distributed cognition” (Smart, 2003). Cognition is understood as the knowledge,

analytical skills and social understandings distributed across the different cultural tools and actors involved in the system (Engeström, 1993).

Each social actor in the activity system plays a different role, however, these roles overlap and are ultimately linked to their shared goal through distributed cognition (Dias et al, 2013). The different roles each actor plays are distinguished by division of labour. Though there are often individuals in leadership roles within activity systems, each participant uses their knowledge of the group's socially constructed practices and its shared assumptions to make small decisions and judgments at various stages in the problem-solving process. Each participant, through their different role, is also responsible for bringing a different perspective to the activity system.

Distributed cognition is detectable within this activity system on two different levels. First, the facilitation team tasked with running the project had two different individuals with diverse skillsets responsible for separate parts of the project, and the senior managers responsible for deciding how to use the information they collected in this project brought further expertise and knowledge to the project. Second, the invitation to participate in the Idea Spark and Idea Jam was open to employees from all different Branches, positions and levels. This allowed the team to collect diverse perspectives and approach the issue from different angles.

### **4.2.3 Cultural tools**

Cultural tools are tools used to mediate tasks within an activity system (Sharples, Taylor, & Vavoula, 2005). Cultural tools are embedded with particular cognitions, values, and social facts that mediate activity (Smart, 2003). There are three different types of cultural tools: material, social and linguistic tools (Engeström, 1993).

First, material tools are physical objects needed to facilitate the action the group intends to enact. These could include objects such as computers and conference rooms. Essentially, they are resources the group needs to perform their tasks (Sharples, Taylor & Vavoula, 2005). The physical tools a group chooses to use have a significant impact on the facilitation of their work. Choosing specific forms of technology or choosing tools that allow actors to interact and exchange information in different ways all affect the resulting product of the activity system (Engeström, 1993).

Second, social tools are intangible, socially constructed tools that the community accepts to be true and to use. They are patterns of interaction that have proven to be effective which are continually used to produce desired results. These tools include, for example, a set of rules used to govern a meeting or a specific sequencing of meeting events. Social tools help to typify the reactions, responses and actions that come from social interactions.

Finally, linguistic tools are tools that enact the meaningful use of language for specific purposes. Genres are an example of a linguistic tool. Cultural tools are also embedded with distributed cognition, which will be discussed in the following section. In this study, oral and written genres act as a significant factor in the activity system's overall purpose. Genres as linguistic tools play the most significant role in this study, however, evidence of material and social tools is also briefly discussed.

#### **4.2.4 Social Facts**

Social facts are information or rules that are socially constructed, that people believe to be true (Bazerman, 2004). Social facts can be situationally relevant to a particular group at a particular place in time or they can be perpetuated across time and

generations. Scientific verification does not define the truth of a social fact; a fact can have scientific evidence and people may not believe it to be true, while in contrast a fact can have no scientific foundation and people may still believe it to be true. This is because social facts are cultivated through social understanding. Social facts play an important role in the functioning of an activity system, because activity systems and their tools rely on distributed cognition, which is embedded with social facts, in order to develop a social culture that helps facilitate the work of an activity system. In this study, social facts are an important concept because they govern the way employees interact and perform their roles, and some are being changed in the wake of *Blueprint 2020*.

## **5 Chapter: Method**

This chapter outlines the research method used for this study. Below is a description of the research site, including the organization and the work it is responsible for, the key social actors involved in the study and their roles. This will be followed by a description of the series of documents collected for data analysis. Next is a discussion of the study's use of emergent analysis as a procedure for collecting and analyzing data. In the final section, I outline my standpoint as a researcher.

### **5.1 Ethics**

Ethics clearance was sought from Health Canada and the Public Health Agency of Canada for this project. However, given the extent of the process and the time limitations of this project, I could not obtain ethics clearance. For this reason, this project does not use interviews and only includes samples of texts that are publicly accessible.

### **5.2 Research Site**

The research site in this study is The Public Health Agency of Canada (PHAC). The PHAC *Blueprint 2020* team appointed two facilitators to plan and implement the process through which PHAC employees were invited to give their feedback on the communication problem between scientists and policy writers. They were also responsible for summarizing this feedback and using it to make recommendations that would help to resolve this problem to senior management at the conclusion of the project. In person meetings happened on-site in PHAC buildings.

### **5.3 Data Collection**

Since the project was based on an initiative related to *Blueprint 2020*, I first collected reports that are publically available that discuss *Blueprint 2020*. The reports

included the initial report that came with the launch of *Blueprint 2020*, the two progress reports that have since been published; the *Blueprint 2020* interim progress report and *Destination 2020*. The data also included the *Blueprint 2020* progress reports published by PHAC; “*Blueprint 2020: the Public Health Agency of Canada’s Progress Report*” (October, 2013), and both documents titled the “Public Health Agency of Canada report on *Blueprint 2020*”, one which was published in February 2014 and one that was published in January 2015.

I also collected the documents that were used to facilitate the process of gathering information on the communicative problem between scientists and policy writers. These included the Idea Spark comment thread, notes from the two Idea Jams held on the subject and the final presentation that the facilitators presented to senior management once they had finished collecting and analyzing the data they received from Idea Spark and Idea Jams.

#### **5.4 Data analysis**

This study will be using emergent analysis to look at the communicative practices of the social actors, the different genres involved in the process and select supporting documents that indirectly affect the implementation of the new culture in the Canadian Federal Public Service. Emergent analysis is an iterative, rather than linear form of data collection and analysis used in qualitative research (Hesse-Biber & Leavy, 2008). It involves recurrent cycles of collecting and analyzing data, and using the patterns, themes and categories that emerge to inform the continued process of data collection and analysis until data saturation is reached. Data saturation occurs when little or no new information

is being discovered through data analysis, signaling the completion of data collection (Hesse-Biber & Leavy, 2008).

## **5.5 Standpoint**

I approached this project and collected this data not only as a researcher, but also as an employee of Health Canada and PHAC's shared corporate services. As an employee, I was present for the initial announcement of *Blueprint 2020*, and for its implementation at Health Canada and PHAC. The choice of research site was largely due to my privileged position as an employee at Health Canada. While the *Blueprint 2020 Reports* are all publically accessible online, I had the unique opportunity to be present as an employee to witness how the initiative actually unfolded in practice at the departmental level.

There are many different methods that could have been used to perform an analysis of this kind, and my own academic interests have absolutely influenced the theoretical methodology I have chosen. I argue, however, that Activity Theory and Rhetorical Genre Theory are suitable choices for this analysis because they offer a theoretical perspective that allows the researcher to look at the overall environment in which a text is situated to perform its analysis. The theories behind genre sets and genre systems also allow the researcher to see how the genres are connected in meaningful ways in an organizational setting.

## 6 Chapter: Findings

Using my analysis of the data collected for this study, I have developed the findings below. These findings describe how the Public Health Agency of Canada (PHAC) used an activity system, with its constituent genre set, to organize the collaborative knowledge-building work of the Science to Policy Project, with its goal of improving communication between the agency's scientists and its policy-writers. The findings also show how the Canadian Federal Public Service's attempt to create a new organizational culture within the Public Service and at PHAC provided an essential context for this effort.

The chapter begins with an overview of the Science to Policy Project. The chapter then discusses the activity system that PHAC employed to create the knowledge needed for the project. The first part of the activity system described is the group of social actors involved, a group that included PHAC's senior managers, an individual known as the *Blueprint 2020* Champion, the two project facilitators, and other participating PHAC employees. The next part of the activity system described is the genre system and the genre set used in organizing the knowledge-building activity of the Science to Policy Project. The genre set and genre system can be seen as linguistic tools, one of the three types of cultural tools typically comprising an activity system, along with material and social tools. The genres discussed here include the initial *Blueprint 2020 Report*, *Blueprint 2020* progress reports, the Champion's Blog, the Idea Spark, Idea Jams, and the final "Prezi" presentation to PHAC's senior managers. The chapter ends with a discussion of the feedback the Science to Policy Project produced, and a final overview of the activity system.

## **6.1 The Project**

A key part of the *Blueprint 2020* initiative, as described in the initial *Blueprint 2020 Report*, was to create a new culture across the federal government's various departments and agencies in order to encourage innovation and collaboration. In response to the *Blueprint 2020* initiative, PHAC launched several projects, including the Science to Policy Project. A *Blueprint 2020* Champion was appointed to act as a bridge between PHAC's senior managers and the agency's staff. Two project facilitators were also appointed to manage the Science to Policy Project. These facilitators used the set of genres mentioned above in attempting to engage all the employees at PHAC in an effort to identify and remedy the causes of the communication problems between PHAC's scientists and its policy writers. At the same time, PHAC was attempting to create a new organizational culture within the agency, a culture that would provide a more supportive context for the innovation and collaboration needed for the Science to Policy Project.

## **6.2 The Activity System**

When looked at through a discourse studies lens, the Science to Policy Project, with its aim of addressing the communicative gap between scientists and policy writers, can be seen as an activity system.

Within this activity system, senior managers, the two project facilitators, and the employees who volunteered to participate can all be considered social actors. Each of these social actors played a distinct role, bringing different perspectives and knowledge to the Science to Policy Project. The cultural tools used in the project involved linguistic tools, including the set of genres mentioned above, physical tools such as computers and

boardrooms, and social tools such as predetermined patterns of interaction used to govern the flow of Idea Jams.

The following sections describe each type of social actor and their role and the set of genres used in organizing the activity of the Science to Policy Project. Though not a part of the activity system itself, the initial *Blueprint 2020 Report* described the government-wide *Blueprint 2020* initiative and the new cultural direction that the federal government was seeking promote across all its departments and agencies. In this way, the *Blueprint 2020* initiative became an important part of the context for the Science to Policy Project, and their role in the greater genre system in which this activity system is situated is also described in this section.

### **6.2.1 Social actors**

The social actors in the Science to Policy Project can be broken into four groups: senior managers, the *Blueprint 2020* Champion (the “Champion”) the two employees in charge of facilitating the project (the “facilitators”) and all other employees within PHAC who contributed their ideas to the project. Different aspects of cognition within the collaborative activity of the project were distributed amongst actors performing separate roles. Employees in different professional groups and at different levels in the organization were involved in identifying communication problems in the working relationship between PHAC’s scientists and its policy-writers and in attempting to improve communication between these two groups. The two facilitators designed, coordinated, and reported on the project. Senior managers and the Champion brought a broader perspective to the project and the senior managers were the final decision-makers. Below is a description of each actor and their contribution to the project.

### **6.2.1.1 Senior managers**

Senior managers played a leadership role. They used internal communications, including emails, blog posts and internal news letters to promote *Blueprint 2020* and the Science to Policy Project, emphasizing the importance of the project and to encourage employees to find meaningful ways to contribute, such as participating in Idea Spark or attending Idea Jams. At meetings, promotional events and Idea Jams, senior managers gave opening remarks that often involved personal anecdotes of success with *Blueprint 2020* initiatives, or perhaps challenges they had encountered that the project remedied. As leaders, their support set a tone that underscored the necessity of *Blueprint 2020* and the importance of the changes it sought to implement.

Senior managers also held the ultimate decision-making power regarding how to proceed at the conclusion of the Science to Policy Project. While their role differed from the past in that they interacted more directly with employees lower in the hierarchy, and in that ideas from these employees were to be equally valued, senior managers remained responsible for aligning projects prompted by *Blueprint 2020* with the larger priorities of PHAC and making the final decisions. The senior managers brought the larger “big picture” perspective to the Science to Policy Project and were responsible for aligning it with the overall priorities of the agency and the federal government of Canada. They were responsible for ensuring that the opinions of all employees who participated in the project were taken into consideration. Senior managers also made a continuous effort to engage employees in the process to contribute their opinions.

### **6.2.1.2 *Blueprint 2020* Champion**

PHAC had appointed a Champion from among the senior managers to lead the *Blueprint 2020* initiative, including the Science to Policy Project, and to advocate for the benefits of the project. The Champion was also responsible for promoting the project at the most senior level of PHAC, advocating for resources necessary to implement the project, as well as bringing a senior-manager perspective to the project. Since one of the major purposes of *Blueprint 2020* was to change the overall culture of PHAC, the Champion also had a blog both to promote the importance of the Science to Policy Project, as well as, more generally, to promote the new culture, with its values of collaboration and innovation.

The Champion was responsible for harmonizing the perspectives of senior management and those of the employees working on the “ground level”. Employees tend to have in-depth knowledge about a small portion of the organization, including intimate knowledge on how specific projects function and how their unit interacts with other areas of the organization. Senior managers’ knowledge tends to be less specialized, although they have a better understanding of how the different aspects of the organization function and how the work of the organization connects with the larger priorities of the federal government at large. It was the Champion’s role to be involved in *Blueprint 2020* at a more detailed level, at the same time understanding the employees’ perspective while also bringing the perspective of senior management to the employees to help them align their priorities with those of PHAC as a whole.

### 6.2.1.3 Facilitators

The two facilitators played the most active role in the Science to Policy Project because they both designed and enacted the initiative to solve the communication problem between policy writers and scientists. Though not discussed in depth in this study, they first conducted a review of past initiatives and literature from business journals on the subject of problematic communication between scientists and policy writers to get a better understanding of the problem. They then used the tools and socio-rhetorical tone from *Blueprint 2020* to design a knowledge-building method that approached employees' opinions in a horizontal manner, meaning they took opinions from different operational categories and hierarchal levels into account, and valued them equally. Since their data collection and analysis was done iteratively, they would also redesign their methods of data collection according to the feedback they were receiving. They used genre conventions as well as actively participated in their interactive genres in order to steer the conversation to topics that were relevant.

The facilitators also played a significant analytical role. They played the traditional role of advisor in that they had expert knowledge in the area of science and policy work, and were responsible for presenting the information in a concise and accessible manner to senior management, who could then make the final decision. Employees provided raw data and information and the facilitators then took that data, categorized it into topics, asked follow up questions, analyzed those answers and continued this process until they had a formal recommendation to give to senior management.

Similar to the Champion, the perspective of the facilitators was to harmonize senior managers' vision and priorities with the project itself. As employees who are not senior managers, they understood the employees' perspective better than the Champion and senior managers, and as facilitators of the project they had the best understanding of the different opinions employees were giving, trends in those opinions, and how the employees may react to solutions that were being proposed. As facilitators, they also had the added perspective of understanding the goals of the project, the environment in which it originated, and how senior management wanted to approach its resolution.

#### **6.2.1.4 Employees**

The role of the employees was to engage in the project and provide their feedback in both online and in-person forums. All levels of employees were included in the collection of information.

Though many employees that participated in the project included Scientists, Policy writers and the administrative staff who work with them, employees from unrelated fields who were interested in participating were also welcome and did participate. Employees had a diverse perspective because they came from different levels in the organization, as well as different fields. The employees had very intimate knowledge of the problem from varying professional angles. Unlike the facilitators, they are volunteers and have the least knowledge of senior management's priorities or the issues they face at work and the solutions they propose may affect the larger organization. They hold a very micro perspective compared to a more macro perspective senior management have. Since employees had the least connection to larger government priorities, they provided important details for consideration that came from their

experience with working as scientists, policy writers, supporting staff or outside stakeholders.

### **6.3 Genres Used in the Project**

The texts that I analyzed for this project can be broken into two categories of genres. The first includes the initial report that announced and described *Blueprint 2020*, as well as the cross-departmental progress reports that followed it. These genres are part of the larger genre system in which the project is situated. The genres in the genre system supported the activity system in this study through their perpetuation of the culture change, which supported the Science to Policy Project. The second category of genres includes those that were directly related to the Science to Policy Project, which together comprised a genre set. These genres included the PHAC *Blueprint 2020* progress reports, the Champion's Blog, Idea Jams, Idea Spark and the final deck presentation. The PHAC *Blueprint 2020* progress reports and the Champion's Blog directly supported the project through reporting its progress and encouraging employees to participate in the Idea Spark and Idea Jams. Idea Spark and the Idea Jams were used to collect insight from employees to gain a better understanding of the problem and possible solutions, and the final deck presentation summarized the employees' feedback and was then used by the facilitators to make recommendations for next steps to senior management.

#### **6.3.1 Genre system**

Though not directly involved in the activity system or the genre set used to build knowledge in the Science to Policy Project, the genres described in this section contributed to the larger genre system in which the texts in the Science to Policy Project are situated. These include the initial *Blueprint 2020 Report* and subsequent progress

reports. Each of these texts were instrumental in implementing the cultural change announced by *Blueprint 2020*. The *Blueprint 2020 Report* characterized the embedded values, assumptions, and beliefs associated with the new culture *Blueprint 2020* introduced, and this culture was reinforced and refined by the progress reports that followed it. Though the genres in the genre set also played a role in reinforcing these new values, the *Blueprint 2020 Report* and the progress reports played a primary role in introducing and perpetuating them.

### **6.3.1.1 The Blueprint 2020 Report**

The *Blueprint 2020 Report* was the initial document that introduced the *Blueprint 2020* initiative to all federal government employees in the spring of 2013. This is the key genre that influenced the social context in which the activity system in this study was situated. The following is a discussion of the *Blueprint 2020 Report's* role as a charter document, the key cultural values it outlined that influenced the Science to Policy Project's discursive knowledge-building process, and how it interacts intertextually with the genre set in the Science to Policy Project. The *Blueprint 2020 Report* belongs to a larger genre of government reform reports including, for example, the Glassco Commission, the Lambert Commission, and Public Service 2000 (Canada, 1994).

#### **6.3.1.1.1 The *Blueprint 2020 Report* as a charter document**

Charter documents introduce and secure new realities within organizations (McCarthy, 1991), and as the first document to outline the government's new vision, the initial *Blueprint 2020 Report* acts as a charter document for implementing change in the Public Service. The release of the initial *Blueprint 2020 Report* was an important first

step in outlining the values of the new organizational culture because it triggered the change that led to problem-solving projects such as the Science to Policy Project. We can get a sense of this in the excerpt from the initial *Blueprint 2020*. Report included below.

Our commitment as public servants calls for all of us, individually and collectively, to continue to innovate and meet new standards of excellence to address the demands of the modern world. We need to ask ourselves: Where does the Public Service need to be in five to ten years? How do we have to change to get there? What best practices should we adopt to help us do our job better? This document sets out a vision to guide how we work together to improve services to Canadians and advance Canada's social and economic interests. (Office of the Clerk of the Privy Council, 2013, p.1)

The values outlined by the “vision” introduced by the *Blueprint 2020 Report* led PHAC to re-evaluate how they conducted their business. This led to discussions surrounding the need for improved communication between scientists and policy writers, which ultimately led to the creation of the Science to Policy Project. Not only did the *Blueprint 2020* vision prompt the need for the project, but the value system introduced by the vision also guided how the entire activity system that comprised the project was designed and managed. A cultural change was important to knowledge-building in the Science to Policy Project because the values and social norms embedded in the old system reflected the old cultural environment of PHAC, and a culture shift was needed in order for new genres and systems to develop with these new values.

#### **6.3.1.1.2 Key values of the *Blueprint 2020* vision**

The vision of *Blueprint 2020* emphasizes, “being collaborative, innovative, streamlined, high-performing, adaptable and diverse...The new environment values innovation, agility and productivity, with the dual goals of improved service and greater

resource efficiency” (COPC, 2013, pp. 2-3). Ultimately, it promotes the idea of looking for new approaches to solving old problems. Innovation and collaboration are both key values from this vision that characterize the larger new culture introduced by the *Blueprint 2020* that are also highly mobilized by the Science to Policy Project.

To implement more innovative and collaborative business practices, the *Blueprint 2020 Report* suggests mobilizing diverse perspectives and letting go of the rigid hierarchy and bureaucratic systems characteristic of the old Canadian Federal Public Service. The report emphasizes an “open networked environment” which it describes as “working to balance views and make sense of different perspectives in seeking innovative and pragmatic solutions that address both current and emerging issues” (COPC, 2013, p 5).

This refers to an emphasis on turning towards colleagues from different teams or different levels in the hierarchy for advice on a problem, when traditionally their opinion would not have been sought after. Including employees outside of senior positions in gathering information also disrupted the typical hierarchal structure the Public Service followed before *Blueprint 2020*. This is considered an innovative approach as opposed to strict hierarchies where the validity of an employee’s opinion is based on their place in the hierarchy of the organization, with favour placed on senior management.

#### **6.3.1.1.3 *Blueprint 2020* values in the Science to Policy Project**

The tone and purpose of *Blueprint 2020* is duplicated in each genre that was created for the initiative, and is detectable in the knowledge-building practices of the activity system in a number of ways. Firstly, the fundamental ways employees and senior managers worked together at PHAC was disrupted in this project because several genres gave employees the opportunity to speak directly to senior managers, and employees’

opinions were generally weighted more heavily in this project. Even when employees' opinions were repackaged by the facilitators in the final "Prezi" presentation, they were translated to senior management with less hedging and refinement than would have been typical of older PHAC processes of information sharing between employees and senior management. Secondly, the Science to Policy project facilitators used several forums that allowed employees from different teams, fields and professions to speak openly and freely amongst themselves. Before *Blueprint 2020*, less value was placed on such forums, and employees typically worked in isolation, with little contact amongst different teams. Finally, the facilitators used new methods of organizing meetings through the Idea Jams, made use of technology through Idea Spark and the Champion's blog all contributed to a more creative problem-solving process that at least attempted to facilitate innovative knowledge-building in the Science to Policy Project.

#### **6.3.1.1.4 Intertextuality**

This cultural outline in the charter document is an example of intertextuality. As I will describe in further sections, these values are reflected in the different genres in the activity system. The genres were designed to engage employees to disassociate from their position in the hierarchy when giving their input, as well as think innovatively when considering solutions to the problems that arise between scientists and policy writers when they communicate.

Employees who engage in the project are expected to have familiarized themselves with the initial *Blueprint 2020 Report*, which is an example of pre-suppositional intertextuality, wherein the reader is expected to have prior knowledge of this text in order to fully understand later texts. Establishing that employees should

familiarize themselves with the initial *Blueprint 2020 Report* in future documents associated with the Science to Policy project helps to further cement the overall significance of the project's connection to *Blueprint 2020*, because this further helps to implement the values dictated by the *Blueprint 2020 Report* into the organizational culture of the PHAC. Continuously mentioning *Blueprint 2020's* influence on the projects and initiatives under it makes it more difficult for participants to engage in individual initiatives or genres of the project without acknowledging its influence on the project, and ultimately helps employees to internalize the significance of *Blueprint 2020*. If *Blueprint 2020's* role in prompting other projects, such as the Science to Policy Project, went unacknowledged, it would be much easier for employees to engage in the project while still denying the impact or effectiveness of *Blueprint 2020*, and thus resisting adopting its new culture. If employees did not adopt the new culture of *Blueprint 2020*, they would be less likely to produce solutions to the communication problem between scientists and policy writers that reflected the new value system. They would also be less likely to find any effective solutions if the problem was caused, at least partially, by values from the organizational culture the Public Service had developed before *Blueprint 2020*.

#### **6.3.1.2 *Blueprint 2020* progress reports**

The *Blueprint 2020* progress reports<sup>2</sup> act as supporting documents to *Blueprint 2020* and both had the same overall purpose, with the initial progress report discussing the initial reception of *Blueprint 2020*, government wide, four months after its launch and

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<sup>2</sup> *Destination 2020* was delivered to public servants as separate from the progress reports, however, for the purposes of this analysis it is included as a progress report because, it played a similar role to the other progress reports.

the second report published a year after the launch. The reports summarized preliminary achievements, employee feedback and identified areas of improvement that needed to be addressed with concrete initiatives moving forward. The progress reports re-established the tone set by the original *Blueprint 2020 Report* and evaluated the work that had happened thus far. Through addressing their concerns and reporting their participation, the progress reports also seek to engage employees in the initiative.

The initial *Blueprint 2020 Report* announced serious and large-scale change, which takes a great deal of time. The progress reports highlight the first steps that have been taken by various departments and agencies to identify areas that need improvement, as well as small changes that have taken place and new initiatives that are emerging inspired by the vision of *Blueprint 2020*. It was important to publish a progress report to give employees or Canadians following the project the opportunity to follow its progression, given that it is a multi-year initiative. Identifying areas where the culture and ideas laid out in the *Blueprint 2020 Report* are manifesting across the departments allows the report to stabilize and reinforce reality within the Public Service as a world that includes the new values and practices set out by *Blueprint 2020*.

The progress reports helped to build a rapport with the reader because they demonstrated areas where past promises were kept, ideas for change had been accomplished and addressed the resistance the *Blueprint 2020* initially received from Public Service employees. Building a rapport with readers was important for the implementation of *Blueprint 2020* and engaging employees in the Science to Policy Project due to this initial resistance. Organizations are often resistant to change (Smart, 2006), and to truly foster a new culture, it was important to address employees' concerns

and hesitation because this helps them to feel understood by their employer. The report addressed the resistance some employees were demonstrating first by acknowledging it, and then connecting it back to how *Blueprint 2020* will address their concerns, as we can see from the excerpt below.

some skepticism was expressed about the vision. Employees want to understand how this process is linked to changes already underway to respond to government employees, particularly in terms of deficit reduction...Employees want to make a difference now more than ever (OCPC, 2014, p.4).

While not directly responding to the concerns cited, the report circles back to the idea that ultimately, employees have identified processes and other areas where change is needed and advocates that *Blueprint 2020* will lead to that change. The progress reports support the charter document through acknowledging this skepticism and clarifying the way forward, thereby stabilizing the current and future cultural changes set to occur within the Public Service.

Though PHAC were free and encouraged to implement *Blueprint 2020* under their own terms, the cross-departmental progress reports grounded their continued efforts in the *Blueprint 2020* vision as it was and continued to be established by the Clerk of the Privy Council. Without recurrent stabilization, there was more likelihood that PHAC's interpretation of the *Blueprint 2020* vision could evolve into something that strayed from the original vision, ultimately impacting the social context in which the Science to Policy Project was situated.

The progress reports further stabilized the vision of *Blueprint 2020* at PHAC by showcasing the Science to Policy Project in the larger context of the cross-departmental initiative. Communicative difficulties between scientists and policy writers were first

identified in PHAC's individual progress report and referred to in the first cumulative *Blueprint 2020* progress report: “[public servants] need new hybrid skills that will bridge the two solitudes of science and policy, and will broker knowledge for the use of all Canadians” (COPC, 2014, p. 19). Their efforts were highlighted for the benefit of other science-based organizations that may be experiencing similar difficulties between their scientists and policy writers. Sharing ideas across departments was also helpful on a pragmatic level, because it further encouraged cross-departmental collaboration, a key theme in *Blueprint 2020's* vision. Reporting the science to policy issue highlighted the benefits of collaborating with colleagues across departments who may be experiencing similar challenges.

### **6.3.2 Genre Set**

Each genre that was used by the facilitators to generate knowledge-building for the Science to Policy Project acted as a part of a genre set, with each one contributing to the same project by providing different functions. These genres included Idea Spark, Idea Jams, the final “Prezi” presentation, the Champion’s Blog and the PHAC progress reports. The Idea Spark forum first introduced the Science to Policy Project as a topic of discussion and asked for preliminary ideas. The first Idea Jam followed, and was designed to revisit key ideas that were discussed on Idea Spark, and the second Idea Jam was hosted to further refine those ideas. The “Prezi” presentation was then created by summarizing the feedback received from the Idea Spark and the Idea Jams. The Champion’s Blog and the progress reports both reported on the progression of the Science to Policy Project and invited employees to participate.

### 6.3.2.1 PHAC progress reports

In October 2013, February 2014, and January 2015 PHAC distributed progress reports to all employees. These progress reports fed the cumulative *Blueprint 2020* progress reports, and gave employees at PHAC a more detailed explanation of the actions that were being taken at PHAC under the *Blueprint 2020* initiative. The reports' purpose is similar to the cumulative *Blueprint 2020* progress reports in that they also reinforce the new *Blueprint 2020* culture through highlighting how those values manifest in projects such as the Science to Policy Project, and through discussing future priorities at the Agency. They also built trust in employees through reporting on the initial success of *Blueprint 2020* projects, and engaged employees to participate through showcasing how employees and senior managers were facilitating change through participating in *Blueprint 2020* projects.

It is important for the reports to reinforce the new culture *Blueprint 2020* is trying to achieve because culture needs to manifest through various different genres and vehicles for its successful implementation. The reports illustrated the level of engagement the initiative had built, as we see in this excerpt: "Idea Spark was visited by over 2400 Agency employees, many who visited multiple times a day" (PHAC, 2013, p. 3). Comments that highlight the engagement in the genres used in the Science to Policy Project helped to engage other employees who may not have realized the potential impact their participation in these genres could have to foster positive change in their workplace.

The reports discussed the Science to Policy Project in its initial stages, which raised employee awareness on the project and invited them to participate. The progress reports highlighted the Science to Policy Project as a priority for PHAC: "senior

management is acting on a number of suggestions from the previous Idea Spark and is eager to continue to engage on new initiatives. Further suggestions are welcome on...bridging the science to policy divide” (PHAC, 2014, p.4). The reports give employees a sense of engagement in the present and also a sense of progression by summarizing what has been achieved thus far, projects currently in action, and future priorities. Reporting on projects that were projected to occur in earlier reports builds a sense of trust in employees and confidence that results will in fact be achieved under the *Blueprint 2020* initiative.

Finally, these reports also allow the organization to highlight how senior managers are participating in the *Blueprint 2020* initiative, as we see in the flowing excerpt: “Senior management is acting on a number of suggestions from the previous Idea Spark, and is eager to continue to engage on new initiatives” (PHAC, 2014, p.3). As social actors who play a supporting role in the activity system established to for the Science to Policy Project, senior managers’ key role is to lead the implementation of *Blueprint 2020* and exemplify how to adopt the new culture through their daily work, as well as through leading corporate projects. Highlighting their participation in the progress reports is important to the success of this initiative in order to display their leadership and participation to all employees, especially those who may not typically have direct access to senior management, and may have no other way of knowing about their engagement in *Blueprint 2020*.

#### **6.3.2.2 Champion’s Blog**

The Champion’s Blog was important in solidifying the new organizational culture through releasing regular updates and discussions that supported the *Blueprint 2020*

vision, and directly supported the Science to Policy Project through promoting the Idea Spark and Idea Jams. The blog was accessible to PHAC employees, and though the Champion of *Blueprint 2020* at PHAC is the primary author, other members of senior management and employees engaged in many different corporate initiatives regularly contributed as guest bloggers. The blog was created to support *Blueprint 2020* and to engage employees both by letting them discuss their experiences as guest bloggers and by updating them on what was happening at the organization. The blog posts typically had one piece of writing that varied in length, and also included space for employees to make comments to generate a discussion about the original post. The blog appears online in a closed internal forum, and is advertised and distributed through email, accessible to all PHAC employees. The Champion's blog is part of the larger "blog" genre, and includes the same conventions that other blogs typically include, in that it is an opinion piece representing the personal views of the author and includes a space for comments.

The blog contributed to the overall success of the activity system through general pieces encouraging employees to get involved in *Blueprint 2020* initiatives at the organization, as well as a targeted piece that specifically discussed the Science to Policy Project. On the surface the blog acted as an informative piece alerting employees that these initiatives existed, and beyond that initial informative role it was also persuasive in engaging employees through demonstrating why *Blueprint 2020* initiatives were important to the organization, and how their involvement would impact departmental priorities, we can see here:

Are you passionate about collaborating?  
Excited about innovating? Keen to put ideas into  
action? Of course you are or else you wouldn't be  
reading my blog! Well we want YOU to be a member

of our joint HC/PHAC *Blueprint 2020* Theme Teams...It will mean actively taking part in our collective conversations to help set priorities on what we do and how we do it (“Blueprint 2020 Theme Teams – We Want You!!”, 2014)

The initiatives under *Blueprint 2020* relied heavily on employee engagement because they based their philosophy on horizontal, as opposed to hierarchal, knowledge-building. The Public Service’s model of horizontal collaboration is similar to Ede and Lunsford (1990) referred to as a “dialogic” model of collaboration. This model involves the consideration of the ideas and opinions of all employees involved in the collaborative process, rather than appointing specific leadership who dictate the project, or valuing the opinions of senior leadership over employees lower in the hierarchy. Illustrating the importance of their involvement was critical to employee engagement because in the hierarchal system of the past, employees who were not at management level or who were not subject matter experts were not traditionally involved in problem-solving or decision-making.

The use of a blog was important for engaging a wide range of employees, and is considered a more innovative genre in the context of the Public Service, emphasizing *Blueprint 2020*’s focus on innovation. While reports such as the initial *Blueprint 2020 Report* and the progress reports reported on similar information as the Champion’s Blog, the posts on the Champion’s Blog were shorter and engaged readers who may not have the time or interest in reading a full report. It was also important to utilize the modernity and informality of the blog genre, because that presents *Blueprint 2020* projects in a more creative and modern method than continuing to rely only on older genres.

### **6.3.2.3 “Idea Spark”**

The Idea Spark was an online forum, which was designed to facilitate conversations about the Science to Policy Project among employees at PHAC, who included scientists, policy-writers and other interested members of the agency’s staff. Employees could access the Idea Spark through an internal online platform. Any employee could post a comment, and other employees could then subsequently comment on the original post, creating a thread of discussion. The two facilitators prompted the discussion on the Idea Spark forum by providing the initial comments, responded to employees’ comments, and moderated the discussion as it evolved to keep it on topic. Synergy among the genres in the genre set could be seen both in the way that employees were encouraged to contribute to the Idea Spark through announcements on the Champion’s Blog and through the summarizing of the results in the progress reports. Another example of this synergy occurred when the two facilitators used the ideas expressed through the Idea Spark to plan the Idea Jams.

#### **6.3.2.3.1 Distributed cognition**

The participants in the Idea Spark, including the two facilitators and employees in a variety of roles at different levels in the organization, brought diverse perspectives to the discussion regarding the topic of the Science to Policy Project—the communication problem between PHAC’s scientists and its policy writers. This range of perspectives greatly enriched the ideas regarding the causes of the problem.

#### **6.3.2.3.2 Intertextuality**

The facilitation team used Idea Spark to initiate the discussion on the communication problem between scientists and policy writers in the set of genres that were used to engage employees in the discussion process in the preliminary stages of problem-solving. Idea Spark was used to set the tone and begin a discussion, which would continue through to the Idea Jams and the presentation deck. Readers participated to get an understanding of the conversations surrounding the problem. The pre-suppositional intertextuality of the Idea Jam is established through Idea Spark in two ways. First, when employees encounter Idea Spark online, they are directed to the *Initial Blueprint 2020 Report* and other summaries describing *Blueprint 2020* to help situate them in the social context that defines the many conversations happening on Idea Spark. Second, employees were expected to have familiarized themselves with the discussion on Idea Spark before attending the Idea Jams.

#### **6.3.2.3.3 Material Tools**

Creating an online forum for people who wanted to engage in the discussion was important because it allowed the teams to collect information from employees who may feel intimidated about expressing opinions that are critical of the organization, or who felt as though they were not permitted to take time away from their work to engage in the conversation in person. The accessibility and anonymity that participating online afforded employees also helped to further the facilitators' ultimate goal of including employees from many different teams, across all regions. The anonymity allowed employees who

are typically introverted or find it difficult to share their opinions in in-person meeting formats to provide their opinions. The online accessibility allowed individuals to participate regardless of what building or region they were situated in.

The easily accessible format was also generally ideal for this project because it allowed employees to “test out” participating in conversations about problem-solving without committing to a full block of time that a meeting would demand. This ultimately helped to increase the diversity of employees who were participating in the genre. The newer culture established by *Blueprint 2020* also encouraged employees to use their online network to connect with one another in unique forums which, in this context, means forums beyond email, texting and instant messaging.

### **6.3.3 “Idea Jam”**

Idea Jams were created as an informal and innovative approach to collecting feedback from employees, as opposed to other genres such as focus groups or meetings. Idea Jams ask employees about their thoughts concerning solutions to a problem that has been identified in the department and to ask employees about better, more innovative ways of completing certain tasks. It is a spoken and written genre that uses a physical space, though people can participate over the telephone or through video-conferencing. Participants included senior managers, the *Blueprint 2020* Champion, facilitators and employees. Idea Jams were held to determine the next steps for implementing improved systems into the department’s methods of working or performing certain tasks. The facilitators used the ideas that were given at the first Idea Jam to shape the direction and choose ideas to discuss at the second Idea Jam.

The two Idea Jams that were held for the Science to Policy Project involved scientists, policy writers and administrative and/or management personnel who worked with scientists and policy writers, as well as employees who worked in other fields who were interested in the topic. Senior managers gave opening remarks to discuss the importance of finding a solution to the communication problems between scientists and policy writers; however, they did not participate in discussions with employees, the purpose being to see what employees have to say without their influence. Facilitators then led the session by breaking employees into small groups of about six to eight people.

Each employee was given a sheet with four questions. The questions were designed to illicit the opinions of scientists and policy writers who worked at the department and agency based on their personal experiences, as well as draw from the fresh perspectives of employees who did not work in the field. Employees took turns interviewing other individuals in their group to ask for their answers to the questions. Once employees had finished this exercise, they collaborated to summarize the key points they all agreed upon. Groups then chose a representative to present their ideas to the whole room at the end of the session. Answers that were written were typically in point form because the session was fast paced, and looking for quick answers. Senior managers circulated around the room during the session to listen to some of the preliminary feedback employees were giving, and to give employees the opportunity to discuss some of their ideas with them directly.

The Idea Jams were the main genre in the activity system that used social tools. Before employees were broken into groups, they were given instructions to govern their interactions. When they interviewed each other, the employee asking the questions and

writing down the answer of the other employee was told not to react to the interviewee's responses. If the interviewer agreed or disagreed with the interviewee, or had any comment at all, they were to keep it to themselves. This was to ensure that each employees' initial ideas were not filtered in any way the first time they were discussed. Later, when employees summarized their ideas, they were then asked to discuss their opinions regarding each other's ideas. Their behaviour, however, was also governed by social rules laid out by the facilitators when they collaborated. They were asked to avoid using democracy within the group to decide which opinions were included in their summary, and were instead to reach a consensus among all group members regarding which ideas to include in their summary.

#### **6.3.3.1.1 Distributed cognition**

Senior managers, the facilitators and the employees each played a different role and contributed different perspectives to the project. The role of senior managers was to highlight the importance of the project with their presence, and offer insight into their perspective on the problem, as well as how the values the new cultural perspective brought on by *Blueprint 2020* can provide perspective that helps to solve the problem. As leaders, it was important for them to establish and/or reinforce their confidence in the potential of the project in order for other employees to believe in its potential. Facilitators brought their background knowledge of the Science to Policy Problem to prompt responses. They also circulated between the various groups to listen to preliminary ideas that the employees had, and offered the extra insight they had into the problem which they had cultivated through research, through meeting with senior management, and through participating in every genre associated with the project, which most employees

had not. Employees each added new knowledge to the group's overall understanding of the problem through discussing their own experiences and their own perspective on the issue.

#### **6.3.3.1.2 Intertextuality**

An Idea Jam is interdiscursive in that it is a hybrid genre that has appropriated discursive conventions from “jam” sessions and focus groups. Focus groups have been used widely in the government, and continue to be used for consultation with different groups of employees on various projects, policies and initiatives. Idea Jams are similar to a focus group in that the facilitators of the event gathered a large group of specific people and asked for their feedback. The name originates from what musicians refer to as “jam sessions” which are typically informal group meetings for musicians to play music together and test new melodies, beats and lyrics. The team incorporated the idea of a “Jam” into the genre because they wanted to duplicate the informal brainstorming social conventions typical of musical “jam” sessions. It also borrows some genre conventions from a focus group in that it asks participants to have a group discussion, in person, on their feedback on a particular project or idea. It is intentionally distinguished from a traditional focus group, however, to deter participants from expecting certain experiences that would normally accompany a focus group, which allows workshop organizers to design the sessions using a customized format, and to obtain feedback without the promise of formally using that feedback to implement change. The informality of the tone of the idea jam manages participants' expectations in case the feedback they receive does not align with departmental plans for action.

The philosophies behind collaboration as an asset are being highlighted and showcased in the new organizational culture that is being implemented by *Blueprint 2020*, and characterize the genre conventions of Idea Jams. Their hybridity with the “jam” genre, which is typically unconventional in traditional business, and their engagement of diverse participants highlight the innovative values the Public service are trying to implement. Likewise, their use of interviews to initially discuss each individual’s ideas, as opposed to simply having each individual independently write down their own thoughts, and their focus on culminating their ideas as a group is intended to imbed collaboration into the changing way the Public Service are approaching problem-solving and knowledge-building. Finally, asking several employees from different teams and roles in the organization to collaborate also reinforces innovation because their diverse perspectives allow for added creativity.

#### **6.3.3.1.3 Material tools**

The material tools incorporated into Idea Jams included flipcharts, markers and boardrooms. Organizers made an effort to use newer boardrooms that were designed consciously with innovation in mind, and avoided standard boardrooms, if possible. Standard boardrooms typically have little or no technological capabilities and are decorated with bland colours. Newer boardrooms have teleconferencing and videoconferencing capabilities linked into the newest technology the organization are using, often have bright accent colours on the walls and furniture, and have multipurpose furniture and whiteboards that allow participants to stand or sit in comfortable furniture designed to resemble home living rooms and/or break into smaller groups easily (i.e. the boardroom table breaks apart into smaller tables). Newer boardrooms also have more

space for large white boards and large flipcharts that are helpful for group brainstorming. The use of the boardroom restricted Idea Jams in that participants were mostly expected to spend an allotted amount of time on giving their feedback (2 hours), participants were identifiable, and participants interacted with one another to stimulate discussion. The use of flipcharts and markers was also important because it allowed the groups to brainstorm and summarize their ideas together. Flipcharts and markers allowed the groups to write their ideas in a space large enough for the whole group to see and consider, which allowed all group members to participate more actively in the discursive construction of their final ideas.

#### **6.3.4 Final “Prezi” presentation**

Ultimately, the facilitators were able to cultivate organizational knowledge, which contributed to the overall understanding of the communicative problem between scientists and policy writers. They summarized the feedback they received from Idea Spark and the two Idea Jams, as well as their recommendations based on this feedback and their own knowledge and presented it to senior management in the form of a “Prezi” presentation in September 2014. Their role was central in the generation of this genre, and it included a summary of cognitive insight from each social actor, including senior management, employees and themselves. The facilitators also used the new focus on innovative change to influence their recommendation and produce recommendations that would be theoretically reasonable given the environment they would be produced in. They also allowed the principles of innovation to guide how they presented their findings, choosing a Prezi presentation format when traditionally a power point is used to present findings to senior management. A Prezi presentation is an electronic visual presentation

format that presents the information in a non-linear structure. In the final presentation, the ideas that came from the accumulation of Idea Spark and the Idea Jams were summarized in this way: “We need to better integrate science and policy to encourage innovation...There would be value in having people who can “talk” both policy and science to facilitate discussions...Agency-wide science-policy seminar program, Talent management strategies for employment streams [and] Regional transformation to better leverage talent across the regions” (Bridging the Science Policy Interface, 2014).

The facilitators concluded by advising that next steps should include continued engagement on the issue through more Idea Jams and Idea Spark discussions, and the development of an ongoing strategy to deal with the issue. The facilitation team’s efforts did not ultimately result in a solution to the problem, given the complex nature of integrating science into policy seamlessly. They did, however, carefully outline the different perspectives individuals involved in the process have on the causes of the issue, which ultimately helped senior management understand it more holistically. Using this knowledge, they were also able to suggest solutions.

Each actor and genre in the activity system contributed to the discursive construction of this final presentation. Employees’ opinions were influenced by the changing cultural values introduced and reinforced by the *Blueprint 2020 Report*, the progress reports, PHAC progress reports and Champion’s Blogs, and were collected and refined by the facilitators to produce this presentation. The cumulative process of knowledge-building that resulted in this final presentation highlights the complexity of knowledge building in organizational collaborative writing, especially during a time when the organization is making fundamental cultural changes.

## **6.4 Knowledge Created by PHAC Employees**

In this final section, I discuss the two key types of knowledge required for PHAC's Science to Policy Project. Though not the focus of the study, a discussion of this knowledge is important because its creation reflects aspects of the new culture promoted by the two facilitators as a context for the project.

The following is a description of the cumulative knowledge that was created collaboratively over several months through the activity of the Science to Policy Project. This knowledge was generated primarily through Idea Spark and the Idea Jams. The knowledge that was ultimately produced by the activity system included an understanding of the nature and causes of the problem, and a set of possible solutions. This information was collected from the Idea Spark online forum and meeting notes from the Idea Jams.

### **6.4.1 Nature and causes of the problem**

A common theme that emerged from the employees' brainstorming was that policy writers and scientists had difficulty communicating because of their very different, and in some ways conflicting, values and professional practices. The main cause of the tension between the two groups was the nature of their work: scientists focus on finding impartial interpretations of nature, while policy writers must respond to the political, social, and economic needs of the Canadian population.

This clash of priorities caused conflict because it led policy writers to place what the scientists believed to be unrealistic demands on the time allowed for the scientists to

produce results from their research. Proper scientific practice needs time for rigorous scrutiny, peer-revision, and verification. On the other hand, policy writers typically need answers as quickly as possible in order to create relevant policy for issues as they emerge. For example, when a routinely practiced medical procedure appears to be harming people there is little time for policy writers to give the scientific process due diligence when quick estimates are needed to save lives. On the other hand, scientists would argue that if a policy based on incorrect science is implemented, it can cause even more harm than having no policy at all. With scientists focused on producing scientifically credible work, however long that might take, and policy writers focused on responding to immediate and urgent issues, the two professional groups were often in conflict.

Another theme that emerged from the employees' brainstorming was that neither the scientists nor the policy-writers made a sincere effort to employ language that was free from their respective jargons. A related problem was that at times neither group provided sufficient context for information conveyed to members of the other group. As a final issue, the segregation of the two groups, with each group working for different managers with different priorities, in an environment where direct contact between scientists and policy-writers was not common practice, effective communication was nearly impossible. As a consequence, misunderstandings were frequent, resulting in ineffective health-related policies.

#### **6.4.2 Potential solutions**

Participants in the Science to Policy Project identified several measures that could potentially help to solve the communication problem between the scientists and the policy writers. Four key themes emerged in this regard: developing a shared set of

technical terms for science-based policy development; appointing a senior manager ‘Champion’ to facilitate communication between scientists and the policy writers; providing training for the scientists in in the policy development process and training in scientific methodology for policy-writers; and to experiment with forming temporary teams including members of both professional groups to develop specific science-based policies.

The reasoning behind each of these four themes was as follows: First, developing a shared terminology for technical concepts specific to science-based policy development would improve communication between the two groups by avoiding the use of field-specific jargon. Second, appointing a senior manager ‘Champion’ to help foster dialogue between scientists and policy writers and to advocate for the needs of the two groups with senior management would contribute to improved communication. Third, providing training to the scientists in the policy-development process and training to the policy-writers in scientific methodology would help both groups better understand the priorities and professional practices of the other group, allowing scientists to work more effectively within the policy-development process and the policy writers to collaborate more effectively with the scientists. Finally, forming temporary teams that included both scientists and policy-writers in the work of developing specific science-based policies would facilitate more direct communication between the two groups and lead to a better understanding of the other party’s for information.

The potential solutions described above reflect the two primary values of PHAC’s new organizational culture introduced by the *Blueprint 2020* initiative—collaboration and innovation. For example, we see both of these values reflected in the third and the fourth

solutions: providing training to each of the two groups in the professional practices of the other group, and forming teams of scientists and policy-writers to work together on developing science-based policies. They are collaborative by nature and innovative in that they suggest learning about each other's profession, which was not a typical practice at the time.

## **6.5 Overview of Knowledge-Building for the Science to Policy Project**

The aim of this study was to look at the texts and the people involved in the Science to Policy Project, as constituent parts of an activity system, and how these people and texts interacted to produce the knowledge required for the project. This knowledge included both an understanding of the causes of the communication problem between PHAC's scientists and its policy-writers as well as potential solutions to the problem. The study focused on the use of written and oral genres within this knowledge-building activity and the changing organizational culture in which the activity was situated.

The senior managers, the project facilitators, the *Blueprint 2020* Champion, and the other participating employees, whose separate roles and perspectives together comprised a network of distributed cognition, all played a significant role as social actors within the activity system. The texts used in building the knowledge needed for the Science to Policy Project, viewed as a set of discourse genres, were key linguistic tools used by these social actors. In addition to this genre set, the activity system also included material tools, such as computer technology and meeting places, as well as social tools such as conventionalized patterns of interaction among the social actors involved in the project.

The initial *Blueprint 2020 Report* and its subsequent progress reports, though not actually part of the activity system described above, were an important element in the social context for the knowledge-building activity associated with the Science to Policy Project. Both the *Blueprint 2020 Report* and the progress reports had a large intertextual presence in the genre set employed within the project. They played a ‘presuppositional’ intertextual role, since the social actors who used the genres in the activity system needed to be familiar with the initial *Blueprint 2020 Report* and the progress reports. The initial *Blueprint 2020 Report* introduced new cultural values, including collaboration among PHAC employees at different levels in the hierarchy and innovation, which became ‘social facts’ within the activity system. These social facts were particularly apparent in the genres of the Idea Spark and Idea Jam.

Once the new culture began to take root, two facilitators were appointed to promote these values of collaboration and innovation as the facilitators organized the knowledge-building activity of the Science to Policy Project. The Idea Spark and Idea Jam were the main genres used to elicit ideas from PHAC employees. The conventions of both these genres were purposefully designed to reflect the new culture advocated by *Blueprint 2020*. The Idea Spark was an online forum where employees could freely and anonymously share their thoughts and engage in the discussions that fed into the Science to Policy Project. Idea Jams were in-person meetings that appropriated certain genre conventions from the genre of the focus group to encourage creativity and brainstorming. Both these genres allowed individuals at all levels to speak directly to senior managers and other colleagues about their opinions without being filtered or silenced by layers of middle management or bureaucratic processes. The other genres directly involved in the

activity system were the Champion's Blog and the PHAC progress reports, which were designed to engage employees in the Idea Spark and the two Idea Jams and to share the outcomes from these two genres with them.

## 7 Chapter: Conclusion

This study has looked at the activity system used by employees at the Public Health Agency of Canada (PHAC) who participated in the agency's Science to Policy Project, a project aiming to create knowledge related both to the causes of a communication problem between the policy writers and scientists and possible solutions to this problem. One part of the activity system was a genre set, situated within a larger genre system, which was used by a variety of social actors in this activity of knowledge-building. The genre system included the *Blueprint 2020 Report* and related *Blueprint 2020* progress reports, while the genre set included the PHAC progress reports, the Idea Spark, the Idea Jam, the Champion's Blog, and the final Prezi presentation to PHAC senior managers.

The genres in the genre set interacted with one another to facilitate the cumulative production of the knowledge required for the Science to Policy Project. The Idea Spark and the Idea Jams both offered forums for employees to express their ideas and opinions, although the two genres elicited that information in different ways, allowing a more diverse set of employees to provide their input. The genres used different material tools and allowed for differing levels of prompting and guidance from the project facilitators and senior managers. The Idea Spark produced preliminary ideas about the communication problem between PHAC's scientists and policy-writers, ideas that were then used as topics for the Idea Jams. The Idea Jams were then used to build on these ideas and give employees the opportunity to discuss in greater detail the causes of the communication problem and potential solutions. The final Prezi presentation to PHAC

senior managers summarized the ideas elicited in the two Idea Jams in a way that allowed the senior managers to decide on the next steps in decision-making.

The Champion's Blog and the PHAC progress reports played dual roles, both reinforcing the cultural values associated with the new vision embodied in the *Blueprint 2020 Report* and contributing to the ongoing knowledge-building activity. The Champion's Blog promoted the project through encouraging employees to join the discussion on the Idea Spark. It also advanced, in a general way, the values of collaboration and innovation, and how these values would benefit the agency. The PHAC progress reports supported the Science to Policy Project by promoting it and reporting on its success. The new cultural values advocated in the *Blueprint 2020 Report*—particularly the values of collaboration and innovation—played an important role in the project by providing a context for the knowledge-building activity. The *Blueprint 2020* progress reports served to reinforce the original message outlined by the report and to keep PHAC employees engaged in the Science to Policy Project.

The government organization investigated in this study broke down hierarchal norms and traditional divisions between teams in order to draw on the advantages of collaboration. Traditional hierarchal roles, wherein senior managers would themselves dictate the direction of a project or decide the dimensions of a problem and a direction towards a solution, were abandoned in favour of asking employees at all levels for their opinions and ideas, an example of the advantages of distributed cognition. All these opinions and ideas received the same degree of attention, and were given consideration when the two facilitators prepared the Prezi presentation for the senior managers responsible for deciding how to move forward with the Science to Policy Project. As an

instance of distributed cognition, this approach was effective in finding creative solutions to the communication problem because the added perspectives of employees in different roles and at different levels in PHAC allowed the facilitators and senior managers to see the problem from a wider range of perspectives than they normally would have.

In Rhetorical Genre Studies, the idea that genres are discursive representations informed by their social environments has been revisited and refined by many scholars. However, little or no research has looked at how genre sets and genre systems can be used in a professional organization both to organize the activity of knowledge-building and to shift social values. The study reported here showed how several new genres, hybrids created out of older genres, functioned in a genre set and a genre system to create knowledge and, simultaneously, to reinforce a cultural change within an organization. Finally, in this study I used feedback from PHAC employees to suggest, at least in a preliminary way, that the *Blueprint 2020* initiative has begun to establish the new culture it was intended to implement.

In future research, scholars in Discourse Studies may wish to investigate other public-sector or private-sector organizations to discover how genre sets and genre systems serve to organize the activity of knowledge-building while at the same time focusing on the organizational culture that provides the context for this activity. Such research could give us a better understanding of the dynamics of collaborative writing on professional organizations.

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