

**REVIEW AND
CONCEPTUALIZATION OF IMPACTS
OF RESEARCH/CREATION IN THE
FINE ARTS**

Final Report

September 29, 2008



PREFACE & ACKNOWLEDGEMENTS

REVIEW AND CONCEPTUALIZATION OF IMPACTS OF RESEARCH/CREATION IN THE FINE ARTS

The Social Sciences and Humanities Research Council of Canada (SSHRC) is the federal agency that promotes and supports university-based research, training and knowledge mobilization in the humanities and social sciences. As expressed in *Framing Our Direction*, research in the social sciences and humanities advances knowledge and builds understanding about individuals, groups and societies - what we think, how we live, and how we interact with each other and in the world around us. Through its programs and policies, SSHRC contributes to the highest level of research excellence in Canada, and facilitates knowledge mobilization across research disciplines, universities and all sectors of society.

In the recent formative evaluation of SSHRC's Research/Creation (R/C) Grants in Fine Arts Program, it was recommended that the impacts of research creation be better identified and articulated for the purposes of program management and evaluation. This study addresses that recommendation. A conceptual-analytical framework has been developed to identify, understand and analyse the impacts of research creation in artistic and related practice-based disciplines.

Current models for capturing research impacts have been found wanting. The proposed framework is based on systematic data collection from a variety of sources, including literature review; web survey and roundtable workshop conducted during the formative evaluation; final research report and web scan. What resulted was analysed through a lens grounded in program theory. This has enabled the authors to capture a more realistic, robust and comprehensive range of impacts.

It is hoped that the present framework will assist SSHRC and other organizations to demonstrate and communicate the contributions of this type of research in both the academic and non-academic spheres. Achieving a better understanding of the research impacts, as well as the wider implication for the research communities funded, is an important priority for SSHRC. If the effort facilitates a useful dialogue on how impact data is to be collected (e.g. final research reports), and contributes to continuous improvement of program design and delivery, client communication, the adjudication process, and internal performance reporting requirements, then it will already have exceeded expectations.

The framework is being shared with the artist-researcher community with the hope of fostering a common understanding of what is understood by the term 'impact' and what is needed in terms of information requirements. Should evaluators find value in specific elements, such as the proposed taxonomy, that too will be considered a positive outcome.

Overall, the work is far from over. Further effort is required to validate and build on the conceptualization developed in this study. In particular, implications of porosity/overlap of academic and non-academic R/C impacts, of technology (including new media) and inter-disciplinarity have generated much interest among the external reviewers of this report and merits further attention.

This study was prepared by independent consultants contracted by SSHRC's Corporate Performance and Evaluation Division. I would like to thank the external team from Science-Metrix (Frédéric Bertrand, Michelle Picard-Aitken). Their professional diligence, dedication and hard work were most appreciated. While the effort involved a close collaboration among many, some listed below, the views expressed in this study are those of the external consulting team, and do not necessarily reflect the official position of SSHRC

Special thanks also go to all those who provided feedback on the final draft of the report and guidance throughout the process. The consulting team was ably supported and benefited from inputs from SSHRC's Corporate Performance and Evaluation staff, who included Courtney Amo and Nicole Michaud. Others from SSHRC who contributed to this effort included Craig McNaughton, David Moorman, Mathieu Ravnagat, and Claude Schryer from the Canada Council for the Arts. Additional valuable comments from the artist-researcher's perspective were received from Lynn Hughes of Concordia University, Glen Lowry of the Emily Carr University of Art and Design and Monique Regimbald-Zeiber of the Université du Québec à Montréal.

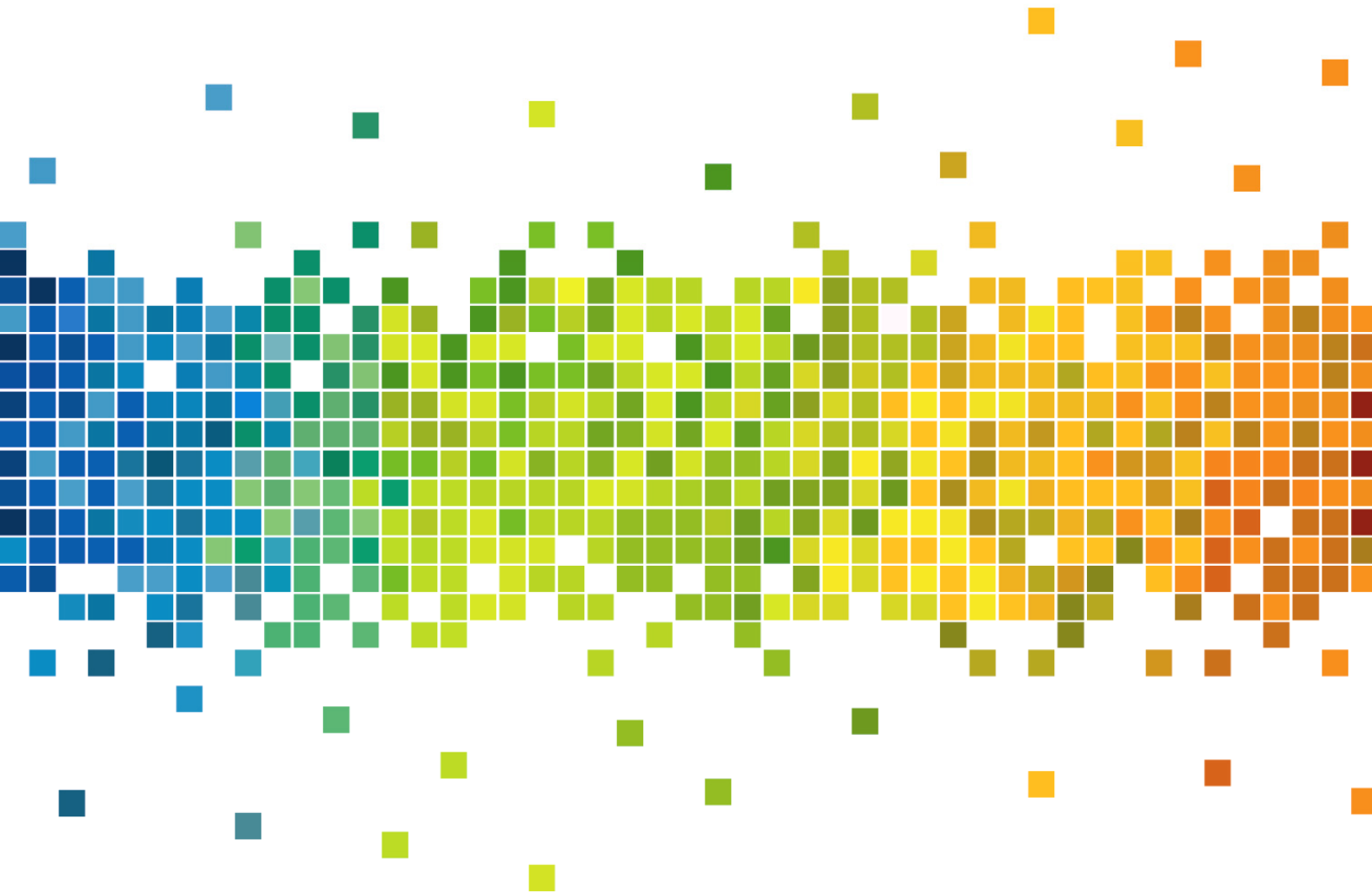
Taken together, the conscientious and respectful collaboration of all those involved made this conceptual-analytical framework possible.

Wayne MacDonald
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Science-Metrix

Review and Conceptualization of Impacts of Research/Creation in the Fine Arts

Final Report



Review and Conceptualization of Impacts of Research/Creation in the Fine Arts Final Report

September 29, 2008

by

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submitted to

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1 INTRODUCTION

While the last 20 years have seen significant developments in the evaluation of research (i.e., the evaluation of outputs and impacts of research, research programs and research funding programs), these advances have been less pronounced with regard to the evaluation of social sciences, humanities and arts research than for science and technology research. As such, several recent studies on research evaluation practices have identified the particular challenges in this area and highlighted the current lack of adequate models, indicators and impact measurement tools to assess research in the arts, social sciences and humanities (Canadian Federation for the Humanities and Social Sciences, 2006; Council for the Humanities Arts and Social Sciences (Australia), 2005; Davies, Nutley, & Walter, 2005; The British Academy, 2004). The assessment of researchers and their results in these disciplines has thus been the topic of much discussion, resulting in the identification of key issues and approaches, new conceptualization efforts, and more appropriate metrics (Amo, 2007; Arts & Humanities Research Council (UK), 2007; Davies et al., 2005; Expert Group (UK), 2006; Oancea & Furlong, 2007). These recent efforts have contributed to the development of a stronger foundation for research impact assessment of disciplines in the arts, social sciences and humanities, thus paving the way for increasingly focused studies on, for example, specific disciplines or research funding programs.

The Social Sciences and Humanities Research Council of Canada (SSHRC) has taken up the challenge of better defining, measuring and demonstrating the impact of the research activities it funds, most notably through program evaluations and related initiatives, such as its Presidential Fund Initiative entitled “Capturing the Outcomes and Impacts of Publicly Funded Research.” SSHRC benefits from the results of these efforts on three levels: first, it is better able to meet its internal requirements to track, evaluate and report on the performance and results of its programs (i.e., for the Treasury Board); second, it can better understand the researchers and the nature of the research it funds, and thus adapt and improve its programs’ applications and review processes; and finally (and more generally), it is better able to demonstrate the value of social science, arts and humanities research to Canadian society and the national economy.

As a case in point, the recent formative evaluation of SSHRC’s Research/Creation Grants in Fine Arts Program highlighted the need for the program’s outcomes and impacts to be more clearly understood, defined and expressed for all of the reasons listed above (Archambault, Bertrand, Bourgeois, & Caruso, 2007). The authors of the present report were therefore mandated by SSHRC to develop a conceptual/analytical framework to identify, understand and analyse the impacts of research/creation (R/C) in artistic and related practice-based disciplines (including contemporary art and design practices, see list opposite). In addition to addressing SSHRC’s evaluation needs, the purpose of and approach to this project are relevant to program evaluation more generally, as they will

Main disciplines funded under SSHRC’s R/C grant program

- Architecture, Urban and Regional Design and Planning
- Cinema, Film and Video
- Creative Writing and Literature
- Dance
- Design (including interior design)
- Education
- Interdisciplinary Arts
- Media and Electronic Arts
- Music and Musicology
- Social Sciences and Humanities
- Theatre, Drama and Performance Art
- Visual Arts (including painting, drawing, sculpture, ceramics, photography and textiles)

contribute to the development of evaluation practices for research impact assessment. In particular, this study contributes to method development leading to more representative and reliable frameworks of research impact. These frameworks are necessary to better understand and eventually measure the impact of research in the arts, social sciences and humanities.

SSHRC's Research/Creation Grants in Fine Arts Program –inspired in part by the development of a research/creation grant program in Quebec by the *Fonds québécois de la recherche sur la société et la culture* (FQRSC) –was established in 2003 to support artist-researchers in Canadian post-secondary institutions whose work includes creative art practice as a component of their scholarly research. The specific objectives of the program are to: 1) support high-quality R/C in projects that advance knowledge in the fine arts and enhance the overall quality of artistic production in Canadian postsecondary institutions; 2) develop the research skills of graduate and undergraduate students who are working in artistic and related disciplines through their participation in programs of research that involve artistic practice; 3) facilitate the dissemination and presentation of high quality work to a broad public through a diversity of scholarly and artistic means; and, 4) foster opportunities for collaboration, whenever appropriate, among university- and college-based artist-researchers, other university and college researchers, and professional artists.

R/C shares many characteristics of research in the social sciences and the humanities but is in some ways distinct from these fields, as it is a practice-based discipline; the processes, outputs and knowledge mobilization of this type of research are thus not as firmly defined as those for strictly academic research. Thus, developing a conceptual/analytical framework of impacts of R/C in the arts may help to inform and address the growing need for better assessment of research in other practice-based disciplines generally (Sector Reference Group, 2008), or more specifically in games and software research (Mallon, 2008), engineering research (International Study Panel, 1999), educational research (Oancea & Furlong, 2007), “research-for-development” (Douthwaite et al., 2007), and certain types of health research (Potter et al., 2006).

It is also hoped that this study will help to address the needs of artist-researchers, both within and outside of Canada, who conduct R/C activities in the arts, but who currently struggle to find a clear, inclusive and shared language to conceptualize and describe not only the *nature* of their research but also the *value and impact* of their work; this is often seen, for instance, within the context of publicly funded research grants (Archambault et al., 2007; Borgdorff, 2007; *Fonds québécois de la recherche sur la société et la culture*, 2003). During the aforementioned formative evaluation of SSHRC's R/C grant program, many artist-researchers themselves recognized during a roundtable workshop that “R/C is *not* a well understood concept in general, and that it is also not clear how to go about creating a new definition or improving the current one.” The spectrum of definitions of R/C are thus reviewed and compared in the following section of this report.

2 CONTEXT: WHAT IS RESEARCH/CREATION?

What is the difference between R/C and “traditional” creative arts practice?¹ The need to understand and articulate this difference is indicated by the increasing number of artist-researchers pursuing investigations in the creative arts within the academic setting and by the variety of ways in which university-based artist-researchers define their work. In fact, this ambiguity has existed for some time, and it has already posed a significant challenge with regard to expressing and measuring the value of creative practice in the university context (Fournier, Gingras, & Mathurin, 1989).

The large majority of public grant programs generally fund either the work of professional artists (e.g., Canada Council for the Arts) or of academic researchers (e.g., SSHRC’s Standard Research Grants), but not the *combination* of creative arts and academic practice. Increasingly, however, funding programs—such as those offered by SSHRC, FQRSC (*Fonds québécois de la recherche sur la société et la culture*, 2003), and funding bodies outside of Canada (Arts & Humanities Research Council (UK), 2007)—are being established to meet the needs of artist-researchers. The situation in Canada is explained below by Lynn Hughes, a pioneering artist-researcher at Concordia University who also served on the committee that lobbied for and planned SSHRC’s R/C grant program:

The term research/creation is gaining currency both in Canada and internationally. Until recently, university- and college-based artists had been treated as research “outsiders”—an exotic, and perhaps even a suspicious, breed. Until the FQRSC in Quebec began funding research/creation in 2000, we were the only university sector excluded from the spectrum of funding programs intended for university research and researchers. A few hardy artist-researchers managed to piggyback elements of their research programs on Strategic grants in other disciplines—usually by suppressing important aspects of their activity and describing their practice in language (or with emphases) developed in very different disciplines. While artist-researchers were able to apply to the Canada Council, this was often also awkward, either because the assumptions and setting at the university are different than those for independent artists (student mentoring, for instance) or because university artists were seen as intruding on the very slim percentage of the Council funds available for independent artists’ projects. At the same time, university artist-researchers are increasingly involved in interdisciplinary initiatives that cross university disciplines and may also include the participation of artists and organizations beyond the university. For these and other reasons, there is a growing recognition that artist-researchers have something very vital to contribute to the contemporary university research community. (Archambault et al., 2007)

Defining R/C is therefore important not only within the context of this study (i.e., to help distinguish the impacts of R/C in the arts from those of other types of artistic practice), but also because of the need for both artist-researchers and funding bodies to resolve the current ambiguity when articulating the value of their work. This definition must also be sensitive to non-homogenous nature of the R/C community, as university-based artist-researchers call from a variety of disciplines (see Annex A) and draw on a wide range of methodologies in their work. To this end, over 50 documents were reviewed (see Annex B) and the findings are summarized below.

¹ Note that the following discussion makes no judgement as to the relative merits of R/C and professional artistic practice, or as to the relative value or primacy of the research and creative components of R/C, but rather seeks to discuss and describe only how R/C differs from creative arts practices in the non-academic setting.

The first observation from this document review is that much of the confusion comes down to the language issue: there is no international consensus on which terms should be used to refer to R/C activities—different funding bodies or authors will even ascribe different shades of meaning to the same words. For instance, “practice-led/based research”, “practice as research”, “research on/for/in/through the arts” (as opposed to research *about* the arts), and “art-based research” may correspond to essentially identical or entirely distinct concepts depending on the author. In this report, “research/creation” (R/C) is used because it is the term most widely used in Canada, but readers should be aware of the variety of ways in which R/C activities may be referred to elsewhere.

For some authors, traditional practice in the creative arts is “in and of itself” equivalent to research (Bannerman, 2003; Sullivan, 2005): the results of this “practice as research” are embodied in the artwork, similarly to how a scientist expresses her results in “mathematical symbols and intellectual ideas” (Barrett, 2007). At the other end of the spectrum are those who view creative practice as a tool to achieve more scholarly or operational outcomes, such as for research in design (Rust, Roddis, & Chamberlain, 2000) or research on art therapy (McNiff, 1998). However, it should be stressed that there is a shared recognition across the spectrum of views that “art makes available a distinctive kind of knowledge not available in other domains and inaccessible to other (more traditional) modes of enquiry” (Pakes, 2004).

Among the many authors occupying the middle ground, Borgdorff (2007) presents a particularly insightful and clear overview of the debate, highlighting the difficulties of this task and clarifying certain terminological issues. He proposes the following definition of “research in the arts”:

Art practice qualifies as research if its purpose is to expand our knowledge and understanding by conducting an original investigation in and through art objects and creative processes. Art research begins by addressing questions that are pertinent in the research context and in the art world. Researchers employ experimental and hermeneutic methods that reveal and articulate the tacit knowledge that is situated and embodied in specific artworks and artistic processes. Research processes and outcomes are documented and disseminated in an appropriate manner to the research community and the wider public. (Borgdorff, 2007)

The key concepts in this definition that differentiate R/C from non-academic creative arts practice are that the former involves an *investigation* framed by pertinent *research questions* and following systematic *methods*, the processes and results of which are *documented and disseminated* to one or more audiences. This is in many ways similar to SSHRC’s definition for R/C:

Any research activity or approach to research that forms an essential part of a creative process or artistic discipline and that directly fosters the creation of literary/artistic works. The research must address clear research questions, offer theoretical contextualization within the relevant field or fields of literary/artistic inquiry, and present a well considered methodological approach. Both the research and the resulting literary/artistic works must meet peer standards of excellence and be suitable for publication, public performance or viewing. (Social Sciences and Humanities Research Council, 2008)

Within the context of the formative evaluation of SSHRC’s R/C grant program, this definition was reported to be adequate by most funded and unfunded applications to the program, but many suggested possible refinements. By far, the most common type of suggestion related to the use of specific terms—such as “research question” and “methodological approach”—which were perceived as being far more relevant to the context of scientific research in the natural sciences than to R/C. Because R/C draws on a variety approaches, from those based on intuition,

serendipity and unpredictability, as well as more rational or analytical approaches, “strategy” and “process of inquiry,” among others, were proposed as alternative terms.

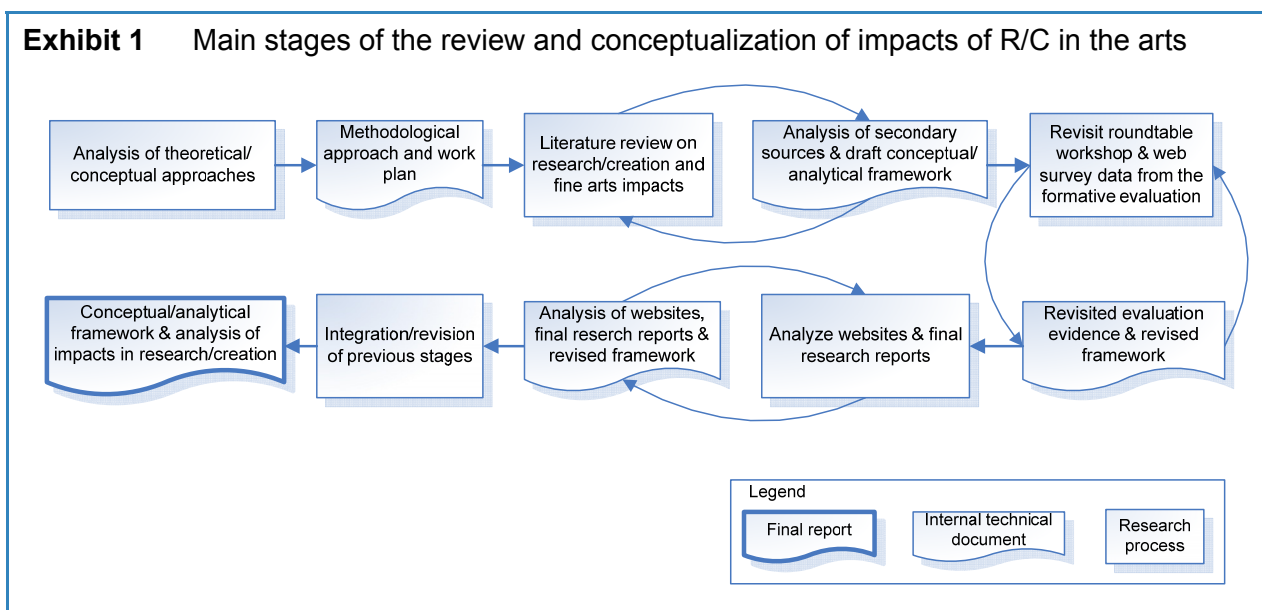
Note that compared to SSHRC, Borgdorff more explicitly explains a crucial element of R/C that may help bridge the gap between the two ends of the observed spectrum: much of the knowledge resulting from this type of research is “tacit” or embodied within the artworks and artistic processes. Whereas artist-researchers, like their academic peers, can articulate or “translate” this tacit knowledge, the primary repository of this knowledge remains in embodied form. As noted previously, however, a difficulty often remains in articulating the academic and non-academic *impact* of this knowledge.

Many reviewed documents also stressed that the research questions and processes usually comprise a central *subjective/personal/expressive* element, that R/C investigations are often successfully performed in *collaboration* (including across disciplines and sectors), and that the research may have *complementary objectives* to the expansion of knowledge and understanding, which may be cultural (i.e., reflecting on or celebrating an aspect of culture) or other “value-added” outcomes (e.g., creating new products or methods with commercial or social value) (Fourmentaux, 2007).

Such a broad definition is necessary to cover all of the disciplines supported by R/C grant programs (including the SSHRC program and other Canadian or international programs), such as architecture, arts education, creative writing, dance, film, media and electronic arts, performance arts, theatre/drama, and visual arts, as well as interdisciplinary arts (see Annex A).

3 METHODS

To identify and conceptualize the impacts of R/C in the arts, a qualitative approach adapted from grounded theory (Strauss & Corbin, 1998) was adopted. This involved drawing on multiple sources of evidence from which impact data were systematically extracted, coded and analysed throughout the research process to support the development of a conceptual/analytical framework. This study was performed in three iterative steps that corresponded to the three main sources of data described below; this process is illustrated in Exhibit 1.



In the context of this research project, the operational definition of “impact” draws on the notion of change. This definition is purposefully kept broad, so that all instances in which “something becomes different” are considered to be a potential impact; for example: a change in creative or academic practice; take-up of research findings or ideas; take-up of a product, service, process, or a way of thinking; an increase in the reputation or influence of artist-researchers in the university; an addition or alteration to curriculum, policy, or programs; economic growth; or improvement of community well-being. These changes may operate at local, national, or international levels. Based on this operational definition, two main research questions were asked: what individual, operational, organizational and collective changes occurred as a result of 1) SSHRC research grants (or other comparable grants) for R/C in the arts, and 2) R/C activities and outputs in the arts?

3.1 Data Sources

Literature review

An in-depth search of scholarly and grey literature was conducted on the types of changes that occurred as a result of R/C in the arts using library catalogues, databases of peer-reviewed publications (i.e., Web of Knowledge), Google/Google Scholar, the tables of contents of relevant journals, and the references cited by documents of interest. Over 50 documents were identified (see Annex B), of which 35 were retained for further analysis, covering a) arts research in the academic

setting (16 documents); b) impacts of research in the arts more generally, as well as the impacts of research in the humanities and social sciences (6 documents); c) social impacts of the arts (though not necessarily of research in the arts) (8 documents); and d) examples and case studies examining the impacts of research in the arts (5 documents).

Web survey and roundtable workshop

Evidence from 64 funded and 104 unfunded applications to SSHRC's Research/Creation Grants in Fine Arts Program was revisited from the data collected as part of an online survey conducted during the recent formative evaluation of this program (Archambault et al., 2007), as well as from the 13 participants of a roundtable workshop conducted during the same evaluation. Answers or comments that were specifically related to the impact of this grant program on their field and on their research activities, as well as views on the expected and unexpected outcomes of their work, were analysed in detail.

Final research report and web scan

Relevant impact data was extracted from the final research reports of six SSHRC-funded artist-researchers (listed in Annex D) and from an in-depth web scan of 12 R/C projects funded by SSHRC's Research/Creation in the Fine Arts Pilot Program (see Annex E). Final research reports provided limited information on impacts; in particular, the open question specifically relating to impacts was left unanswered in all cases. These 12 projects examined in the web scan covered a representative range of the 91 R/C projects funded by SSHRC to date, and were selected because they were either completed or advanced, so as to capture sufficient impact data. The web scan included the project websites, artist-researcher professional/personal websites, conference presentations and other related web-based resources (such as university press releases, newspaper articles, reviews, etc.) pertaining to the funded artist-researchers and their funded project. While the original intention was to cross-link web survey responses with specific projects (final research reports or web data), this proved to be a significant challenge due to the lack of comparable details in the survey data. Cross-linking was obviously even more difficult in the case of unfunded respondents, whose projects, if they proceeded at all, were often significantly different from the original intent that was expressed in the survey.

3.2 Qualitative Data Analysis

The qualitative approach adopted throughout the course of this study was adapted from Amo (2007), as it best addressed the types of data available and the purpose of this study. First, references to and descriptions of impacts and outcomes of R/C grants, R/C activities and outputs (or of research and/or of the arts more generally, in the literature review) were identified and extracted from the data sources described above. As noted, the operational definition and types of outcomes and impacts were purposefully kept as inclusive as possible, drawing on the notion of change and covering both proven or potential (i.e., speculative) impacts. Because the focus of this study is on the impacts themselves, less emphasis was placed on identifying and characterizing the *outputs* of R/C (e.g., the new insights and artworks that are created).

The summaries or direct quotes pertaining to impacts that had been extracted from the data sources were subsequently coded in an electronic spreadsheet on two levels: first, according to the *group* on which the impacts have an effect, and second, according to the *category* or type of impact (e.g., theory/mode of inquiry, social, economic, etc.). Further distinction was made between changes that occurred as a result of 1) SSHRC research grants (or other comparable grants) for R/C in the arts, and 2) R/C activities and outputs in the arts.

Initial coding was done through exploratory “open coding”(Strauss & Corbin, 1998), in which extracted data were closely examined for similarities and differences and grouped together when conceptually similar. The coding also drew on a preliminary taxonomy of impacts that had emerged from the results of the formative evaluation of SSHRC’s Research/Creation in the Fine Arts Pilot Program. The coding groups and categories were revised and refined after each round of analysis as understanding developed, and special attention was paid to new elements or nuances that could be added or could provide further insight into the development of the framework. The final groups and categories led to a detailed and comprehensive characterization of impacts.

3.3 Development of a Conceptualization/Analytical Framework

Throughout the coding process, the authors remained attuned to potential connections and interactions between the coded groups and types of impacts, and recorded ideas, musings, sketches and other notes that could help to develop a visual conceptual/analytical framework for impacts of R/C in the arts. Some of these were even inspired by the imaginative nature of creative arts practice, such as frameworks in the shape of flowers, dartboards and snakes. Inspiration was also drawn from frameworks or models reviewed in other studies or reports on the conceptualization of research impacts (Amo, 2007; Council for the Humanities Arts and Social Sciences (Australia), 2005; Davies et al., 2005; Douthwaite et al., 2007; Gray & Malins, 2004; McCarthy, Ondaatje, Zakaras, & Brooks, 2004). Whereas the first draft of this framework was based on a hypothetico-deductive approach, subsequent drafts progressed toward a more inductive process, drawing on new and complementary evidence gleaned from each data source, addressing limitations and issues raised during appraisals of the previous drafts (some of which are presented in Annex C), and undergoing several iterative adaptations by the authors over the course of four months that tested and strengthened the final conceptual/analytical framework.

4 FINDINGS

The results of this study are presented below, starting with the characterization of impacts, specific examples of the different categories of impacts stemming from SSHRC funding of R/C, and a narrative presenting the conceptualization of impacts based on this evidence and of the final conceptual/analytical framework. Finally, with a view to moving toward a framework of research impact assessment, additional data on the timing of these impacts (i.e., whether they occur over the short- or long-term) is provided.

4.1 Characterization of impacts

The qualitative data analysis resulted in the characterization of impacts of research/creation presented below, which is comprised of two main characteristics: the *groups* that were affected and the general *category* or type that best describes them. The nine groups and twelve categories listed and described below emerged from open coding and were retained and refined in each the three stages of data analysis.

Groups

Nine groups were identified for which impacts were experienced, listed here in logical sequence, moving outward from the artist-researcher (the bold text indicates which term was used to code for each group):

- a) the **artist-researchers** conducting R/C activities in post-secondary institutions;
- b) **students** learning how to conduct R/C (i.e., university students performing R/C for the completion of their degree under the supervision of an artist-researcher, or those hired by artist-researchers as research assistants);
- c) **academic peers** (i.e., other artist-researchers, or other academic researchers from the arts or other disciplines collaborating on R/C projects);
- d) **academic institutions**, considered as the organization in which the above three groups of individuals operate and which provides space and structure for R/C training and research activities. Impacts of R/C or R/C grants (on degree/course offerings, infrastructure, etc.) may thus operate at the organizational level;
- e) the wider community of arts **practitioners** and professionals (i.e., non-academic peers) who are beneficiaries of the new knowledge, practices, materials and other results of R/C. Note that these practitioners are considered as “peers” because many artist-researchers also maintain a professional practice outside of their institution and thus have both academic and professional peers. The interaction between an individual’s academic practice and his or her professional practice may also be influenced through R/C and is conceptually included in this grouping;
- f) the arts and other **industries**, including art gateways (e.g., galleries, performance venues, publishers, etc.), companies that develop and offer creative arts products and services for commercial purposes, companies that use new materials developed by artist-researchers, etc.;

- g) **community organizations**, non-profit institutions, or groups whose *raison d'être* is non-commercial, such as community art associations, schools, hospitals, etc.;
- h) the broader **public** (local, regional, national, international). This group includes active participants or consumers of the arts (e.g., theatre and concert audiences, etc.), indirect consumers (e.g., individuals reading the review of a local or far-away cultural event), as well as those who are indirectly exposed to the arts (e.g., who live close to an artist-rich community or an arts school or those whose cultural or personal background is featured in an art work or performance); and
- i) **policy-makers** and **government**, including arts councils, other funding bodies that support the arts and research, and policy-makers in general).

Impact taxonomy

Impacts relating from SSHRC research grants (or other comparable grants) for R/C in the arts and from R/C activities and outputs directly were examined and categorized. Several additional categories were proposed through open coding but were subsequently merged (e.g., “environment” and “health” were merged with “social”) to avoid categorization problems due to categories being too finely delineated, and also to retain only those impacts that carried the most value. The concept of “value” was used not to rank or grade impacts, but rather to reflect those impacts emerging from the analysis that should be retained because they are significant, beneficial, and/or worth promoting and measuring. The final categories (and, when applicable, their sub-categories) for the impacts of R/C grants and the impacts of R/C itself are presented in Table 1 and Table 2, respectively, listed in the order of increasing distance from the artist-researcher.

Obviously, the funding of R/C will eventually lead to changes stemming from R/C, such as the production of high-quality or significant works of art and literature that contribute to impacts of cultural value. Table 1 lists the impacts specific to R/C funding, whereas Table 2 explores the full range of impacts stemming from R/C activities (i.e., whether or not these were funded), such as cultural impacts. Note that three impacts are listed in both tables: capacity, collaboration and knowledge mobilization. Conceptually, the last two are considered as “structuring” or “enhancing” impacts because, as well as being affected by R/C grants and by R/C activities, they enable and promote further development of R/C.

Collaboration, in particular, brings researchers together within and across disciplines (including arts and non-arts disciplines), across sectors (e.g., with industries or community organizations), and across geographical borders. Interdisciplinarity is also very common in R/C and is seen to have a structuring effect on the development and transformation of research systems, as explained below. Note that in the present report, the term “interdisciplinarity” is meant to include all practices in which two or more disciplines intersect and result in some degree of cross-fertilization; conceptually, this includes “multidisciplinary” or “transdisciplinary” collaborations, and all other forms of interactions across disciplines (see Klein (1999) for a discussion on this topic).

Some may debate the inclusion of “technology” as an impact category. This category should be distinguished from technology *outputs*, such as new software or applications, as it applies to changes in the use or understanding of technology. It was decided that impacts on technology deserved to

be considered as a distinct category because of the huge influence of new media in several fields of the creative arts. These impacts have resulted in the exploration and transformation of technological applications in many R/C projects, as well as the use of technology to disseminate research findings to a wide audience (within and outside of academia, in Canada as well as internationally). The importance of technology in knowledge mobilization is particularly relevant in the case of creative works that are not in text format. For this reason, impacts on technology could be seen as acting in a structuring/enhancing manner on the R/C – as could, arguably, changes in capacity. Nevertheless, it was felt that changes in both technology and capacity should be primarily seen as impacts in themselves, but their proximity to structuring impacts should be noted.

Table 1 Taxonomy of impacts of R/C funding

1. Means (funds & time)
<ul style="list-style-type: none"> ▪ Provides the funds and time to realize (not just theorize) large-scale, long-term R/C projects, with additional tools and infrastructure and a greater depth of the investigative and/or creative focus ▪ R/C grants also increase the speed and development of R/C work, partly by reducing the use of personal funds by artist-researchers ▪ Fills the funding gap for those whose R/C work falls between Arts Council Grants and SSHRC SRGs
2. Legitimacy/Symbolic
<ul style="list-style-type: none"> ▪ Validates practice in R/C with the academy, policy-makers and the public ▪ Promotes respect, equality, participation and integration of artist-researchers in their institutions (particularly in non-arts disciplines) ▪ Enables artist-researchers to be more sincere and true to their interests when applying for funding ▪ Contributes to enhancing Canada's reputation (internally and from an international perspective)
3. Capacity (education)
<ul style="list-style-type: none"> ▪ Change in teaching practice and curriculum offerings (e.g., new courses or graduate programs) ▪ Change in learning practice and in the student-instructor interaction ▪ Promotes capacity building of future artist-researchers
4. Collaboration
Helps to recruit, support and attract collaborators and pursue opportunities for networking, including long-distance (via travel), interdisciplinary collaboration, and involvement of non-academics (professionals, the public)
5. Knowledge mobilization (dissemination)
Enables wider dissemination of creative work and research results (i.e., through new media and more traditional modes of dissemination such as conference proceedings, peer-reviewed articles, books and other types of literature), within and outside of the academic world

Table 2 Taxonomy of impacts of R/C

1. Personal (professional)
R/C activities personally engage and transform artist-researchers and contribute to validating their profession
2. Theory/modes of inquiry
R/C contributes to the knowledge base of artistic and related disciplines and informs other disciplines through: <ul style="list-style-type: none"> ▪ new insight and theory ▪ embodied knowledge ▪ new or adapted methods and processes

3. Research systems
R/C contributes to exploration (e.g., through <i>reflection on practice</i>) and redefinition of one's own discipline(s), and reshapes the boundaries between disciplines, notably through the development of interdisciplinarity (including both arts and non-arts disciplines)
4. Capacity (education)
By actively participating in R/C work, students gain skills, experience and recognition within the R/C community; artist-researchers concurrently develop more appropriate and effective teaching and mentoring methods; research training thus contributes to the next generation of artist-researchers and practitioners
5. Knowledge mobilization (dissemination)
R/C contributes to the development of artworks, spaces, and outreach (e.g., conferences, journals, websites, etc.), and provides new opportunities to disseminate the outputs and results of R/C, within and outside of the academic sector, in Canada and internationally
6. Collaboration
The nature and results of R/C projects leads to changes in collaborative practice, such as improved or increased collaboration between academic disciplines, between sectors (academic and professional), and between countries
7. Technological
R/C generates technological innovations/change by: <ul style="list-style-type: none"> ▪ providing new applications for existing tools ▪ helping to develop the use and understanding of technology (e.g., new media) ▪ contributing to the use and development of technology to enhance dissemination/collaboration
8. Personal (audience)
R/C engages audience members on a personal level, and thus contributes to changes in an individual's emotional or psychological state, level of satisfaction/enjoyment, cognitive skills, and behaviour
9. Cultural
<ul style="list-style-type: none"> ▪ R/C develops or celebrates specific aspects of culture (local, national, international), including through the production of high-quality artwork ▪ R/C contributes to the celebration and preservation of cultural heritage
10. Economic
R/C fosters economic opportunities at the individual level (including research and/or creative opportunities), at the community-level, and at the industry/commercial level (including intellectual property/patents/commercial products)
11. Social
<ul style="list-style-type: none"> ▪ R/C addresses socially-relevant issues from a unique/memorable perspective and promotes public discourse ▪ It engages members of the public in the arts (as audience members or active participants), including target groups (i.e., youth, immigrants, etc.), leading to socially relevant benefits (i.e., social cohesion, community well-being, empowerment) ▪ R/C also develops knowledge, practices, and materials that support health care and sustainable development (e.g., environmental design, art therapy)
12. Policy
The results and practice of R/C can inform policy decisions on socio-economic issues and on how to define and support R/C and the arts

4.2 Illustrating R/C impacts with evidence from SSHRC-funded projects

These different categories of impacts are best illustrated with specific examples. The roundtable workshop and the web surveys, for instance, provided many specific examples or viewpoints of successful and unsuccessful artist-researcher applicants to SSHRC's R/C grants on the types of changes brought about by this new grant program. Respondents were particularly emphatic about how the existence of the grants allowed them to conceptualize and pursue projects that were larger in scale and scope than they had been able to previously ("This grant has changed the way I make my work, because I don't have to limit my ideas anymore"); this point was made even by those respondents who applied for the grant but were unsuccessful. Funded respondents also explained that obtaining the grant had significantly enhanced the legitimacy of their work within the academic setting: "We started to be invited in panels and committees, and it makes us participate in the life of the university in a more responsible way." The grant also changed the way that artist-researchers interacted with their students, by prompting them to include students in the creative process: "It has made a difference, because we're working together as makers as opposed to an instructor and students, and they're seeing me in that role as much as a teacher." With both increased funds and increased credibility, SSHRC-funded artist-researchers also reported favourable changes in their ability to collaborate and disseminate their work.

As for examples of the impacts of R/C, many were found in the web scan of SSHRC-funded projects; these examples confirmed and helped to define the categories of impacts derived from all data sources, as shown in Table 3. Each of the 12 projects examined in detail as part of the data analysis were assigned to the category of impact that it best illustrates; a brief description of the projects (including title and principal investigator) is also provided in this table, with, when appropriate, illustrations of the projects. Note that these 12 projects were chosen because they provide a representative sample of the disciplines funded by SSHRC's R/C grants and because sufficient impact data were available online on these projects so as to inform the conceptualization of impacts. However, for reasons of size and scope, these examples do not cover all of the sub-categories or sub-types of impacts. Finally, note that the cited examples in the "Description of impact" column are either edited quotes from the principal investigators or extracted from project websites, online media reports, or, when specified, other types of sources.

As mentioned previously, collaboration and knowledge mobilization have been identified as structuring/enhancing impacts because they enable and promote the further development of R/C. As a result, many of the examples given in Table 3 may include elements of collaboration and knowledge mobilization because these elements have contributed to the reach or breadth of the other impact categories being illustrated (e.g., the role of interdisciplinary collaboration in the example for Research systems impacts). Similarly, significant overlaps occur for other categories, as is expected based on the high level of interaction between them; the relationships between categories will be discussed further in the following sections. In Table 3, key words or sections in selected quotes have therefore been underlined to emphasize the concepts specific to the category that is being illustrated.

Table 3 Examples of impacts from SSHRC-funded R/C projects

Category	Description of project (PI)	Description of impact ¹
1. Personal (professional)	<i>A triptych of compositions combining Indonesian and Western music (Michael S. Tenzer):</i> <i>Underleaf</i> , Tenzer's composition for chamber ensemble and gamelan (a traditional Indonesian instrument), was performed at the Bali Arts Festival by a joint Canadian-Balinese 30-piece ensemble after a month-long preparation in Bali. (No illustration)	<ul style="list-style-type: none"> The most significant part of the experience was the prolonged and intensive interaction between the Canadian and Balinese musicians, which involved <u>a meaningful and affecting sharing of music, artistic and personal feelings and sensibilities.</u> <u>The musicians' interactions, contrastive learning and practice styles, perceptions of one another, reactions to the music, and their growth and development through the process</u> are chronicled in a 60-minute documentary commissioned and broadcast by TV5.
2. Theory/modes of inquiry	<i>Art and cold cash (Patrick L. Mahon) - see illustration, Exhibit 5:</i> The collective exhibition project "Art and Cold Cash" connects Inuit and contemporary art to discourses surrounding money in a series of artistic activities and experiments. It features the works of three senior Canadian artists, an Inuit artist and an Inuit writer/curator, and video documentation of artistic/creative events held in Baker Lake (Nunavut).	<ul style="list-style-type: none"> <u>In creating a theoretical context for their artistic collaboration, their conversation raises a number of interesting questions,</u> revealing that members of the collective have very different concepts and understandings of both monetary and artistic exchange. <u>The documentary videos offer the viewer critical insight</u> into the contemporary Inuit experience of modernization. All four artist members of the Collective are turning to drawing as a means for conceptualizing the themes and concepts driving the "Art and Cold Cash" project, as well as an aesthetic means for transforming these emotional and psychic realities into material being.
3. Research systems	<i>Animated quilts and distributed textile networks (Joanna Berzowska) - see illustration, Exhibit 2:</i> XL Lab develops and designs electronic textiles and wearable technologies: its soft reactive fabrics change color, shape or texture. E.g., the individual squares of "Animated Quilt" shift from black to white whereas the "Leeches" dress acts as a reconfigurable power-distribution network on which individual electronic modules are attached to illuminate the dress.	<ul style="list-style-type: none"> Lab associates and research assistants come from a variety of disciplines, including design, computation arts, fibres, art education and computer science. "It's very multi-disciplinary that way. It needs to be," says Berzowska. These garments are intended to provoke discussion not only about eco-design, power conservation, and designing for sustainability, but also <u>encourage designers to think about the upcoming social and cultural trends</u> that will emerge from our constantly growing need for power. Digital technologies, through the form of reactive displays integrated into the garments, allow us to shape and edit that evidence to reflect more subtle, or more poetic, aspects of our identity and history. Gestures and personal history can in this way be perceived, manipulated, and represented on displays integrated into the fabric.
4. Capacity	<i>Le logement social comme espace de création, d'innovation et de critique dans les centres-villes canadiens (Anne Cormier) - see illustration, Exhibit 3:</i> Two competitions for architecture students called "Rethinking and Redefining Social Housing in the City Centre" attracted hundreds of participants from Canadian universities. A total of \$40,000 in prizes was distributed to the top 15 teams.	<ul style="list-style-type: none"> <u>The competition allows students to actively participate in the creation of new and original proposals and to benefit from the various levels of thought processes associated with design competitions.</u> An international jury, made up of prominent professionals in the fields of design, architectural theory, sociology, and public policy evaluate the entries. Two of the jury members generously analyzed each one of the 15 schemes for the students' benefit and provided <u>useful feedback.</u> Jury deliberations, an exhibition, and a public presentation of the student projects took place as part of a public discussion on "Social Housing and City Centres" in Montreal. Projects were also published online in the <i>Canadian Competitions Catalogue.</i>

<p>5. Knowledge mobilization</p>	<p><i>The cultural lives of the logo: critical and creative explorations of trademarks and branding devices in a hypercommercial media environment (Matthew A. Soar):</i> The project investigated hypercommercialism, such as the appearance of ads, logos, and branding devices on practically every surface of the cultural environment. It focused on two main examples: product placement in the movies (“Brand Hype”) and high-rise signs in urban settings (“Logo Cities”). <i>(No illustration)</i></p>	<ul style="list-style-type: none"> ▪ “Brand Hype” is a <u>web-based resource</u> focusing on product placement in the movies. The site is intended as <u>an educational resource and information exchange for students, media literacy advocates, media researchers, moviemakers and moviegoers</u>. It includes articles, videos, and an annotated bibliography, but its key feature is a searchable database of movies and placements called Movie Mapper. ▪ The project received a great deal of attention in the mainstream media locally, nationally, and internationally, and has been well-received by teachers and media literacy activists. ▪ “Logo Cities” culminated in May 2007 with an enormously successful <u>international symposium</u> on signs, logos and lettering in public space, which drew participants from as far away as Turkey, India and Japan. <u>The proceedings of this conference are currently under consideration at a major North American university press</u>. The “Logo Cities” website continues to attract a lot of visitors.
<p>6. Collaboration</p>	<p><i>The City of Rich Gate: research and creation into community-engaged arts practices (Rita L. Irwin):</i> Public art exhibits on identity, place and community were created by a team of professors in collaboration with Richmond (BC) families originally from China, Japan, India, and Europe. Exhibits included the “Gates” (large hanging photographs juxtaposing images from past and present) displayed in China and Canada, banners, and bus shelter posters displayed in Richmond. <i>(No illustration)</i></p>	<ul style="list-style-type: none"> ▪ Inspired by SSHRC’s newly instituted Research/Creation grants, <u>we came together to imagine a project that brought forward our mutual interests and strengths</u>. <u>Two of us were art educators, two were PhD candidates in art education and two others were university-based artists</u>. All of us were artists and all of us were educators: our respect for one another’s work brought us to a newly committed dialogic space. ▪ Our collaborative processes are based in relational inquiring. Relationships are not free of tension but when a commitment is made to a relationship, tensions and celebrations are taken in stride. Together we plan, change plans, learn and relearn. <u>It is often in these dialogical collaborative spaces that surprisingly rich connections are made.</u>
<p>7. Technology</p>	<p><i>No body, nobody: “Nobody dance,” un sacre du printemps en info-chorégraphie de particules pour l’écran 2D et 3D (Martine Époque) - see illustration,</i></p> <p>Exhibit 4: Using motion detection technology, the gestures of a dance are extracted from its physical envelope (i.e., the body) creating a new form of choreographic writing (“infochoreography”). “NoBody Dance” is a 3-D performance in infochoreography of particles for screen.</p>	<ul style="list-style-type: none"> ▪ “NoBody Dance” showcases Hexagram-UQAM’s MoCap optical system. The researchers work with characters created using software such as LIFEanimation (developed in collaboration with Époque) and Evolver, as well as applications created by a member of the research team. ▪ <i>Plus que la vidéo, qui ne traduit pas la tridimensionnalité essentielle de la danse, la capture du mouvement par ordinateur multiplie les possibilités de cet art. Ce sont les gens qui dansent eux-mêmes qui manipulent les machines, donc ils ont une approche beaucoup plus sensible.</i> ▪ A six-minute pilot will be produced to facilitate dissemination of the work. The knowledge transfer possibilities presented by “NoBody Dance” represent the very foundation of this project, which aims <u>to contribute to the definition and validation of an infochoreographic writing model whose use will promote the advancement of choreographic understanding as it relates to digital technology.</u>
<p>8. Personal (audience)</p>	<p><i>Exchange: artistic inquiry through performance and resistance (Nancy D. Nisbet) - see illustration,</i></p> <p>Exhibit 6: For <i>Exchange</i>, Nisbet inventoried all of her personal belongings and marked them with Radio Frequency Identification (RFID) tags. She drove across North America for six months trading her personal items for objects and stories with individuals encountered at 23 events.</p>	<ul style="list-style-type: none"> ▪ Each event followed a similar pattern but <u>the traded items and their stories were all uniquely personal</u>. The trade itself involved scanning the RFID tag of the chosen item, tagging and scanning the item offered for trade, and creating an audio recording of the person’s story about the object given to me. The objects seemed to fall into 3 general categories: a very dear item being ‘sacrificed,’ something with negative or painful feelings being let go, or something just found in a bag or pocket. ▪ Participant: “Of course this is art – this is what art’s all about. It’s art because <u>art should take people out of their normal day, it should make people think, it should make people interact, it should agitate, it should be an intervention...</u> I think this is a really good art project.”

<p>9. Cultural</p>	<p><i>Villa Air-Bel: World War II, Escape and a House in Marseille (Rosemary Sullivan)</i>: Villa Air-Bel is a non-fiction book about a French villa from which an American rescue committee saved 2,000 members of the European cultural elite (including André Breton and Max Ernst) from the Nazis; published internationally by major publishing houses. <i>(No illustration)</i></p>	<ul style="list-style-type: none"> ▪ Book reviews: "Her scene-by-scene evocation of life at the house reads like an updated Chekhov comedy laced with horror"; "She manages to combine solid scholarship with a snappy writing style... a history book that is completely riveting,"; "Readers are lucky that Sullivan [has an extensive background in politics], it makes her work far richer, more relevant and, ultimately, more inspiring." ▪ Winner of three book prizes (from bookseller associations and Jewish/Holocaust associations). ▪ Sullivan commissioned a 15-minute film called "The Road Out" that uses historical photos and contemporary footage to document the story of Villa Air-Bel; available on the book's website.
<p>10. Economic</p>	<p><i>Computational poetics: logic machines and creative process (Martin S. Gotfrid)</i>: This research examines the impact of computer technology on systems of representations and the question of meaning in the creative process through the development of an open-ended compositional toolkit that braids together audible and visible images, textual, generative, kinetic and proprioceptive elements. <i>(No illustration)</i></p>	<ul style="list-style-type: none"> ▪ A main outcome of the project is a complementary set of user-modifiable tools and templates for composition, using affordable hardware and software to provide a strong environment for students of art and new media to conduct research and acquire skills at a level appropriate to make significant contributions to future art and research objectives. ▪ The issue of availability and affordability is essential to this project. Current desktop/laptop systems and modest projection devices can provide a rich environment at modest cost. Combining this with the project outcomes we envision, individual artists and smaller institutions may no longer face the barriers of expensive, complex systems and dedicated software and hardware personnel.
<p>11. Social</p>	<p><i>Common plants: cross pollinations in hybrid reality (Judith Rudakoff)</i> - see illustration, Exhibit 7: Through several-day workshops, students and artists from around the world are led through activities to create and perform a transcultural, multi-lingual cycle of site-specific plays; the project also involves developing an interdisciplinary pedagogical process, analysing the performances, and dissemination via an interactive website.</p>	<ul style="list-style-type: none"> ▪ "Common Plants" links geographically and culturally distinct participants from Toronto, Waterloo, Regina, the Canadian North (Iqaluit, Nunavut), Wiltshire, Swindon (UK) and Cape Town (South Africa), <u>encouraging expression of individual identity through exploration of shared vision, common principles and the challenge of difference.</u> ▪ Media report: "The artists and the youth we're working with are sharing their lives, their fears and their hopes," says Rudakoff. One youth in Cape Town said, "I never thought my own story would interest anybody. This is the first time I have ever talked about myself. I feel different now." Another said, "You sent me home to ask my parents about ancestral home and clan names. I had never had a conversation that long with my parents before." ▪ One of our goals was to show the groups we're working with – whether professional artists or youth – that they are not alone in what they're experiencing. Some participants are communicating with each other through the website's "Common Ground" forum.
<p>12. Policy</p>	<p><i>From human rights to relationship recognition (Nancy E. Nicol)</i>: Two documentaries tracing the debate and eventual legislation recognising equal rights for same-sex couples in Canada ("The End of Second Class") and gay and lesbian parents and their children in Québec ("Politics of the Heart"); the documentaries have been screened internationally, including at film festivals, for students, unions, community/health groups, and government organisations. <i>(No illustration)</i></p>	<ul style="list-style-type: none"> ▪ "Politics of the Heart" is a moving portrait of lesbian and gay families who re-shaped the cultural and political landscape of Québec by fighting for recognition of their relationships, families and homoparental rights.... [it] reminds audiences that it's always possible to effect real change. ▪ The work captures a social movement in progress at a key moment of historical policy change. ▪ Press release: [The screening of each] film was followed by a panel discussion with distinguished academics, lawyers and activists who are at the forefront of the struggle to win equal rights for lesbian, gay, bisexual and transgender (LGBT) people in Canada. ▪ <i>Les points de vue politique, historique et humain en font sa force... Dans ce film on apprend, on vibre tout au long de ce périple où l'on découvre ce qui freine dans la législation et les mentalités, et où l'on s'interroge sur comment faire évoluer la loi et dans quels buts.</i>

¹ Descriptions are edited quotes from the principal investigators, or extracted from project websites, online media reports, or other types of sources (when specified).

Exhibit 2 Animated Quilt (Berzowska)

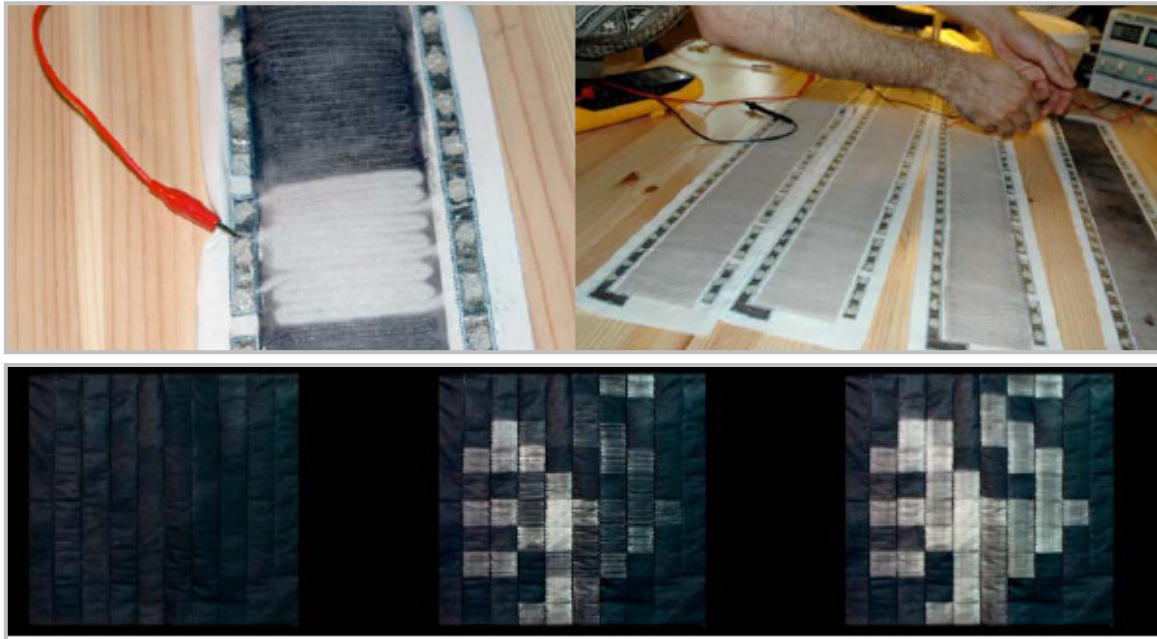


Exhibit 3 “Rethinking and Redefining Social Housing in the City Centre” Contest (Cormier)

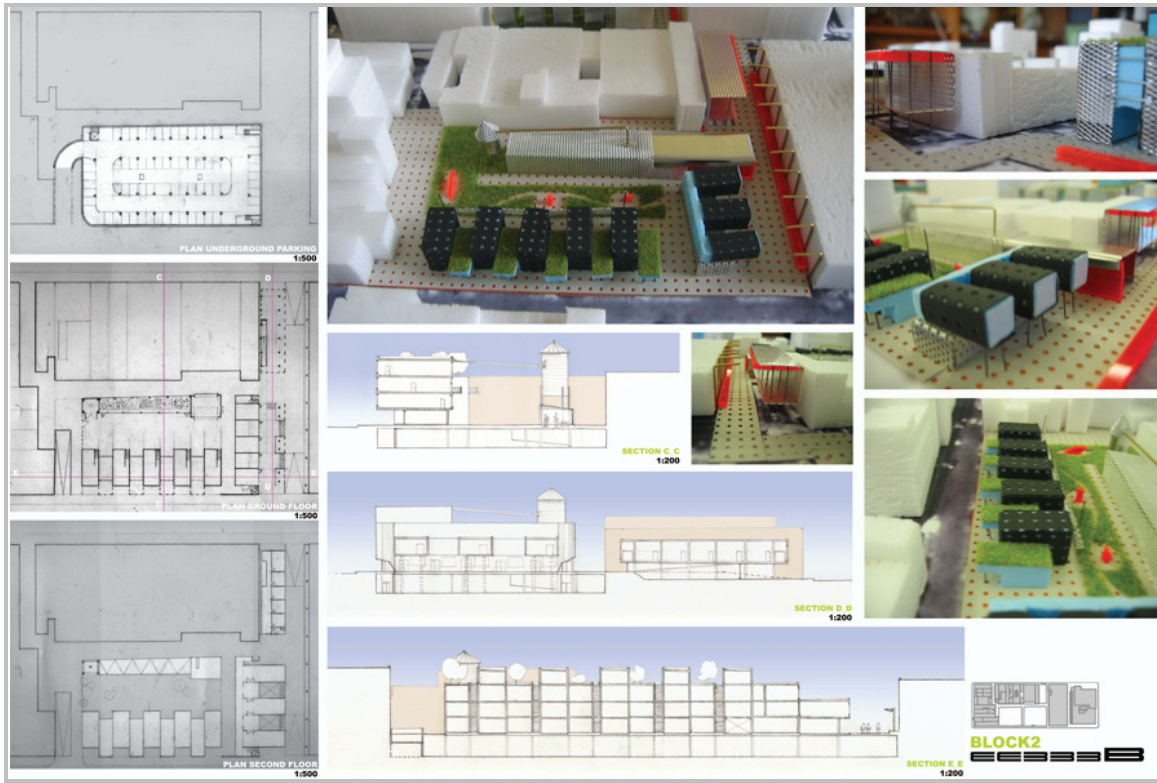


Exhibit 4 NoBody Dance (Époque)

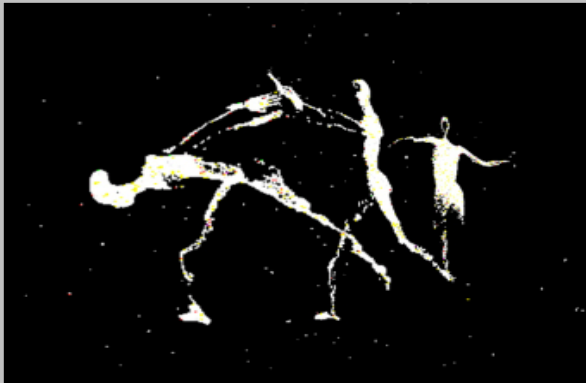
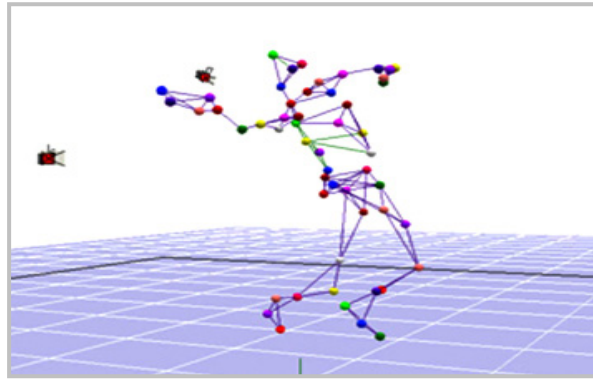


Exhibit 5 Art and Cold Cash (Mahon)



Exhibit 6 Exchange (Nisbet)



Exhibit 7 Common Plants (Rudakoff)



4.3 Conceptualization of impacts from evidence

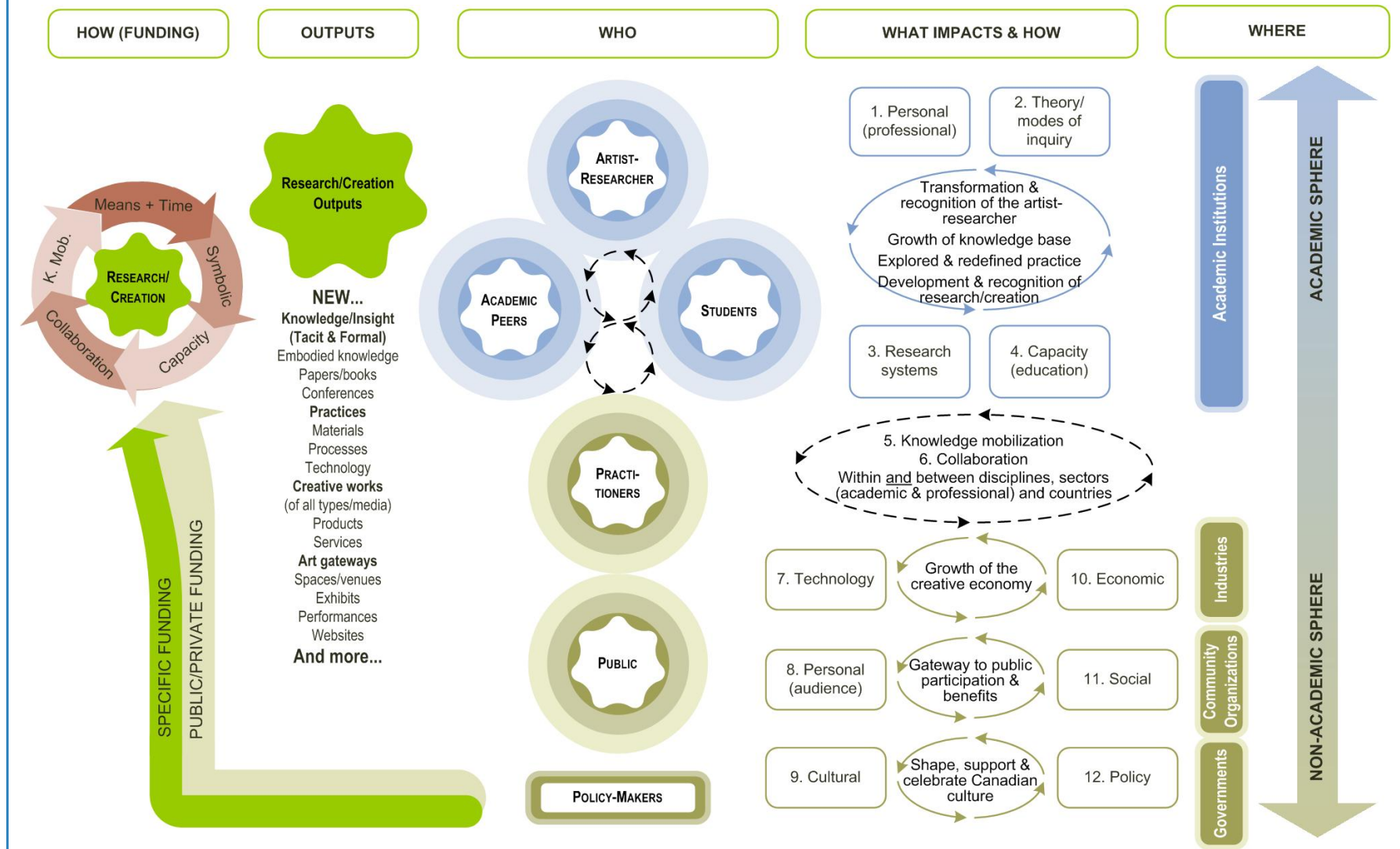
The next step in the conceptualization of impacts is to examine how the groups and categories of impacts interact or relate to one another based on the evidence. One aspect underlying such relationships has already been mentioned, in that the categories of impact of R/C were listed in order of distance from the artist-researcher. Awareness of this is important both when discussing the value of the data sources used in this study and when developing tools and choosing data sources to measure these impacts within the larger context of research impact assessment. That is not to say that these impacts arise in a linear or causal fashion: it is important to stress the fact that all of these impact categories can overlap, occur simultaneously, or influence one another. In particular, the structuring/enhancing types of impacts, specifically knowledge mobilization and collaboration, will have a significant influence on the scope and depth of the reach achieved by R/C outputs, and thus, on other types of R/C impacts. A number of close relationships between distinct types of impacts, for example between personal changes experienced by audience members and wider community-level benefits, also emerged from the evidence and will be discussed in the following section.

A distinction can also be made between impacts at the individual level (e.g., affecting funded artist-researchers and their academic peers and students) and those occurring at the organizational or institutional level (e.g., affecting the academic institutions in which artist-researchers and students operate). A further difference can be made between impacts occurring in the academic sphere and those within the larger societal sphere (including the non-academic arts community, target audiences and members of the public, governments, etc.). The separation between these two spheres is necessarily very porous, especially since many artist-researchers maintain a professional practice outside of their academic institution. Once again, knowledge mobilization and collaboration are important, as they help to create a bridge between the academic and non-academic spheres, as well as between disciplines and between countries. These and other reflections fed the design of the conceptual/analytical framework, in which the relationships between the categories of impact and the groups affected are represented graphically.

4.4 Conceptual/analytical framework

The concluding conceptual/analytical framework, presented in Exhibit 8, seeks to represent the impacts of R/C in the arts as well as impacts of the funding this type of research receives. It is the result of several previous attempts, some of which are presented in Annex C, to develop a visual model that is accurate, conceptually sound, and that can be of use in supporting future efforts in research impact assessment. In this framework, the outputs of R/C are represented by a physical object, a soft star, to emphasize the embodied nature of many R/C outputs; below the star is a list of outputs and media/outlets in which these outputs can be found. The star touches down upon individuals or groups of individuals (“Who”) to produce different types of impacts (“What”) through a variety of processes and interactions (feedback loops: “How”). The organizational-level effects situated in the academic or non-academic spheres (“Where”) is also included, as are the ways through which funding helps generate and enhance R/C activities (i.e., the impacts of R/C grants). The fact that impacts happen over time (i.e., the “When” element) is implied by the “ripples” surrounding the different groups; the difference between short- and long-term impacts is important for research impact assessment and will be discussed in the following section.

Exhibit 8 Conceptual/analytical framework representing the impacts of research/creation



Several other elements of this framework are worth noting, such as with regard the spatial distribution of the groups and categories of impact. The artist-researchers are in direct contact with their peers and their students within the academic sphere, symbolizing the close relationship between them: impacts on artist-researchers are likely to affect the others as well. Artist-researchers are also linked directly with professional practitioners, as discussed previously, either because they themselves practice professionally or work with practitioners outside the university, through the porous delimitation between the academic and non-academic spheres.

The relationship and zone of interaction (or even, sometimes, overlap) between categories of impact is best understood through the feedback loops, which describe the processes by which the impacts occur and interact with one another. In the academic sphere, the impact of R/C grants generates a large feedback loop that supports and shapes R/C activities (“How (Funding)”). Through R/C activities (including teaching) and outputs, the artist-researcher experiences a process of transformation, the knowledge base grows (including knowledge embodied in creative practices and works), research systems and R/C practice is explored and redefined (often through interdisciplinary projects), and recognition and capacity of R/C and its practitioners is increased. These impacts are necessarily connected to one another, and thus share a feedback loop.

The next feedback loop actually contains the two main structuring impacts (knowledge mobilization and collaboration) and is situated at the porous intersection between the academic and non-academic spheres. This feedback loop also includes knowledge mobilization and collaboration at the national and international level. The importance of these elements, both as impacts in themselves and as enhancers of R/C activities in bridging the gaps within and between disciplines, sectors and countries, should not be underestimated.

In the wider societal sphere, impacts begin to overlap more significantly. For example, increases in capacity, development of new processes and applications (including, among others, technological tools and processes), products and art gateways will all feed economic impacts and the growth of the creative economy. Similarly, the intrinsic benefits of audience participation in the arts –thus generating emotive and reflexive responses –can lead to instrumental social benefits, such as improvement of behavioural and cognitive skills and social cohesion (for a detailed discussion, see (McCarthy et al., 2004). Finally, all types of impacts may influence spheres outside of the arts, including, for example, policy decisions as to whether to provide funds for further activities that shape, support and celebrate Canadian culture, including R/C.

4.5 Towards a framework of research impact assessment

In reflecting on how the above conceptual/analytical framework could help to inform future research impact assessments, it became clear that an additional tool was required to help differentiate impacts in the short- and long-term, as well as which types of impacts were most likely to impact which groups. In the grid presented in Table 4, short-term impacts affecting each group are indicated in dark grey, and long-term impacts are shown in light grey. The impact categories are numbered to facilitate the transfer to logic models or similarly structured evaluation frameworks. It is hoped that this grid can help evaluators determine which impacts they can measure within the period covered by their evaluation, and for which group(s) of stakeholders.

Table 4 Short- and long-term impacts of R/C in the arts and of SSHRC's R/C grants

The impact of R/C in the arts

	Artist-researcher	Academic peers	Students	Academic institutions	Practitioners	Industries	Community org.	Public	Government
1. Personal (professional)	■	■	■		■				
2. Theory/modes of inquiry	■	■	■	■	■	■	■		
3. Research systems	■	■	■	■	■				
4. Capacity	■	■	■	■	■	■			
5. Knowledge mobilization	■	■	■	■	■	■	■	■	
6. Collaboration	■	■	■	■	■	■	■	■	
7. Technology	■	■	■	■	■	■	■		
8. Personal (audience)		■	■		■			■	
9. Cultural	■	■	■		■	■	■	■	■
10. Economic	■	■	■	■	■	■	■	■	■
11. Social			■				■	■	■
12. Policy							■	■	■

The impact of R/C funding grants

	Artist-researcher	Academic peers	Students	Academic institutions	Practitioners	Industries	Community org.	Public	Government
i. Means	■	■	■	■	■				
ii. Symbolic	■	■	■	■					■
iii. Capacity	■	■	■	■	■	■			
iv. Collaboration	■	■	■	■	■	■			
v. Knowledge mobilization		■	■	■	■	■	■	■	

Note: Shorter-term impacts are in dark gray (■), longer-term impacts are in light gray (□).

5 DISCUSSION

The purpose of this study, to develop a conceptual/analytical framework of the impacts of R/C, was achieved by collecting data from a wide range of data sources, some of which preserve contextual information about specific R/C projects, and by allowing the conceptualization to emerge from a systematic analysis of the data, as dictated by grounded theory (Strauss & Corbin, 1998). The value of this approach and of the data sources used is that they enabled the authors to capture a more realistic, robust, and comprehensive range of impacts than if the exercise had begun with a purely speculative approach. This type of approach was deemed necessary because most current models of research impact are inadequate for assessing research in the social sciences, humanities and creative arts and because of the practice-based nature of the research processes and outputs of R/C, which leads to distinctive impacts. Moreover, it is hoped that such a broad analysis, covering the impact of funding in R/C as well as the impacts of R/C themselves, will simultaneously address the needs of diverse audiences, including evaluators, the R/C community, and organizations that fund R/C.

It is believed that one of the main strengths of this study is that it separated the impacts of funding in R/C in the arts (Table 1) with those of R/C itself (Table 2), with the understanding that R/C grants can also contribute to the increased reach and breadth of the impacts of R/C. Thus, evaluators, particularly those representing funding bodies, wishing to distinguish between these two areas of impact are provided with a structural tool with which to do so. The porous boundary between the academic and non-academic spheres is another central element of the framework meant to guide the measurement of impacts (i.e., who and where), as well as the understanding that both spheres are in close contact and that both are valuable.

This latter point also emerged when, following Amo (2007), attempts were made to understand how the processes operating within R/C could contribute to its impact. The importance of these processes became particularly clear in the case of the structuring/enhancing impacts, such as knowledge mobilization and collaboration. Placing these impacts, both conceptually and physically (i.e., within the visual representation of the framework) at the intersection between the academic sphere and the non-academic sphere, also draws attention to the fact that the sharing of both the activities and the outputs of R/C with non-academic groups is a fundamental quality that is necessary to the understanding of the scope and breadth of its impact.

Likewise, the characterization of impacts and the relationships between them that are explored in the framework aims to help conceptualize and explain the way in which the impact categories relate to one another, either because they overlap or occur simultaneously or because they influence one another. It should be understood that not all R/C projects will lead to all of these impacts, or that the impacts will always interact in the same way, but rather that this framework is a thinking piece, an attempt to represent the reality of the reach of R/C. In other words, it is hoped that that framework will serve to promote reflection among artist-researchers and to help them recognize and enhance these categories and the relationships between them—or even contest and deconstruct them as part of their practice. Similarly, in support of the R/C community and the wider academic community, both of which are currently struggling to understand, define and articulate the nature of R/C as well as the impacts of this type of research, it is hoped that this

study will provide insight and contribute to the development of a more widely shared understanding of these elements.

Comments on the resulting conceptual/analytical framework were received from eight external reviewers, including artist-researchers active in R/C and evaluators familiar to different degrees with the project, to obtain a preliminary assessment of its accuracy and its adequacy for each group of potential users. Further testing of the framework by members of the intended audiences should provide additional indications of its adequacy and robustness, and its potential for eventual acceptance and use by these audiences.

5.1 Study Design Limitations

Impacts of R/C were not measured as part of this study but rather captured for the purposes of conceptualization. This conceptualization is mostly based on data obtained from SSHRC-funded artist-researchers in the Canadian context, collected directly through the web surveys and final research reports, or indirectly on the funded project websites. Thus, a limited amount of impact data came from end-users of R/C other than artist-researchers, which may have introduced a bias toward impacts on artist-researchers themselves as well as the impacts that the artist-researchers most value. However, this bias was clearly understood from the beginning of the project and built into the conceptual/analytical framework because artist-researchers are the primary beneficiaries of R/C funding and future research impact assessments are likely to focus, at least in part, on this particular group. Nevertheless, further primary data, such as that from focused interviews or roundtable workshops with end-users (i.e., those who benefit from R/C or those on which the changes operate, keeping in mind that the outputs of R/C are often intended for audiences within and outside the university) and broader case studies similar to those mandated by the Arts and Humanities Research Council (UK) (Annabel Jackson Associates, 2007) would be needed to review and expand on this conceptualization of impacts of R/C.

An additional limitation stems from the attribution issues, more explicitly in linking funded projects with specific impacts, particularly those occurring at a further distance from the artist-researchers themselves. The fact that SSHRC's Research/Creation Grants in Fine Arts Program has only been in existence since 2003 also makes it difficult to gather conclusive evidence on medium- and long-term impacts. However, it is hoped that by incorporating secondary literature into the study, this issue was alleviated to some extent. Because the main goal of this study was to conceptualize impacts rather than establish concrete proof that these impacts are occurring (i.e., measurement of impacts), the selected approach, including both demonstrated and potential impacts in the analysis, was considered to be adequate to establish a starting point for further studies, including those whose purpose is to attribute specific impacts to funded R/C work.

Finally, the ongoing problem of defining the emerging research field of R/C and overcoming the language issues may have resulted, despite the authors' best efforts, in a bypassing of certain sources of evidence and descriptions of impact. Conversely, the language issues may result in the conceptualization of impacts of R/C presented in this report not reaching all intended audiences.

5.2 Implications for evaluation practice

This study was initiated by SSHRC following a recommendation issued during the formative evaluation of SSHRC's Research/Creation Grants in Fine Arts Program regarding the need to better identify and articulate the impacts of R/C for program management and evaluation purposes. In addition to better informing SSHRC and other bodies that fund R/C work as to the impacts that should be monitored for their own purposes and to fulfill performance reporting requirements (i.e., for the Treasury Board), the present framework should assist these organizations in better demonstrating and communicating the contributions of this research in both the academic and non-academic spheres.

This study provides a framework for the identification and definition of impacts stemming from a pilot program that funds a new research clientele, as well as those from an emerging research field. This framework is based on the detailed coding of impacts that will be central to the design of impact assessment methods and operational indicators during the summative evaluation of this pilot program. Also, this study will inform on-going data collection processes that will be available for the next evaluation exercise. For example, the conceptualization of impacts in R/C could be used to revise the way impact information and performance measurement data are collected in the final research reports (narratives, questions, examples, etc.) that funded researchers must complete at the end of their grants. The results of this study could be made available to artist-researchers to help increase common understanding of R/C impacts; as such, the information on impacts described in the final research reports would be of greater depth and quality. Also, this study would potentially contribute to the continuous improvement of the program's design and delivery, such as communication with its clientele (e.g., application material), the adjudication process, and internal performance reporting, including the development of future data collection tools.

The findings of this study are also expected to be of use for the evaluation of research impacts more generally, in that it provides a starting point for the development of a practical framework for research impact assessment. Some of the strengths of the framework have already been discussed, such as some of the implications of separating the impacts of R/C funding from the impacts of R/C itself. This distinction is especially important in the context of the evaluation of funding programs for research. Granting councils would gain from a better understanding of the direct impact of funding, as well as the wider impacts of the research community they fund.

In addition, the framework should help to enlighten evaluators as to the categories of impacts that can be expected (i.e., the taxonomy) as well as where (or within which group) these impacts could be measured. In particular, future steps should address the feasibility of collecting impact-related data in each category and for each group and the development of indicators to measure the impact of R/C in both the academic and non-academic settings identified in the framework. In support of these efforts, the accompanying grid provides an indication as to which groups might be affected by specific impacts in the short-term or in the long-term. The framework could also serve to inform the development of a logic model in which specific R/C activities or projects are linked to outputs and appropriate outcomes.

Thus, this study could be used as a guide in the development of appropriate measures for the purpose of specific research impact assessments. An in-depth discussion of what form these measures should take falls outside the scope of this study, but it should be stressed that developing a measurement strategy for the evaluation of R/C will be a challenging task due to the diverse and

non-traditional nature of the activities, outputs and outcomes of practice-based research in general (e.g., with regard to intellectual impacts, including tacit knowledge), and of art research more specifically (e.g., with regard to cultural impacts). For instance, studies that tackled the problem of assessing the impact (or quality) of practice-based research have felt the need to review and (re)conceptualize the modes of knowledge and the relationship between research and practice (Oancea & Furlong, 2007; Potter et al., 2006) before extending the discussion to the new approaches or strategies that would improve the measurement of the quality and impact of practice-based research (Douthwaite et al., 2007; Mallon, 2008; Sector Reference Group, 2008). As many of these efforts are still at the early stages, further work to design performance indicators that are founded on a solid understanding of non-traditional research processes is clearly needed.

The present study found that the qualitative data analysis method used was useful in the production of a comprehensive characterization of impacts and that this approach could be of use in other similar endeavours, particularly in the case of other practice-based disciplines or other fields that differ in one or more ways from a strict natural sciences research model. Based on our experience, it appears that many researchers, particularly those in the arts, social sciences and humanities, resist having their work and its impacts put into categories and measured. Thus, it is expected that the development of evaluation strategies and performance indicators based on a realistic and comprehensive framework of impacts that results from a sound understanding of the discipline(s) involved may help assuage some of the reluctance and frustration of researchers called upon in the course of research impact assessment and other forms of research evaluation and improve the final results of these evaluation efforts.

5.3 Implications for future research directions

Further work is needed to validate and build on the conceptualization developed in this study, in order to better understand the impact of research funding, as well as the specific characteristics of R/C itself and its impacts. In particular, the implications of the porosity/overlap of academic and non-academic impacts of R/C generated much interest among the reviewers of the final draft of this report and merits further attention. Now that a broad categorization of these impacts has been proposed, questions naturally arise regarding specific impacts; these questions could be answered by systematic analysis of these impacts, for example in finding ways to better articulate the cultural value of R/C, or in highlighting the pedagogical impact of R/C funding with regard to the growing place of contemporary arts and design programs in universities (both in Canada and abroad).

The role and implications of technology (including new media) and interdisciplinarity in R/C, both in terms of the funding opportunities and of the impact of R/C, is also a large area ripe for further work. Moreover, a body of work has been accumulating since the 1990s on the social and economic impact of the arts more generally, to which additional research on the contribution of R/C—in its distinct role as a university-based practice—would be of value. Finally, comparisons with other graduate programs and funding programs in practice-based research (such as in education, nursing, engineering, etc., at both the national and international level) would also contribute to recent efforts in developing the theoretical and philosophical dimensions of research assessment (e.g., Oancea & Furlong, 2007).

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ANNEX A – MAIN DISCIPLINES FUNDED UNDER SSHRC’S R/C GRANT PROGRAM

Main disciplines funded under SSHRC’s R/C grant program

Architecture, Urban and Regional Design and Planning

Cinema, Film and Video

Creative Writing and Literature

Dance

Design (including interior design)

Education

Interdisciplinary Arts

Media and Electronic Arts

Music and Musicology

Social Sciences and Humanities

Theatre, Drama and Performance Art

Visual Arts (including painting, drawing, sculpture, ceramics, photography and textiles)

ANNEX B – BIBLIOGRAPHY FOR THE LITERATURE REVIEW

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Documents to be Review to Help Define "Research/Creation" and Select an Approach to Developing a Conceptual/Analytical Framework

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ANNEX C – PROGRESSION OF CONCEPTUAL/ANALYTICAL FRAMEWORKS

Exhibit 9 1st Draft of the Conceptual/Analytical Framework (Literature Review)

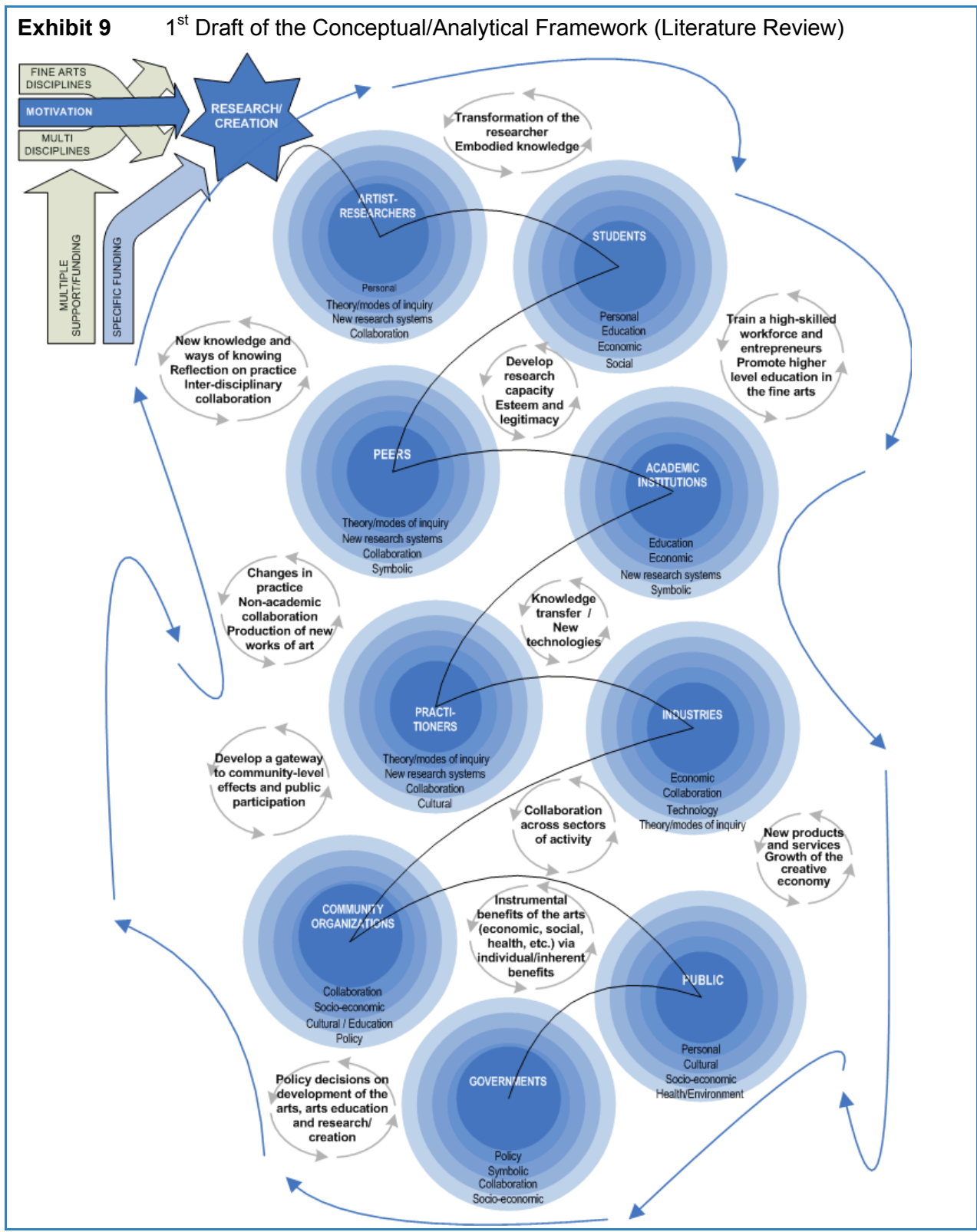


Exhibit 10 2nd Draft of the Conceptual/Analytical Framework (Revisiting the Web Surveys & Roundtable)

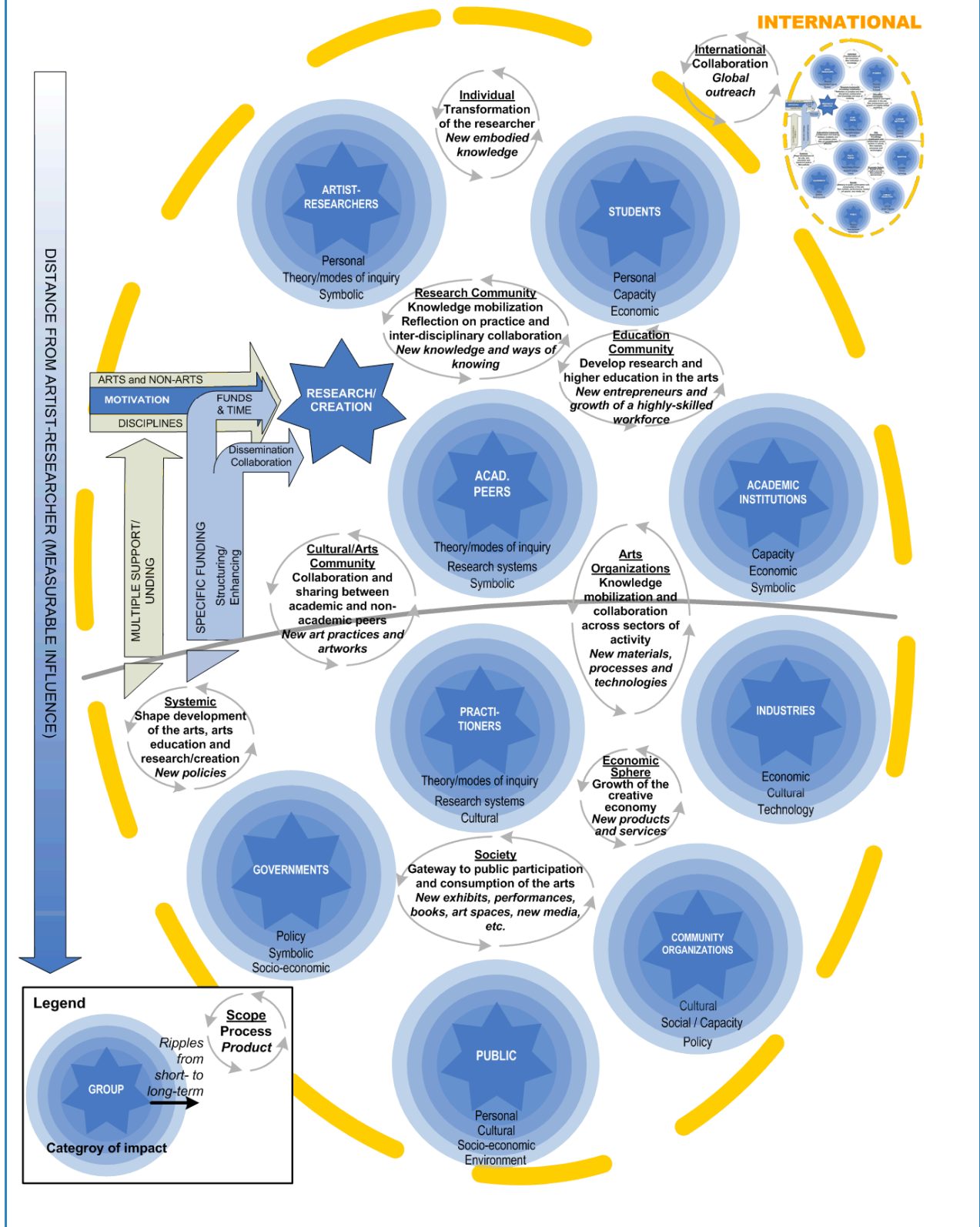
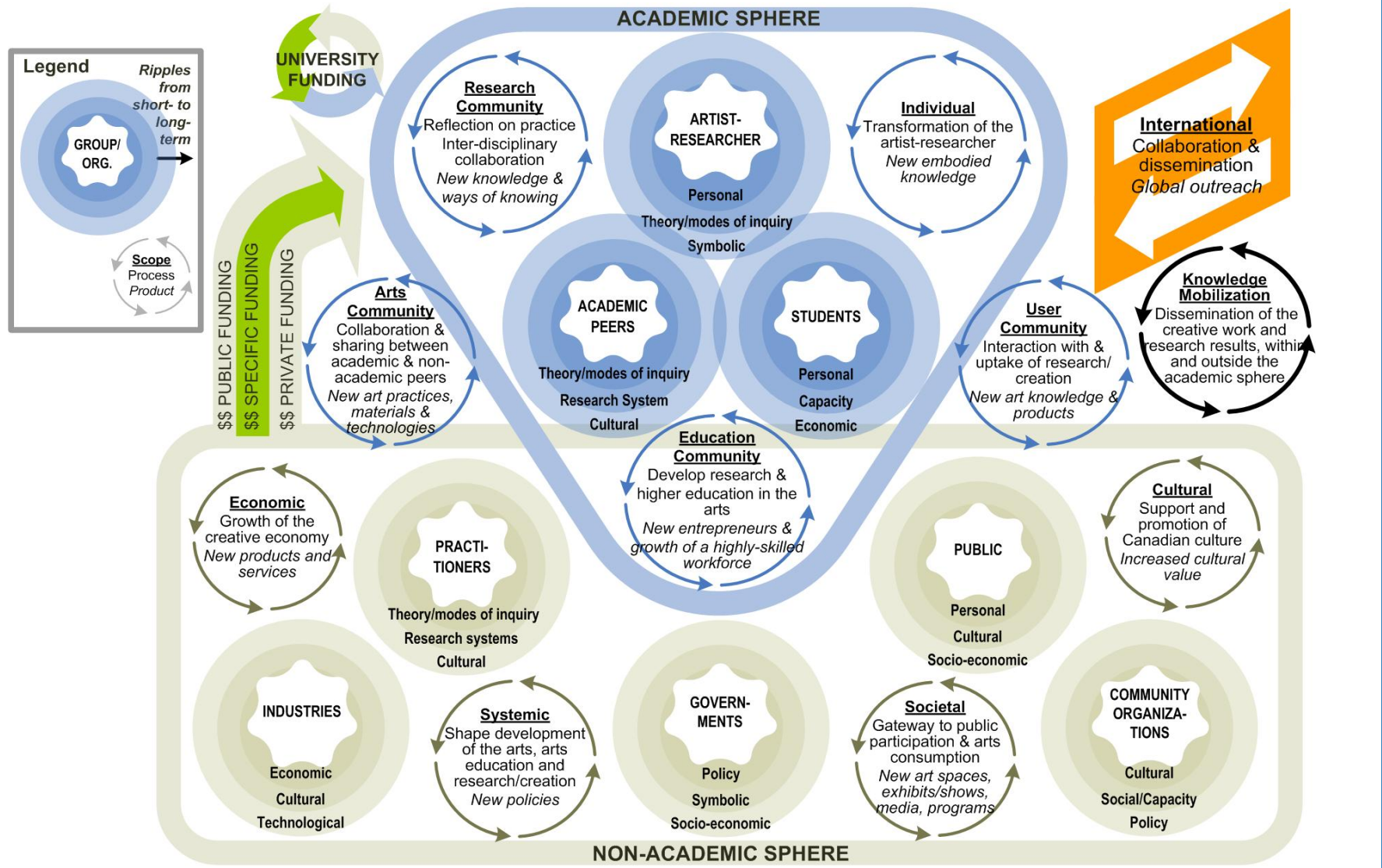


Exhibit 11 3rd Draft of the Conceptual/Analytical Framework (Final Research Reports and Web Scan)



ANNEX D – FINAL RESEARCH REPORTS BY SSHRC-FUNDED ARTIST-RESEARCHERS

Artist-Researcher Recipient (Year of Grant)	Project Title
Julie A. Andreyev (2004)	Four Wheel Drift
Nancy E. Nicol (2004)	From human rights to relationship recognition
Robert B. Pritchard (2004)	GRASSP: Gesturally Realized Audio, Speech, and Song Performance
Matthew A. Soar (2004)	The cultural lives of the logo: critical and creative explorations of trademarks and branding devices in a hypercommercial media environment
Rosemary Sullivan (2004)	Villa Air-Bel: World War II, Escape and a House in Marseille
Janice Kulyk Keefer (2005)	Visa to witness: a collaborative journey to Ukraine

ANNEX E – WEB SOURCES USED FOR DETAILED ANALYSIS

2004 Grant Recipients

	Researcher, Project Title, Keywords	Web resources (Project, Investigators, Related)*
1	<p>Berzowska, Joanna, <i>Animated quilts and distributed textile networks</i></p> <div data-bbox="277 569 537 716" style="border: 1px solid black; padding: 5px;"> <p>Keywords: electronic textiles; responsive clothing; reactive materials; soft computation</p> </div>	<p>XS Labs: http://www.xslabs.net/ Photographs: http://www.flickr.com/photos/xslabs/ “Soft Computation Through Conductive Textiles” (International Foundation of Fashion Technology Institutes Conference, 2007): http://www.xslabs.net/papers/iffi07-berzowska-AQ.pdf “Memory rich garments: body-based displays” (SIGGRAPH Conference, 2005): http://delivery.acm.org/10.1145/1090000/1086141/p168-berzowska.pdf?key1=1086141&key2=5241563811&coll=&dl=ACM&CFID=15151515&FTOKEN=6184618 Media report (King, Mike, The Gazette, 5 October 2006): http://www.canada.com/montrealgazette/news/business/story.html?id=c4f6e477-734f-4028-8ad7-dae7c0f8dc7e&k=18251&p=1</p> <hr/> <p>Berzowska, Joanna (Personal website): http://www.berzowska.com/</p> <hr/> <p>Paper: http://www.xslabs.net/papers/iffi07-berzowska-LC.pdf</p>
2	<p>Gotfrit, Martin S., <i>Computational poetics: logic machines and creative process</i></p> <div data-bbox="277 1108 537 1329" style="border: 1px solid black; padding: 5px;"> <p>Keywords: computational poetics; creativity; process; encoding practice; composition; performance; narrative; sound; music; moving-image; programming; new-media</p> </div>	<p>Project website: http://www.sfu.ca/chaosmos/ Project description: http://www.sfu.ca/~gotfrit/current_projects_cp.htm</p> <hr/> <p>Gotfrit, Martin S.: http://www.sfu.ca/~gotfrit/</p> <hr/> <p>Workshop program (17-20 May 2006): http://gaia.iat.sfu.ca/~chaosmos/extras/frames_menu/CPPProgramS.pdf</p>
3	<p>Irwin, Rita L., <i>The city of rich gate: research and creation into community-engaged arts practices</i></p> <div data-bbox="277 1507 537 1728" style="border: 1px solid black; padding: 5px;"> <p>Keywords: community-engaged arts; arts-based research; Chinese-Canadian diaspora; identity and community; hybrid cultures; shifting conceptions of landscape; place and community</p> </div>	<p>Group website: http://m1.cust.educ.ubc.ca/Artography/ Project description: http://cust.educ.ubc.ca/projects/randdpros/RichGate.doc Media report (19 March 2007): http://www.richmond.ca/news/city/richgate.htm</p> <hr/> <p>Paper: http://cust.educ.ubc.ca/whatsnew/Papers/STUDIES%20-%20EXHIBITION%20D.pdf Conference presentation: http://m1.cust.educ.ubc.ca/Artography/img/pptRichgate.ppt Conference presentation: http://m1.cust.educ.ubc.ca/Artography/data/Bristol2007.ppt3.ppt</p>
4	<p>Mahon, Patrick L., <i>Art and cold cash</i></p> <div data-bbox="277 1843 537 1896" style="border: 1px solid black; padding: 5px;"> <p>Keywords: visual art; Inuit; First Nations; Arctic</p> </div>	<p>Project website: http://www.artcoldcash.ca/ Project description: http://a06.cgpublisher.com/proposals/600/index_html</p> <hr/> <p>Mahon, Patrick L.: http://www.uwo.ca/visarts/html/faculty_mahon.html</p>

	<p>Canada; money; commodity; collaboration; cross-cultural; North-South dialogue; drawing; wealth; audio; video; airports</p>	<p>Media report: http://www.fusemagazine.org/TOC/TOC28_3.pdf Review: http://amigomotel.blogspot.com/2007_02_24_archive.html University of Western Ontario media report (21 April 2004): http://communications.uwo.ca/media_newsroom/memo.html?listing_id=13214 Conference description: http://a07.cgpublisher.com/proposals/43/index_html</p>
5	<p>Nicol, Nancy E., <i>From human rights to relationship recognition</i></p> <p><i>Keywords:</i> relationship recognition; lesbian and gay rights; social movements; lesbian and gay history; documentary; Canada</p>	<p>Project website: http://www.yorku.ca/nnicol/documentary/index.html</p> <p>Nicol, Nancy E.: http://www.yorku.ca/finearts/faculty/profs/nicol.htm (Personal website): http://www.yorku.ca/nnicol/</p> <p>Google cache on festival screening discussion: http://www.insideout.on.ca/17Annual/search_details.cfm?filmDetails=YES&title=Politics% Exhibition: http://www.torontopubliclibrary.ca/pro_trl_coming_together.jsp Review: http://www.jamesweggreview.org/reviews/filmDVDvideo/politics_of_the_heart.html Festival screening: http://www.vuesdenface.com/edition2008/fr/la_politique_du_coeur.html Screening and discussion forum (York University, 11 and 18 October 2006): http://www.yorku.ca/alumni/alumnimatters/nov-06/am_nov-06_samesexForums.php</p>
6	<p>Soar, Matthew A., <i>The cultural lives of the logo: critical aid and creative explorations of trademarks and branding devices in a hypercommercial media environment</i></p> <p><i>Keywords:</i> media; culture; ideology; representation; visual culture; hypercommercialism; cultural production; graphic design; typography; logos; branding devices; trademarks; corporate identity; textual analysis; ethnography; media literacy; recontextualization</p>	<p>Project website: http://www.logocities.org/ Brand Hype: http://www.brandhype.org/MovieMapper/index.jsp</p> <p>Soar, Matthew: http://artsandscience1.concordia.ca/comm/faculty/soar.html (Personal website): http://www.mattsoar.org/</p> <p>Media report: http://cjournal.concordia.ca/journalarchives/2006-07/may_24/011135.shtml Concordia University media report (21 April 2005): http://ctr.concordia.ca/2004-05/apr_21/03/ Symposium (Logo Cities: An International Symposium on Signage, Branding, and Lettering in Public Space, Montréal, 4-5 May 2007): http://www.logocities.org/symposium</p>
7	<p>Sullivan, Rosemary, <i>Villa Air-Bel: waiting for freedom</i></p> <p><i>Keywords:</i> biography; creative writing; artists; refugees; human rights</p>	<p>Villa Air-Bel: Wold War II, Escape, and a House in Marseilles (Harper Collins Canada, 2006): http://www.harpercollins.ca/global_scripts/product_catalog/book_xml.asp?isbn=0060732504</p> <p>Sullivan, Rosemary: http://www.rosemarysullivan.com/</p> <p>Review by Charles Derner (rabble.ca): http://rabble.ca/reviews/review.shtml?x=56487 Essay: http://www.rosemarysullivan.com/vab_essay.html</p>

*Note: Web sources additional to the original SSHRC web scan are shown in italics.

2005 Grant Recipients

	Researcher, Project Title, Keywords	Web resources (Project, Investigators, Related)*
1	<p>Cormier, Anne, <i>Le logement social comme espace de création, d'innovation et de critique dans les centres-villes canadiens</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Keywords:</i> logement social; création; architecture de centre-ville; innovation technologique et développement durable; habitation et logement; concours d'architecture et d'urbanisme</p> </div>	<p>Project website : http://www.leap.umontreal.ca/fr/projets/idx_logement.htm Laboratoire d'étude de l'architecture potentielle: http://www.leap.umontreal.ca/ Competition winners: http://www.leap.umontreal.ca/fr/projets/idx_logement.htm Competition catalogue: http://www.leap.umontreal.ca/fr/projets/idx_logement.htm 2007 competition: http://www.leap.umontreal.ca/en/projets/idx_Concours.htm</p> <hr/> <p>Cormier, Anne: http://www.arc.umontreal.ca/coordonnees/profs.html (at L.E.A.P.): http://www.leap.umontreal.ca/fr/2_memb/index_cherch.htm</p> <hr/> <p>Media report (Canadian Architect, February 2007): http://www.canadianarchitect.com/issues/ISarticle.asp?id=183238&story_id=104093918&issue=02012007&PC</p>
2	<p>Époque, Martine, <i>No body, nobody, un sacre du printemps en info-chorégraphie de particules pour l'écran 2D et 3D</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Keywords:</i> infochorégraphie; danse virtuelle; capture du mouvement; cinéma d'animation 3D; nouvelles écritures chorégraphiques; danse et technologies</p> </div>	<p>Laboratoire d'applications et de recherches en technochorégraphie: http://www.unites.uqam.ca/lart/</p> <p>Project description: http://www.hexagram.org/spip.php?page=project_file&lang=fr&sid=2&id_rubrique=3&id_article=250</p> <hr/> <p>Époque, Martine: http://www.unites.uqam.ca/danse/mEpoque.htm</p> <hr/> <p>Media report: http://www.oinm.org/champs/a_scn_danse/Danser%20sans%20corps.pdf Media report: www.uqam.ca/entrevues/2007/e2007-173.htm</p>
3	<p>Nisbet, Nancy D., <i>Exchange: artistic inquiry through performance and resistance</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Keywords:</i> cross-border new genre performance; radio frequency identification technology; national security; North American trade policies; retail commodities vs personal belongings; human surveillance; commercial transportation industry; human rights</p> </div>	<p>Project website: http://www.exchangeproject.ca/ Essay (Rhizomes.net, Fall 2006): http://www.rhizomes.net/issue13/nisbet/index.html</p> <hr/> <p>Nisbet, Nancy D.: http://ahva.ubc.ca/facultyIntroDisplay.cfm?InstrID=11&FacultyID=2 (Personal website): http://www.ahva.ubc.ca/nnisbet/</p> <hr/> <p>Project launch (Richmond Art Gallery): http://www.richmondartgallery.org/archive_2006/nancy-nisbet.php</p> <p>Newspaper article (National Post, 25 May 2006): http://www.canada.com/nationalpost/news/artslife/story.html?id=f837b7d3-4a81-423f-afe6-607f689d9077</p> <p>Media report (NJE Consulting, 2006): http://www.nje.ca/Index_CaseStudy_Exchange2006.htm</p> <p>Media report (ITbusiness.ca, Canadian Technology News, 20 March 2006): http://www.itbusiness.ca/it/client/en/home/News.asp?id=38761&cid=5</p> <p>Event photographs in Champaign, IL (31 May 2006): http://opensource.boxwith.com/archives/000066.html</p>

4	<p>Rudakoff, Judith, <i>Common plants: cross pollinations in hybrid reality</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Keywords:</i> theatre; drama; culture; multiculturalism; technology</p> </div>	<p>Project website: http://www.yorku.ca/gardens/</p> <hr/> <p>Rudakoff, Judith: http://www.yorku.ca/finearts/faculty/profs/rudakoff.htm (Blog): http://jrudakoff.livejournal.com/</p> <hr/> <p>Media report: http://www.yorku.ca/yfile/archive/index.asp?Article=7492 Media report: http://imprint.uwaterloo.ca/index.php?option=com_content&task=view&id=1581&issuedate=2007-07-27</p>
5	<p>Tenzer, Michael S., <i>A triptych of compositions combining Indonesian and western Music</i></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Keywords:</i> music composition; cross-cultural performance; ethnomusicology; music theory</p> </div>	<p>Project description: http://www.arts.ubc.ca/index.php?id=467&backPID=472&tt_news=35 The School of Music at the University of British Columbia newsletter (Winter 2006/2007, pg. 8): http://www.music.ubc.ca/fileadmin/template/main/images/departments/music/high_notes/highnotes_06_07.pdf</p> <hr/> <p>Tenzer, Michael S. (Personal website): http://www.michaeltenzer.com/</p> <hr/> <p>Related film description: http://www.redletterfilms.com/production_05.php?lang=en</p>

*Note: Web sources additional to the original SSHRC web scan are shown in italics.