Electronic Thesis and Dissertation Repository

8-2-2017 12:00 AM

Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks

Clara I. Tascon, *The University of Western Ontario*

Supervisor: Dr. Marianne A. Larsen, *The University of Western Ontario*
Co-Supervisor: Dr. Paul Tarc, *The University of Western Ontario*
A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Education
© Clara I. Tascon 2017

Follow this and additional works at: https://ir.lib.uwo.ca/etd

Part of the Higher Education Commons, and the International and Comparative Education Commons

Abstract

Given the increasing interconnectivity in today's globalized world, academics from different disciplines, countries, generations, and cultural backgrounds are urged to work together on common research projects that cross national boundaries. Producing knowledge in collaboration with other scholars internationally has the potential to create rich and groundbreaking research practices to understand complex phenomena. Thus, it is crucial to have a clear understanding of international research collaboration (IRC) among scholars and how this transnational initiative contributes to knowledge production. The theoretical framework of this study draws upon 'post-foundational' spatial approaches to inform the analysis of my findings. Post-foundational approaches engage with epistemological pluralism to overcome exclusions and misunderstandings whilst studying IRC knowledge production in different contextual realities. Spatiality approaches illuminate the notion of transnational space as relational, mobile, heterogeneous, and socially produced, which is made up interconnections. This is a multiple-case study that explores and compares practices of IRC knowledge production within and across three distinct research networks, which are linked to universities in two geographical sites, Canada and Colombia. This study involves two methodological approaches: Qualitative social network analysis (SNA) helps to map the configuration of the three distinct research networks and the interconnections between network's actors, as practices of IRC knowledge production. Foucauldian discourse analysis informs the analysis of my findings to disclose the underpinning disciplinary/interdisciplinary discourses of IRC knowledge production within the networks. This analysis contributes to unveil

power/knowledge relations entangled in global/local flows and disjunctures as enablers

and constraints of IRC knowledge production. It also helps to illustrate the uneven terrain

in which the three research networks are situated. Participants in the three networks

include professors, students, and staff members from the universities to which these

research networks are tied. Data sources comprise semi-structured interviews and

research and policy documents. The study aims addressing a gap in the literature

regarding international comparative studies, which explore new qualitative venues from a

critical perspective on practices of knowledge production in IRC. It brings new insights

about the qualitative nature of these practices to other researchers and policy makers who

are interested in internationalization of higher education, specifically in IRC.

Keywords: knowledge production, international research collaboration, transnational
space, research network, comparative and international education, internationalization of
higher education

Acknowledgements

I would like to express my gratitude to many people who accompanied my doctoral journey and contributed to this dissertation. First, I would like to acknowledge the members of the three Canadian and Colombian research networks who participated in my study. They were generous in bringing their experiences and thoughts to my research.

My supervisor, Dr. Marianne Larsen, was an excellent mentor who provided a rich space for discussions and guidance that helped me to find my own way of approaching my research. My co-supervisor, Dr. Paul Tarc, brought insightful questions, comments, and suggestions to my work. Dr. Melody Viczko contributed significantly to my knowledge regarding the internationalization policies of higher education in Canada.

I would like to thank you my doctoral fellows and friends with whom I shared my research process, and who always expressed their interest in my research.

I am grateful for the support I received from the University of Western Ontario Graduate Student Scholarship, Global Opportunities Award, and the Internal Grants from the Faculty of Education, which contributed to my doctoral studies and in particular to my research. I also want to extend my gratitude to the Graduate Office staff at the Faculty of Education for their assistance during those years.

I am blessed to have my family, my husband Carlos and my daughters Adriana and Susana, who supported me unconditionally while I was working on my dissertation and were very enthusiastic about my doctoral research.

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Abbreviations

AHCI	Arts & Humanities Citation Index
ASCUN	Asociación Colombiana de Universidades (Colombian Association of Universities)
IDB	Inter-American Development Bank
CLACSO	Consejo Latinoamericano de Ciencias Sociales (Latin American Council of Social Sciences)
COLCIENCIAS	Departamento Administrativo de Ciencia, Tecnología e innovación (Administrative Department of Science, Technology, and Innovation)
CAResNet	Canadian Research Network
CBIE	Canadian Bureau for International Education
CCYK	Colombia Challenge Your Knowledge
CMEC	Council of Ministers of Education, Canada
CIHR	Canadian Institutes of Health Research
CIM	Canadian Institute of Management
COResNets	Colombian Research Networks
COPubResNet	Colombian Public Research Network
COPriResNet	Colombian Private Research Network
GDP	Gross Domestic Product
DFATD	Department of Foreign Affairs, Trade and Development Canada
ICT	Information and Communication Technologies
IRC	International Research Collaboration
ISI	Institute for Scientific Information
MinEducación	Ministerio de Educación Nacional, Colombia (Ministry of National Education –Colombia)
MinCultura	Ministerio de Cultura, Colombia (Ministry of Culture –Colombia)
NSERC	Natural Sciences and Engineering Research Council of Canada

OCyT	Observatorio Colombiano de Ciencia y Tecnología (Colombian Observatory of Science and Technology)
SSHRC	Social Sciences and Humanities Research Council of Canada
SSCI	Social Sciences Citation Index
SCOPUS	The largest abstract and citation database of peer-reviewed literature (Elsevier's SCOPUS)
UNESCO	United Nations Educational, Scientific and Cultural Organization
Wok	Web of Knowledge

Chapter 1: Introduction

In today's globalized world, academics from different disciplines, countries, generations, and cultural backgrounds are urged to work together on common research projects that cross national boundaries. Producing knowledge in connection with other scholars transnationally has the potential to produce richer, more nuanced research to understand complex phenomena. Given that increasing numbers of academics engaged in international research collaboration (IRC) (Mohrman, Ma & Baker, 2008), it is crucial to have a clear understanding of these international initiatives and how they contribute to knowledge production.

IRC is a complex phenomenon of the internationalization of higher education that transcends more traditional activities such as co-publishing. It involves diverse processes and practices of knowledge production where academics share ideas, resources, and co-construct knowledge. IRC has its origins back in the middle of the seventeenth (17th) century when academics started to communicate and share their research interest through letters transnationally (Solla Price, 1963). Currently, advances in information and communications technologies (ITC) have sped up the interconnectivity among academics across the globe bringing new possibilities and resources to develop transnational initiatives of knowledge production. This interconnectivity amongst academics goes beyond national and institutional boundaries where research networks are created. Indeed, global/local flows of ideas, academics, policies, and resources (Appadurai, 1996; Castells, 1996) circulate through these networks in transnational space. Moreover,

knowledge production in IRC is never a neutral process. It involves power/knowledge relations entwined in disciplinary/interdisciplinary discourses (Foucault, 1980, 1996) that crisscross global/local interconnections.

To understand how knowledge is produced in IRC entails careful, detailed and contextualized studies of these transnational practices among academics engaged in research projects in our globalized and interconnected world. Hence, in this dissertation, I explore and compare practices of IRC knowledge production within three distinct research networks linked to three universities in two geographical sites, Canada and Colombia.

Context

In this dissertation I analyze and compare three distinct research networks linked to their relational contexts (universities and countries –Canada and Colombia, to which each network is tied) and to the global landscape. The Canadian research network (CAResNet) is large and included 35 scholars. The two Colombian research networks are smaller. One is tied to a public university (COPubResNet) and the other to a private university (COPriResNet). They are made up of eight and seven scholars respectively. Each of these research networks focuses on Hispanic and pre-Hispanic studies and includes scholars from diverse disciplines, countries, generations (professors and students), and cultural backgrounds. The three research networks are not connected to each other. In the findings chapters (five and six) and discussion chapter (seven), I describe in detail and analyze respectively the configuration of each research network,

the specific characteristics of their relational contexts, and their interconnectivity with a global landscape.

Purpose of the Study

With this study, I aim to demonstrate how knowledge is produced in IRC, within three distinct research networks linked to their relational contexts (universities and countries –Canada and Colombia), and to the global landscape. This wide scope allows me to demonstrate the relational and socially productive capacity of space where the interconnectivity among direct (academics) and indirect actors (staff members and other networks) creates the research networks and produces IRC knowledge in transnational space. Also, I examine how this interconnectivity within and beyond the networks influence their work through global/local flows of ideas, academics, policies, and resources, as well as disjunctures as enablers and constraints of IRC knowledge production. I analyze and compare nuanced practices of IRC knowledge production of these networks, as well as the underpinning discourses that constitute power/knowledge relations and shape the work of the networks. Thus, the purposes of this comparative study are:

1. To map the actors involved in each of these research networks.

2. To map the connections, which represent practices and activities of knowledge production in IRC

3. To analyze underpinning discourses made up of power/knowledge relations entangled in different global/local flows of ideas, people, policies, and resources,

as well as disjunctures as enablers and constraints that circulate within the three research networks and in connection to their relational contexts, and the global landscape (e.g. Socio-politic, economic, scientific, cultural).

4.   To understand the effects of IRC.

Research Questions

The main research question guiding this study was: "How is knowledge produced within IRC in and across three Canadian and Colombian research networks?" The specific research questions were: Who are the actors involved in IRC in their respective research networks? How are they engaged in IRC? What influences the processes of knowledge production in IRC? What are the enablers and constraints? What are the contexts (e.g. socio-politic, economic, scientific, cultural)? What are the effects of IRC?

This was an interpretivist, qualitative multiple-case study using social networks analysis (SNA); methods to collect, analyze, and compare my data. The data collection tools for the study included semi-structured interviews with 24 participants and an analysis of relevant policy documents.

Significance of the Study

This study is a way of providing insights about nuanced practices of knowledge production in IRC. The post-foundational spatial theoretical framework and methodological approaches and methods I use in this study open opportunities to explore fresh venues of qualitative inquiry looking at interconnections, networks, flows, disjunctures, and underpinning discourses that effect IRC knowledge production in

transnational space. There is an increasing interest in IRC knowledge production from the government and universities in many countries. With the push to internationalize higher education institutions, scholars across the globe face pressure to produce knowledge, publish, and engage in IRC to propel research universities' status and to compete for the highest positions in global university ranking systems (Larsen, 2016; Mohrman, Ma & Baker, 2008).

There are many studies about knowledge production in IRC using large-scale and quantitative network's methods to measure co-publications, but it is worth noting that not all collaborations will result in co-publications (Adams, Gurney & Marshall, 2007; Finkelstein, Walker, & Chen, 2009; Katz & Martin, 1997). In a world of interconnections, networks, flows and disjunctures, scholars share, discuss, and co-create knowledge in diverse ways engaging in multiple practices of IRC knowledge production. However, there is little knowledge about these practices and what are their effects in contextual realities. There is also lack of critique and reflection on models and practices regarding these international initiatives (i.e., Mauthner & Doucet, 2008; Smith & Katz, 2000; Sonnenwald, 2007; Wasser & Bresler, 1996). In particular, there is a gap in comparative studies about IRC knowledge production in Latin America and Canada (Beck, 2012; de Wit, Jaramillo, Gacel-Ávila & Knight, 2005).

This study is significant because I have used innovative ways to approach practices of knowledge production in IRC through social network analysis whilst engaging with a post-foundational spatial theoretical framework. It brings new insights about the qualitative nature of these practices and allows me to engage with my theoretical framework to examine and discuss my findings. Using Foucauldian discourse

analysis in my study facilitates not only to understand the work of the networks and their practices of IRC knowledge production, but also to demonstrate the uneven terrain where these networks are situated in the global landscape. This provides a non-linear approach to understanding the complexities of IRC knowledge production, analyzing the various ways in which scholars engage in these transnational initiatives, and unveiling the multiple flows and disjunctures that affect the work of the research networks. Hence, this study is useful to researchers not only in the field of comparative and international education, but also to those interested in qualitative inquiry and policy makers who focus on the internationalization of higher education, specifically in IRC knowledge production.

Positionality

As mentioned, this study includes findings from three research networks linked to three universities in two geographical sites, Canada and Colombia. I chose these research networks linked to these two countries, Canada and Colombia according to the following criteria: I searched for research networks that were linked to research-intensive universities in two geographical sites, included various academics engaged in IRC knowledge production, and were focused on Hispanic and/or pre-Hispanic studies. I included one Canadian research network since it is significantly large and two Colombian research networks due to their smaller size and their particular linkage to a public and a private university, which represent differences within this country. These criteria allowed me to select the networks, and then gather data, analyze, and compare practices of IRC knowledge production amongst them.

I undertook my undergraduate and graduate studies in Colombia, which is my country of origin. Also, I worked in several universities in that country and focused on research and teaching research methodology, for many years. Canada is the country where I settled ten years ago, where I am currently a doctoral candidate, and have had experience as a researcher and higher education instructor. Having the experience of living in both countries –Canada and Colombia, studying and working in a higher education environment here and there, and speaking both languages English and Spanish, provided me with the opportunity to approach both sites with confidence, respect, and understanding.

All these favorable conditions have made me feel very fortunate whilst doing my study. I really meant to do a comparative and international study since I had the opportunity to do so. I wanted to bring a closer and fresh view of scholars' work in Hispanic and pre-Hispanic studies from both sites and explore new ways to do qualitative research transgressing traditional models in comparative and international education. This is why I engaged with my post-foundational spatial theoretical framework to inform my study and used qualitative social network analysis (SNA) as a methodological approach.

Notwithstanding these favourable conditions including my capability of mobility, fluent communication with participants, access to relevant documents in both geographical sites, and enabled to fully complete my research, I have questioned my positionality during my journey in this study with the purpose to understand: Where do I situate myself as a researcher in this study? Considering my critical and reflective worldview, and in particular, my post-foundational spatial philosophical assumptions whilst doing qualitative research, my positionality transgresses the binary divide of

'insider' and 'outsider' researcher, which has also been recently revisited by some scholars in comparative and international education (i.e. Crossley, Arthur, and McNess, 2016). In the same way that I understand the world as a relational, mobile, and socially produced in transnational space, which is made up interconnections, flows, disjunctures, and networks, my positionality aligns with Dyer's (2016) assertion. She states that "there is fluidity, reflection, and recognition that researchers move in and out of spaces along a dynamic continuum, and that their identities may thus be better characterized –such as 'alongsider' or 'inbetweener'" (p. 10), rather than insider and outsider. However, being an alongsider or inbetweener implies a building process that comes with time. The opportunity to live, work, and study in these two settings has made me more open-minded and aware of cultural differences (Bennett, 2004). In this study, I situate myself as an inbetweener researcher with a clear conviction that permanent self-reflection has helped me to better engage with various kinds of differences in both geographical sites. This view shifts the idea of identity only in relation to culture and also allows for the understanding of commonalities that academic contexts and scholars have in our interconnected world.

Organization of the Study

This study consists of eight chapters. The next Chapter (2) comprises a comprehensive literature review where I include studies about analysis and measurement of IRC and knowledge production; conceptualization and contributing factors of IRC; experiences of those engaging in IRC; and mobility, space, flows, disjunctures, and networks. Chapter 3 presents my post-foundational spatial theoretical framework that informs the analysis of my findings. Post-foundational approaches in my research involve

theoretical perspectives from postmodernism, postcolonialism, and poststructuralism. Chapter 4 presents the qualitative methodological framework and methods I used to conduct my study where I include qualitative research, and in particular case study research; social network analysis (SNA); and methods to collect, analyze, and compare my data. Chapters 5 and 6 include the findings of this study. Chapter 5 focuses on findings related to the Canadian research network (CAResNet). Chapter 6 focuses on the two Colombian research networks (COPubResNet and COPriResNet). In Chapter 7, I present the analysis of my findings. I first situate the distinctiveness of the three research networks; then I compare the three research networks. Finally, I analyze underpinning discourses of knowledge production in IRCs drawing on Foucauldian discourse analysis. Chapter 8 is my final chapter where I present some concluding remarks about IRC knowledge production otherwise, ideas for further research, and my own journey as inbetweener researcher.

Chapter 2: Literature Review

Overview

This chapter involves an overview of literature divided in four thematic areas with the caveats that the areas do overlap. The thematic areas are as follows: first, knowledge production in IRC from a broad scope along with its usual analysis and measurement; second, conceptualization and contributing factors to IRC; third, experiences of those engaged in these international initiatives; fourth, research approaches on the mobility of researchers, research, and knowledge in transactional space, flows and networks. The latter brings a fresh and more nuanced approach to the transnational dynamics of knowledge production and knowledge sharing that turns to non-linear epistemological and ontological notions of the geographies of knowledge and policy within their interconnected global and local dynamics.

Analysis and measurement of IRC and knowledge production

Initial studies in knowledge production in IRC were inspired by Boyle's term, the 'invisible college' (de Solla Price, 1963), which was historically assigned to a group of researchers in the middle of the seventeenth century who met informally and used letters to communicate with one another to collaborate in research. In the twentieth century, some scholars started looking at these patterns of informal communication between researchers bringing to light the notions of 'scientific communities' (Kuhn, 1970; de Solla Price, 1963) and diffusion of knowledge, and knowledge growth. Among other

researchers examining this topic (Beaver & Rosen, 1978; Hicks & Katz, 1996; Katz & Martin, 1997; Smith, 1958; de Solla Price & Beaver, 1966), Crane (1971, 1972) produced an innovative study setting the baseline for further studies into research networks (Scott, 2012).

Crane (1971, 1972) identified the authors of published papers in two specialties, sociologists in the area of agricultural innovation and mathematical work. She mapped the networks according to their scientific relations: researchers' participation in informal discussions, their relations with teachers, their published collaborations (co-authorship), and the influence of academies (colleges) on the selection of research problems and methods. She found these groups as geographically dispersed networks, engaged in scientific correspondence (1971, 1972). Their loosely bounded structures of communication within a group of collaborators in scientific projects characterized them as invisible colleges.

To this extent, Crane brought to this area of research not only the notion of research network whilst mapping the connections and collaborative practices between researchers, but also the intrinsically international character of science and its goal of knowledge production. Additionally, Crane (1971) highlighted several levels of IRC "ranging from informal communication between individual researchers to multilateral agreements between governments and intergovernmental organizations (IGOs)" (p. 585).

A major trend of studies in IRC is characterized by quantitative/statistical, large-scale, or macro-level research. Researchers use co-authorship or co-publications as the main bibliometric indicator to measure and analyze knowledge production worldwide (Bukvova, 2010; Scott & Carrington, 2011; Smith, 2001; Smith & Katz, 2000;

Sonnenwald, 2007; UNESCO, 2005). This main bibliometric indicator is created using databases of co-authored scientific papers. The most complete databases are Institute for Scientific Information (ISI), Web of Knowledge (Wok), and Elsevier's SCOPUS (The largest abstract and citation database of peer-reviewed literature), which comprise peer-reviewed articles across different disciplines grouped by: the Science Citation Index (SCI), Social Sciences Citation Index (SSCI), and Arts & Humanities Citation Index (AHCI) (Leydesdorff & Wagner, 2008; Melin, 2000; Ordóñez-Matamoros, 2008; Ordóñez-Matamoros, Cozzens & Garcia, 2010; Shin, Lee, & Kim, 2013; Smith, 2001; Smith & Katz, 2000; UNESCO, 2005; Wagner, 2004; Zelnio, 2013).

Many scholars have used quantitative social network analysis (SNA) as a tool to identify connections among researchers from different nations and map the network of global science (Leydesdorff & Wagner, 2008; Shin, Lee & Kim, 2013; Wagner, 2004; Wagner & Leydesdorff, 2005). Other scholars have used mixed-methods and SNA to map transnational patterns of co-publications, diaspora networks, and/or international comparative research (Edward, 2010; Fuhse & Mützel, 2011; Marmolejo-Leyva, Perez-Angon & Rusell, 2015; Ordóñez-Matamoros et al., 2010; Ordóñez-Matamoros, 2008; Scott & Carrington, 2011; Smith & Katz, 2000; Wagner, 2004).

Only few studies in IRC exploring scientific and scholarly networks have used qualitative SNA (Crossley, Bellotti, Edwards, Everett, Koskinen & Tranmer, 2015; Hollstein, 2011; White, 2011). Other qualitative research has been done to analyze internationalization policy in higher education, as well as, studies in processes and practices of knowledge production in IRC using ethnographic and case studies, but the latter are still scarce (Bartlett et al., 2013; Bresler, 2002; Jonsen et al., 2013; Goddard,

Cranston & Billot, 2006; Wasser & Bresler, 1996). Moreover, scholars using qualitative research ague that there is a lack of reflection and critique on models and practices regarding knowledge production in IRC (Mauthner & Doucet, 2008; Wasser & Bresler, 1996). Studies in internationalization of higher education that help to better understanding of processes and practices in relation to knowledge production in IRC are particularly scarce in countries in Latin America and Canada, as well (Beck, 2012; de Wit, Jaramillo, Gacel-Ávila & Knight, 2005).

Smith and Katz's (2000) commissioned report focused on: research policy and funding in higher education in England. This report draws on literature review, bibliometric analysis, and case studies to review and contribute to the evidence-base on institutional and individual approaches to IRC. These researchers studied how HE institutions and individual researchers, from different disciplines, approached IRC in their practices. Also they examined the relationship between IRC and mission statements in HE institutions. They observed that a university's mission and rankings appeared as critical factors in institutional decision making to engage in partnership with other institutions internationally. Among other findings, the report highlighted that IRC was a rule not the exception in universities' mission statements, although IRC varied according to institutions, individuals, disciplinary fields, and countries. They pointed out that researchers did not work in isolation, but within broad and extensive research networks. They also found that partnerships were mostly determined by access to external resources. Later, in 2001, Smith emphasizes the policy interest on the role of IRC and the production of new knowledge. Based on institutional cases, his research focused on the relationship between research system and research policy. To this extent, data from these

types of studies have usually been provided to policy makers, universities, governments, and non-government organizations alike.

Notwithstanding the steadily growing trend of statistical and large-scale studies in IRC and knowledge production with attention to counting co-publications, "co-authorship is no more than a partial indicator of collaboration" (Smith & Katz, 2000, p. 1). In their study, these researchers argue that IRC is a complex and multilayered practice that is not possible to understand with co-authorship as a sole indicator. Also, many scholars assert that the relationships and collaborative activities between researchers are interwoven with political, economic, social and personal factors as well (Smith & Katz, 2000; Sonnenwald, 2007). These researchers advocate for detailed and contextualized studies to map and better understand IRC's qualities, multiple factors, benefits and challenges. Thus, there are two different themes of internationalization of higher education that involve collaboration: "collaboration on research projects with international colleagues [and] co-authorship of scholarly publications with foreign colleagues" (Finkelstein, Walker, & Chen, 2009, p.117). That is to emphasize that not all international collaborations will result in co-publications (Katz & Martin, 1997; Adams, Gurney & Marshall, 2007).

In addition, UNESCO Institute of Statistics (2005) states that the standards of the SCI, SSCI, and AHCI indicators involve advantages and disadvantages. As advantages, these measurements provide numerical information about outputs of a country or region, about disciplines, and about the concentration and kind of connections between countries, research institutions, or even individual researchers in a global scale. But these indicators also involve disadvantages or limitations in interpreting data mainly from non-

Anglophone countries (UNESCO, 2005). First there is a language bias, because English is the standard language of international publication and non-Anglophone and mainly developing countries lack resources for translation; further, since English is a second language for non-Anglophone writers, many of these authors are disadvantaged in getting articles published in international journals. Second is a thematic bias because research published in national journals examine problems of national interest, they are not always covered by other international journals. And finally, there is a 'pure-science' bias, in that coverage of the applied sciences, particularly the social and human sciences, is blinkered, which suggests that some research and development (R&D) activities are excluded from these databases altogether.

Co-authorship itself does not reveal other kinds of contributions provided by researchers in a research network, such as certain modes of data collection, fieldwork support, the organization and analysis of data, the study of results and the dissemination of the knowledge acquired. Nor does it show what kinds of factors influence IRC, or what kinds of effects this practice of IRC brings to research performance and knowledge production in local contexts (Ordóñez-Matamoros, et al., 2010; Ordóñez-Matamoros, 2008; Smith, 2001; Smith & Katz, 2000). Ordóñez-Matamoros' (2008) study focused on IRC and knowledge production using a mixed-methods approach and SNA in Colombia. His research showed not only the research productivity measured by the bibliometric indicator of co-authorship, but also the interconnections among researchers through SNA and characteristics of IRC with the participation of foreign researchers in local research groups. In this matter the study emphasized the dependency on foreign funding to groups of research and development projects. Furthermore, his study pointed to some benefits

and challenges of this complex practice in the country, but still little is known on the drivers, characteristics, processes, and impacts of IRC in Colombia (Ordóñez-Matamoros, et al., 2010; Ordóñez-Matamoros, 2008).

There are formal and informal connections among researchers through which IRC is practiced and promoted, and not all of these connections are commonly identified. For instance, studies in Latin American countries, particularly in Colombia, show that complementary information regarding IRC is missing in bibliometric databases (Meyer, Charum, Granés, & Chatelyn, 1995; Narvaez-Berthelemot, Frigoletto, & Miquel, 1992; Ordóñez-Matamoros et al. 2010; Ordóñez-Matamoros, 2008; Roa-Atkinson & Velho, 2005). Bibliometric indicators do not measure researchers' processes and practices of IRC. These indicators only measure co-publications. At the same time, some of the names on a co-authored paper might not be those responsible for the work, and therefore, those names should not appear on those publications (Katz & Martin 1997; Ordóñez-Matamoros et al., 2010). Smith and Martin (2000), point out that some researchers who collaborate on one project may decide to publish the results separately, while conversely, some researchers that have not participated in a research project initially might later embrace co-authorship in the final publication. Hence, co-publication, again, represents only a portion of the phenomenon of IRC.

It is worth noting that IRC is less common in social sciences, arts and humanities than in natural sciences (Kuhn & Weidemann, 2010). Studies in IRC with SNA in the former disciplines commonly use co-publications as a main indicator (UNESCO, 2005). Exploring IRC and patterns of communication in a research network in the fields of art and humanities, Quan-Hasse, Suarez, and Brown (2014) used SNA including a socio-

psychological approach. In their study these researchers found a greater network density and integration among members that facilitate IRC. Also, they found that "networked scholarship can entail exchange of information, insights, and advice across geographic and disciplinary boundaries within connected networks focused on thematic research questions" (p. 14). These researchers examined interconnections and practices of IRC mediated by digital media and in-person exchanges, using a different approach to study these international initiatives.

Conceptualization and contributing factors of IRC

The terms 'IRC' and 'scientific collaboration' have been commonly interchanged since research is seen as scientific research in the academy (Beaver, 2001; Bukvova, 2010; Sonnenwald, 2007). The word 'collaboration' is interchangeably used with the term 'teamwork' from a sociological approach (Beaver, 2001). Other related terms include cooperation, alliance, joint projects, and partnership; 'partnership' is increasingly used in recent literature aligned with the current market orientation of the internationalization of higher education (Andrade, de Los Reyes Lopez, & Martín, 2009; Isabelle & Heslop, 2011; Smith & Katz, 2000). However, in a general sense, the term partnership has also been used to define any kinds of established collaborative relationship between individuals and/or institutions (Zingerli, 2010). Other researchers studying IRC have also used the terms transnational and cross-country research collaboration between academics and higher education institutions (Jöns, 2009, 2007; Tejada, 2012; Obamba, 2013).

According to Katz and Martin (1997) and Smith and Katz (2000), research collaboration is complex and multilayered. In a similar way, Beaver (2001) annotate that

"the number of conclusions, caveats, and potential research problems connected with studying collaboration in scientific research is enormous" (376). Many scholars point out that research collaboration can take many forms, which also depends on the disciplinary or interdisciplinary practice, their contexts, the reasons behind the collaboration, and the background of researchers (Beaver, 2001; Bukvova, 2010; Katz & Martin, 1997; Morrison, Dobbie & McDonald, 2003; Smith, 2001; Smith & Katz, 2000; Sonnenwald; 2007). These forms involve offering advice and participating in a section of a research activity; sharing ideas in conferences and other meetings; communicating by e-mail; providing some pertinent material or papers; visiting foreign laboratories or research facilities; in a greater extent, sharing unique data sources, or data; performing parts of a project and integrating the results; co-authoring a paper; and so on (Davidson, Frame & Carpenter, 1979; Katz & Martin, 1997; Melin, 2000; Smith and Katz, 2000; Wagner, Brahmakulam, Jackson, Wong & Yoda, 2001). Sonnenwald (2007) emphasizes that different types of information and communication technologies (ICT) used may also influence the forms that IRC take. He cites as examples the contribution systems, virtual communities of practice, virtual learning communities, distributed research centers, and community infrastructure projects often associated with IRC.

Taking into consideration that IRC is understood as a complex and multilayered practice it includes multiple meanings in different contexts (Smith & Katz, 2000). Katz and Martin (1997) posit as a general definition that IRC "could be defined as the working together of researchers to achieve the common goal of producing new scientific knowledge" (p. 7). Also, as several scholars pointed out, this practice of IRC can be established between individuals, groups, institutions, government and non-government

organizations by means of transnational initiatives. Therefore, there are different actors and networks interwoven within IRC practices that embrace formal and informal linkages as well. In this way, three basic forms make up IRC: inter-personal collaboration, group collaboration, and corporate collaboration (Smith, 2001; Smith & Katz, 2000).

Inter-personal collaboration is usually informal and highly adaptable; it ranges from disciplinary, multidisciplinary, to interdisciplinary relationships between former or current colleagues. Group collaboration is similar to the inter-personal collaboration but more formal. Groups usually have a contract and a shared project funded. The research group can also be inter-or multi-disciplinary. Finally, corporate collaboration or partnership is the most formal. These partnerships include "the creation of joint research infrastructure, arrangements for linking academic and institutional research interests, and a variety of teaching studentships/ research fellowships" (Smith, 2001, p. 145). These corporate partnerships are usually tied to government or agency purposes with a market orientation. Landry, Traore and Godin's (1996) study examines different kinds of collaborative research, such as between university researchers, university researchers and industry, university researchers and other institutions, and university researcher's co-authorship in international journals. These authors' study informs not only about various forms of IRC, but in particular, the government's interest in supporting partnerships between the academy and the industry.

A number of researchers dedicate their studies to understanding the meanings of, and/or to conceptualize IRC. It is worth noting that there are coexisting convergent and divergent viewpoints in studying this topic that rest on distinctive disciplinary and contextual approaches (Beaver, 2001; Bukvova, 2010; Gazni, Sugimoto & Didegah,

2012; Isabelle & Heslop, 2011; Lasthiotakis, Sigurdson & Sá, 2013; Melin, 2000; Ordóñez-Matamoros et al., 2010; Ordóñez-Matamoros, 2008; Shin, Lee & Kim, 2013; Smith, 2001; Smith & Katz, 2000; Sonnenwald, 2007; Wagner, 2004; Zelnio, 2013). Beaver's (2001) studies explored the meaning of collaborations, including their formation, typical size of a collaboration, credit allocation, impact of emails, and impact of research productivity. This study revealed detailed information about the motives that drive IRC practices, which has also been explored by Smith and Katz (2000), and Smith (2001). Beaver (2001) argues that research collaboration is directly correlated to research productivity. He (2001) argues that IRC practices enhance researchers' knowledge production. Studying this phenomenon from a different perspective, Shin, Lee, and Kim (2013) argue that interdisciplinary IRC offers a broader view and a better understanding of a specific phenomenon. Geographical proximity, common language, and historical ties (including prior colonial relationships) can facilitate IRC, as well (Wagner et al., 2001).

There are multiple motivations to begin collaborative research that can originate with an informal conversation between two individuals (Smith, 2001). Conferences and ongoing contact with former professors and colleagues abroad are the most frequent motives to generate and maintain IRC (Jacob & Meek, 2013; Wagner et al., 2001). As a social process, collaboration can entail many motivational factors, as many participants are involved. Among these factors are the following: the need to share and learn knowledge and skills from researchers with different perspectives and experiences; a shared interest in the research problem; the need to share resources and /or funding; the need for a formal division of labour; to obtain interdisciplinary and /or cross-cultural knowledge and experience; to embrace a specific interdisciplinary or international

project; to pursue higher quality and or productivity; to gain prestige and elevate academic status (Beaver, 2001; Beaver & Rosen, 1978; Bukvova, 2010; Katz & Martin, 1997; Melin, 2000; Sonnenwald, 2007).

In addition, there are both external and internal factors that intervene in IRC (Zelnio, 2013). The external factors comprise political, economic, and scientific forces that exert pressure on researchers and shape the environment in which IRC is to be performed (Sonnenwald, 2007). Particularly, the political and diplomatic international dimensions of IRC become increasingly important to solve global problems and boost the knowledge economy worldwide (The Royal Society, 2011; Sonnenwald, 2007). To this extent, two way-collaborations are enhanced between nations including a partner from a "neutral country" (Sonnenwald, 2007, p. 652). Economic factors have a significant impact in IRC, as well. A major success in IRC is observed when each participating researcher provides and receives resources from funding or in-kind resources (Sonnenwald, 2007). Scientific factors include the opportunity to gain access to specialized instruments, laboratories, and other kinds of knowledge and expertise that foreign researchers require and reach in different contexts according to their scientific needs. The spread of globalization and the advances in ICT play a crucial role in knowledge production and mobilization and facilitate local and global researchers' interconnections (Stier, 2004).

On the other hand, internal factors shape the organization of the research community, IRC and its collaborative processes and practices. These factors involve characteristics of the research networks/scientific communities from where new forms of knowledge can emerge when people work together (Zittoun, Baucal, Cornish & Gillespie,

2007). Internal factors comprise social networks and personal aspects. According to Sonnenwald (2007), "scientists look to their social networks both for ideas regarding new research projects and in order to identify and select collaborators" (p. 655). Usually, researchers collaborate and might co-publish if they have a co-author in common; or, authors that both have been reviewed on a specific topic or research problem might come together. Mutual respect, trust, compatible working styles have also been identified as personal factors that contribute to long-lasting IRCs (Wasser & Bresler 1996). As a result, to understand what IRC comprises, and what factors affect its qualities, it is important to review not only the production of journal articles and books as the most tangible results. Also, it is imperative to look at less tangible factors that come along with the variety of activities shared by researchers from different settings and in different forms according to institutional and researchers' interests.

Experiences of those engaging in IRC

Researchers studying knowledge production in IRC have focused on a number of key questions such as: What kind of processes and activities does a research group develop during the period of a collaborative study? What do researchers' interactions with other researchers embody in interpretive processes and the co-construction of knowledge? What foundational ways of thinking as modes of knowledge production does a collaborative research group enact? How do individuals bring their own interpretations to the fore in a group performance? How are individual voices manifested in the final result? As Smith (2001) states, in many cases the creation of new knowledge emerges when researchers share insights, esoteric knowledge, and complementary skills and expertise.

Wasser and Bresler (1996) as educationalists, focus on the interpretive process and group dynamics in IRC. Emphasizing the lack of literature on this topic, these researchers formulate the concept of

> the interpretive zone which [they] use as a mental placeholder for the location of group interpretive work… The interpretive zone is the place where multiple viewpoints are held in dynamic tension as a group seeks to make sense of fieldwork issues and meanings. (p. 6)

These researchers use their own case study to work on the interpretive zone as a methodological tool to analyze how different researchers participate and co-construct knowledge. Also, these educationalists analyze the individual and social processes of interpretation that shape the group's epistemology/(ies) in the construction of knowledge. In this way, these researchers formulate "the notion of interpretive zone as a means of describing the "space" in which collaborative interpretation unfolds" (p.14). Also, Wasser and Bresler (1996) argue that processes of interpretation cannot be separated from matters of values, which are directly connected to historical, political, economic, and socio-cultural conditions in IRC. Therefore, "different ways of constructing knowledge produce different kinds of knowledge" (p. 6). They refer to technical and procedural characteristics of group work, their methodological tools, the role each member plays, the different specialties members might have, the distribution of leadership, and the coexistence of multiple voices, power, and status. All of these features affect the interpretive process.

In the process of the meaning making during the fieldwork, ideas are explored, considered, rejected, rewritten, fixed and held in the interpretive zone where also disciplinary and institutional conditions take place. Thus, Wasser and Bresler (1996) point to critical methodological questions of collective interpretation and meaning such

as the relevance and implications of consensus. The coexistence of multiple voices implies overlapping assumptions and different discourses and are illustrative of the complexity of IRC. The interpretive zone that they highlight implies the acknowledgement of ethical negotiations constituted by multiple selves and multiple others (Wasser & Bresler, 1996).

In addition, Bresler (2002) developed a unique study of being an outsider and/or insider in an IRC group. She emphasizes that the knowledge, experience, and beliefs of those participating in collaborative research interact in a way to create new understandings and to forge new meanings. Bresler (2002) states that working collaboratively intensifies the process of interpretation that then shifts the idea of the isolated to a socially embedded researcher, grounded in social interactions. The term 'zones' is understood here as unsettled locations, areas of overlap or contestation implying dynamic processes of exchange, transaction, and transformation. The nature of interpretive zone depends on the context and the characteristics of the collaborative interactions that are emphasized on a specific research.

There are other studies that examine experiences of researchers in IRC and the collaborative construction of knowledge. For instance, using a reflexive auto-ethnography approach, a group of scholars that are all members of a network explored the dynamics of how they worked together, what kinds of social and intellectual processes they engaged in, and the way they achieved research outcomes in IRC (Jonsen et al., 2013). This group of researchers emphasizes that IRC comprises several different intersecting processes that have been underexplored. Among others, these processes include: division of tasks, group support, and the construction of meaning through intra-

group dialogue. Jonsen et al. (2013) highlight different activities in the process of IRC (e.g., face-to-face meetings, workshops, process of data collection and analysis, writings), their interactions with other indirect members of the network, and the several learned lessons that emerge from this practice. They also point out tensions generated by language and workload matters, as well as group identification and task interdependence that challenged the group processes. These researchers emphasize that in the processes of research and writing it is essential to be aware of the complexity of IRC.

Bartlett et al. (2013) contributed another study focused on the process of IRC in relation to the experience of members of a group from several different countries at different stages in their academic careers. This research focused on the benefits of their IRC and the major obstacles the group confronted during the process of the study. These researchers found as a major benefit the mutual learning experience of researchers in working with partners from different backgrounds. For instance, collaboratively conducting interviews, observation, and note-taking acted as a kind of mentoring experience between those members involved in the group and doing fieldwork together. On the other hand, they found as major challenges in IRC the uneven levels of funding of researchers according to their country of origin; the constraints of mobility and time allocated to do research; the style of communication, the distribution of roles in terms of who do what, who takes the lead in the group, and what language is used to communicate and write.

In a three-country study, researchers from Australia, Canada, and New Zealand reflect upon their own experiences to examine the dynamics of the research process in IRC (Goddard, Cranston & Billot, 2006). Their study is characterized by a horizontal

collaboration among academics, which started from informal conversations around a shared intellectual interest in a conference. These researchers found that different discourses and meanings were evident in relation to some of the key concepts underpinning their research due to the different contexts (countries) where each parallel project took place. They also found different requirements and policies according to the different systems in the three countries. Differential funding and different time zones represented key challenges for the project. These researchers highlighted the need to contextualize and to explain the taken-for-granted assumptions that often trigger researchers' interpretations to better understand data, as well as to better conceptualize and theorize in each specific project. Also, they found that international collaborative relationships with different colleagues enhance confidence and academic skills, and broaden perspectives.

I have reviewed studies in knowledge production in IRC from a broad scope along with its conceptualization, measurement and analysis, as well as studies regarding experiences of those engaged in these international initiatives. However, the two kinds of studies presented are fairly dichotomous. On the one hand, the way of using statistics and SNA to map the connections between researchers and their understandings of networks' configurations usually set a macro approach based on counting co-publications with a functionalist way of thinking. On the other hand, although providing fruitful examples of contextual processes and practices of knowledge production, some studies focused on experiences of those engaged in IRC do not take into consideration a relational examination of the global dimension that network analyses do. I would acknowledge two particular studies mentioned above as exceptions: Quan-Hasse, Suarez, and Brown's

(2014) study that highlights, from a SNA approach, the characteristics of interconnections among IRC's members in a research network dedicated to the humanities; and Ordoñez-Matamoros' (2008) study who also brought a combined approach to analyze IRC using mixed methods. I will review then various studies in the next section that bring a relational approach to study practices of knowledge production in IRC including the notions of mobility, space, flows, disjunctures, and networks.

Mobility, space, flows, disjunctures, and networks

Scholars studying internationalization of higher education, and particularly knowledge production in IRC, have turned to investigate research and researchers' mobility in transnational space through flows and networks. From the 1970s and accelerating into the fast-paced 21th century, the spread of globalization aided by the advances in ICTs has increased the mobility of students and faculty in higher education. Also, these accelerated processes of ICTs and globalization have brought other academic transformations such as an increased mobilization of knowledge through IRC, open access to libraries, and online and offshore programs. A more nuanced view of interconnections and flows among researchers across borders and cultures has taken hold in the field of comparative and international education, as well as in other fields of the social sciences, arts, and humanities. The notion of flows of "ideas and ideologies, people and goods, images and messages, technologies and techniques" (Appadurai, 2000, p. 5, 1996; see also Urry, 2000) and disjunctures, through transnational networks, are key to understand current conditions of interconnectivity (Appadurai, 2000; Castells, 2010). Theorists have turned from seeing the world from a static and linear perspective to a complex and relational one, where the notion of knowledge is inflected by the significant

transformations of the spatial. The conceptualization of knowledge, mobility, space, flows, disjunctures, and networks are essential in my research, which I will develop in my post-foundational spatial theoretical framework, presented in Chapter 3.

Earlier studies in the mobility of students and professionals drawn on the notion of brain drain, meaning the migration of talent and skills as a large loss from the South, developing countries, to the North, developed countries (Fahey & Kenway, 2010a; Rizvi, 2005; Tejada, Kwankam & Pecoraro, 2007). These studies were informed by economic and development analyses under the wave of academic and professional migration from developing countries to 'knowledge centres,' universities, and big cities in developed countries. In contrast to the idea of brain drain, further studies in academic mobility turned to the notion of brain gain, brain rotation or circulation through the 'diaspora option' (Meyer & Brown, 1999; Robertson, 2006). Thus, researchers have focused on diaspora networks established by academics living abroad that foster and maintain academic and scientific ties and exchange with their country of origin (Kuznetsov 2006; Meyer & Wattiaux 2006; Meyer 2001; Meyer et al., 1997; Tejada, 2012; Tejada et al., 2007), or academics that return to their countries and keep interconnections through research networks to former colleagues and professors (Baldacchino, 2006), or researchers that circulate, going back and forth in 'transnational space' (Jöns, 2007, 2009; Kim, 2009). These studies show that there is not a standard way to understand a diaspora network. Moreover, new theorizations of mobility (Urry, 2000), space (Harvey, 2006; Lefebvre, 1991; Massey, 2005, 2009; Soja, 1989, 1996, 2009) and its intertwined flows and networks (Appadurai, 2000; Castells, 2010) transform the way we understand society and its global and local dynamics and in relation to the nation-state. In this way,

characteristics of a diaspora network and the interconnections researchers establish with their peers vary according to different factors and conditions from disciplinary/interdisciplinary fields, as well as researchers, institutions, and countries involved.

Meyer and Wattiaux (2006), studying the contributions of diaspora networks in knowledge production in IRC, concentrated their research in two cases: the Colombian network of scientists and engineers abroad–Red Caldas (Meyer & Wattiaux, 2006; Meyer, 1995, 1997, 2001; Meyer & Brown, 1999) and the South African's network of skills abroad–SANSA. These two cases and the methodological approach they used to understand IRC knowledge production inspired further studies about diaspora knowledge networks in the Asian and Indian regions. These researchers gathered a bulk of data mostly through the Internet to examine diasporic interconnections between academics. One key finding was that the main contributions of the Colombian and African diaspora networks to IRC was characterized by specialized knowledge transfer and *ad hoc* consultations on research/development projects through scientists living abroad and connecting to their home country. Also noteworthy, these researchers stated that very few of these networks remained stable for a long enough period of time to serve the home country's needs (Meyer & Wattiaux, 2006).

Later in 2012, Tejada's study of mobility and diaspora knowledge networks analyzed transnational practices of researchers and skilled professionals from Colombia, India, and South Africa living in Switzerland. She identified an institutionalized bilateral top-down scientific relationship of Switzerland with India and South Africa. In contrast, an early-established bottom-up relationship of Colombian scientists in Swiss academic

and research institutions showed a different diasporic approach. The latter provided a platform for academic exchange and circulation of the knowledge they produced promoting scientific collaboration and decentralizing knowledge production. However, lack of funding from Colombia diminished the scope and durability of this IRC (Tejada, 2012). Her analysis showed a distinct collaborative approach among researchers depending on the country of origin mediated not only by those engaged in IRC, but also by the support provided by governmental organizations. Tejada (2012) concluded that bottom-up initiatives are essential in IRC, but are also fragile if they cannot rest on institutional and governmental support.

Leung's (2013) study in academic mobility examined IRC experience of Chinese postdoctoral scholars who conducted research visits in Germany. Drawing on Bourdieu's notion of geographical mobility as a form of capital, Leung (2013) examined the lived experiences of scholars and the impact of academic mobility that can contribute or not, to their individual professional development. She emphasized, on the one hand, the need of exchanges and collaborations as significant components of scholars' work, and on the other hand, the relevance of these scholars as agents who can contribute to the production and dissemination of knowledge. However, as Leung (2013) posits, rather than provide adequate attention to researchers' knowledge contributions, institutions worldwide usually enhance mobility of researchers in ways that align with political and economic interests and competition.

In her 1954-2000 study regarding long-term effects of academic mobility to Germany, Jöns (2009) stated that the circulation of visiting scholars coming and leaving the country fostered collaborations. These collaborations helped to reestablish the

international scientific community in this country after world war two, which became a significant source for US international collaborators in the 21ˢᵗ century. Jöns (2009) emphasized the lack of these kinds of studies on circular academic mobility of post-docs and professors, which can provide better understandings of the movements of new and frequent unexpected resources for research and knowledge production in higher education. She highlighted that "the physical co-presence for an extended period of time…created many more collaborative links than the shares on international co-authorship would suggest" (p. 28). Rather than focusing on this kind of scholars' circulation, studies in internationalization of higher education have centred on student mobility (given its experience as a revenue generation steam in universities in the west).

In addition, Jöns (2009) explored how researchers' visits have underpinned the supremacy of 'centres of knowledge' within the country creating long-term international networks between different knowledge production sites. Also, she observed how the production of knowledge and power over knowledge is moving out of the control of the nation state. In a previous study Jöns (2007) drew on actor-network approach and examined three fundamental aspects of the academic mobility to Germany for a short period of time, during 1981 to 2000. Fundamental features of academic mobility include: motivations of academics to work in this country; resulting collaborations and publications; and global patterns of interactions. She focused on "the complex relationship between knowledge production and spatial movement" (p. 97) claiming that academic mobility and collaboration are influenced not only by the state, academia, and the individual, but also by transnational spatial relations of different disciplinary and interdisciplinary research practices. Thus Jöns (2007) pointed out that geography matters

in terms of patterns and motivations of academic mobility since different kinds of research practices and disciplinary knowledge that is produced in different contexts determine different spatial relations.

In a study, Baldacchino (2006) depicted the case of an academic who spent many years in the State University of New York at Albany and decided to take a full professorship back in his country of origin, the small and 'peripheral' island of Iceland. In this study the notion of brain drain is challenged since researchers' mobility and diaspora underpinned by developments in ICTs shift the static depiction of a scholar who remains in a metropolitan city to pursue her/his academic interests. On the contrary, the opportunity to use ICT allowed him, the academic at the centre of Baldacchino's study, to become a versatile and transnational mobile scholar interconnected with other academics across borders. For those researchers that can afford travel and the use of all kinds of technological support, a diaspora network and personal and knowledge mobility favour a permanent and instant connectivity with their peers. To this extent, the notion of diaspora is then shaped by the possibilities of the community that is involved and their specific conditions (Baldacchino, 2006; Rizvi, 2005; Tejada, 2012).

As with Baldacchino (2006), Rizvi (2005) emphasizes the need to re-conceptualize the notion of brain drain beyond the human-resource analyses that dominate literature on this topic. In his study, Rizvi situates his approach from a postcolonial perspective. He interviewed students from China and India in Australian and American universities. He explored the complex cultural dynamics of transnational academic mobility, which involves, on the one hand, how these students reimagine their identities, their social relationships, and their sense of loyalty; and on the other hand, how

they negotiate the complex terrains of knowledge and power. Both Baldacchino (2006) and Rizvi (2005) analyze the "in-between" (Baldacchino, 2006, p. 148; Rizvi, 2005, p. 177) space that is created in the intersection of these intercultural encounters between students' relationships, which is also called by other scholars as an alternative socially-produced "third space" (Bhabha, 1990, p. 211; see also Soja, 1996). This spatial thinking underpinned by physical and/or virtual academic mobility shifts the analysis of country-to-country migration to a focus on cross-country, cross-cultural, transnational knowledge networks (Baldacchino, 2006; Chen & Koyama, 2013; Jöns, 2007, 2009; Leung, 2013; Kim, 2009; Rizvi, 2005). In addition, although the notion of transnational space embodies a more flexible representation of academic mobility and knowledge networks, as Rizvi (2005) argues, it is not a neutral space. Rather it "is characterized by uneven distribution of opportunities and by asymmetrical flows of power" (p. 190), which in turn makes this interconnected scenario of networks of knowledge a more complex phenomenon to be analyzed. It also suggests that brain drain and brain circulation are both effectively occurring in varied ways across worldwide geographies.

Tracing out experiences of Chinese PhD and postdoctoral scholars in the USA through in-depth interviews and observations, Chen and Koyama (2013) examined their transnational academic mobility, collaborations, and linkages. These researchers also draw on postcolonial and cultural theorists (e.g. Bhabha, 1994; Hall 1996; Kenway & Fahey, 2006; Rizvi, 2005) to re-conceptualize the notion of academic migration, particularly defined as 'Chinese knowledge diaspora', and typically framed in a nation-centred and market driven view. They turn from this unilateral conception of loss of talent to the notion of complex cultural dynamics of mobile researchers in transnational

space where knowledge and discourses circulate. In their analysis they employ contemporary theoretical approaches that allow them to capture the "de-territorialized relations between transnational academic's identity, knowledge flow[s], and global connectivit[ies]" (Chen & Koyama, 2013, p. 24).

In this way, Chen and Koyama (2013) studied the forms of academics' transnational collaborations, the way these scholars situate their identities, the means they used to establish their social professional networks of collaborations, and the effects on knowledge transformation. They found strong physical or virtual connections among Chinese researchers through the intellectual networks these scholars create, which define their daily work lives. These networks provided possibilities to share and create new knowledge through transnational linkages and collaborations. Also, these networks embody a transnational space mediated by the assemblage of social relations, and different power and knowledge representations.

Kenway and Fahey (2006) focused their study on the contemporary mobility of researchers, and the intersecting geographies of knowledge and power entangled in the global research scene. These scholars advocate for alternative epistemological and ontological approaches to re-conceptualize the contested notion of brain mobility –brain drain/brain gain and brain circulation. In their study called the *Moving Ideas* project*,* Kenway and Fahey (2006) examined the movement of ideas, knowledge, and policies associated with research and researchers' mobility. Using global ethnography to understand this contemporary space of movements, they analyzed biographies of international mobile intellectuals, in the social sciences and humanities, in connection to Australia. They study how these researchers' movements and new relations influence and

transform their knowledge, linkages, and national and transnational identifications. They

argued that the notion of diaspora usually associated to territory, nationalism, and

loyalties, does not capture the more complex connectivity of mobile researchers, which

involve important cultural, political, and conceptual matters (Fahey & Kenway, 2010a,

2010b; Kenway & Fahey, 2006). Moreover, they claim for developing a logic of

associations including fluidities and mobilities to research the global assemblage of

production and circulation of knowledge, and the attendant policies, networks, and

institutions involved. The complex and contradictory experiences of mobile researchers

through collaborations and networks bring not only considerations of power/knowledge

dynamics, but also, ethical sensibilities that define substantial and on the ground

reflexivity in their project (Fahey & Kenway, 2010b; Kenway & Fahey, 2006).

Summary

I have provided in this chapter contrasting approaches to the study of knowledge

production in IRC and diverse conceptualizations of IRC. The chapter first presented a

broad overview of the usual quantitative/statistical, large-scale, or macro-level types of

research. Then, it included studies focused on narrow contextualized practices of those

experiencing international collaborative initiatives. And finally, it exposed a more

nuanced, non-linear understandings of mobile notions of researchers, research, and

knowledge in transnational space of flows, disjunctures, and networks. This

comprehensive landscape of literature reveals existing gaps in the research literature.

There is a need for critical and reflective comparative and international education studies

between distinct research networks linked to two geographical sites. Second, there is a

need for non-linear and inclusive studies in how knowledge is produced in IRC taking

into consideration the entangled global and local mobilities of knowledge and policy flows and disjunctures. Third, there is a need for studies engaging in qualitative SNA tracing the connections between researchers and the power/knowledge relations entangled in discourses that circulate through research networks in transnational space. Kenway and Fahey's approach and their *Moving Ideas* project (Fahey & Kenway, 2010a 2010b, 2010c) with their critical and creative research perspective is very inspiring to my 'research imagination' (Kenway & Fahey, 2006, 2009). I come back to their discursive epistemological and ontological notions in terms of mobility of knowledge, as well as other conceptualizations that have been referred in this literature review, in due course. Next, I turn my attention to the post-foundational spatial theoretical framework that frames my study.

Chapter 3: Post-Foundational Spatial Theoretical Framework

Overview

This chapter draws upon 'post-foundational' spatial approaches to inform the theoretical framework that I use to study practices of knowledge production in IRC within three distinct Canadian and Colombian research networks. Post-foundational approaches in my research involve theoretical perspectives from postmodernism, post-colonialism, and poststructuralism (Ninnes & Mehta, 2004). Ideas from these approaches support my understanding of how knowledge is produced through IRC, in multiple ways and from diverse individuals and groups. Moreover, these approaches help me to break down fixed notions of space/place and go beyond country or institutional analysis to investigate researchers' work through cross-border networks and their relational contexts.

Traditional approaches to understanding knowledge production have been narrow, linear, and/or simplistic. Post-foundational approaches offer a more complex perspective of the multidimensional nature of knowledge production in IRC. These multidimensional perspectives challenge the assumptions of universal knowledge defined by rationalist and positivist lenses of the modern era, the Enlightenment. In doing so, post-foundational approaches transgress the inclusions and exclusions of the Eurocentric and Anglo-American models and their binary oppositions (Western/non-Western, North/South, Global/Local) represent phenomena in the world. These approaches embody "'epistemological pluralism', which conceptualizes the 'post-' ...in postmodernism, poststructuralism and postcolonialism [as] 'questioning' rather than 'after'" (Andreotti,

2010, pp. 5, 11). Thus, the 'post' signifies a shift in thinking and in approaching educational research.

Post-foundational approaches involve a reflective, critical, and pluralistic perspective that opens up opportunities to explore fresh venues of qualitative inquiry that I engage in my research. My purpose in using these approaches is twofold. On the one hand, post-foundational theories provide an opportunity to consider different kinds of knowledges and ways of knowing. Epistemological pluralism is essential to overcome misunderstandings of knowledge production in IRC while embracing interdisciplinary, international, intergenerational, and cross-cultural dimensions that coexist side by side in my study. On the other hand, post-foundational theories in this dissertation engage with a relational and socially produced notion of space to understand the world as made up interconnections between people, which constitute networks rather than static structures as institutions, countries, and regions. Therefore, I use post-structural approaches to study knowledge production in IRC as an effect of interconnections/practices among researchers avoiding static structures of analysis. In this way, interconnections/practices of knowledge production among scholars through IRC in my study create a research network as a socially produced space. The latter is immersed in a relational context as an unbounded system and this relational context is, at the same time, interconnected within our globalized world.

To develop this theoretical framework, I first review the notion of knowledge and 'knowledge otherwise' from postmodern and postcolonial approaches. Then, I engage with Foucault's poststructural worldview on power/knowledge and discourse, and the notion of global/local interconnectivity in transnational space. Thus the combination of

concepts from postcolonial and poststructural worldviews, including epistemological pluralism, power/knowledge relations and discourse, as well as the socially produced notion of space, flows, disjunctures, and networks constitute the theoretical framework of this dissertation, which aims to understand the effects of IRC across the three research networks under study.

Knowledge and postmodern thought

The concept of knowledge is central to this dissertation and for this reason I explain here how knowledge is understood to be a part of my post-foundational theoretical framework. First, however, I review traditional concepts of knowledge, as well as how traditional concepts of knowledge remain and coexist side by side with postmodern thought.

The meaning of knowledge has shifted noticeably from the second half of the 20th century in tandem with the increasing complexity of the globalized world and ongoing transformations and challenges of the knowledge society. These significant changes represent deep transformations of the epistemological foundations of our understanding of knowledge –inside and outside of the academy–, and the way in which we value the processes and systems of knowledge production (Andreotti, 2010; Gilbert, 2005; Weiler, 2006, 2009, 2011).

Twentieth century or 'modern' thinking has been interpreted as a period of universal explanations of the world or metanarratives (Lyotard, 1984). This way of thinking, arising during the Enlightenment period (18th century) in Western Europe, embodies a positivist, modern paradigm characterized by a scientific, rational, and empirical knowledge where the world is objective and independent of the knower

(Crotty, 1998; Foucault, 1996). According to the Enlightenment view, knowledge claims can only be validated by observation and experiences where other means such as abstractions or metaphysical notions are illegitimate. Observations are neutral from any type of value and knowledge claims are theory-free. There are general laws, a common logic, that apply to the natural and social worlds; consequently, all sciences are to be guided by the same scientific method. There is an order and reason in natural and social life that is determined by cause-effect; therefore, knowledge is linear/evolutionary. Predictions and generalizations are possible from this order and logic in the natural, as well as in the social world (Crotty, 1998; Denzin & Lincoln, 2005; Scott & Morrison, 2006; Scott & Usher, 1996). This positivist paradigm seeks truth and reality where knowledge is understood as a "noun" or "things" that can be stored and transferred as building blocks in learning and research (Andreotti, 2010, Gilbert, 2005).

In contrast, the late 20th and early 21st centuries are defined as a postmodern period, a more intricate scenario of transformations, including transformations about how we think about knowledge. On the postmodern dimension, the notion of knowledge is understood as being non-exclusive and, goes beyond scientific, rationalist notion of truth. Lyotard, (1984) states that postmodernism is founded on an "incredulity toward metanarratives" (p. xxiv). As he points out, "[knowledge] also includes notions of "know-how," "knowing how to live," "how to listen" [*savoir-faire, savoir-vivre, savoir-écouter*], etc." (Lyotard, 1984, p. 18). Thus, there are different kinds of knowledges according to different ways of knowing, and not one is privileged over the other.

The postmodern period is characterized by constant change, fluidity and uncertainty where knowledge is understood as a 'verb' rather than as a 'noun' or stuff

that can be stored (Andreotti, 2010; Gilbert, 2005). Metanarratives become obsolete where there is not a unified science, nor a universal notion of knowledge (Lyotard, 1984). Knowledge is more contingent to and valid only under certain conditions. From this perspective, doing something with knowledge becomes more important that knowledge itself. Knowledge is a process that happens in groups of people rather than in individual experts (Gilbert, 2005).

In this dissertation I use the postmodern notion of knowledge to engage in the analysis of my findings. Knowledge is interdisciplinary, international, intergenerational, and cross-cultural, which reflects multiple voices and represents diverse cultural traditions. It embraces epistemological pluralism (Andreotti, 2010) shifting away from epistemological universalisms to fluid, open to negotiations, and always-provisional knowledge and ways of knowing. Knowledge from a postmodern perspective is socially constructed; it is non-linear, non-evolutionary. It embodies difference, narratives from below and from particular views, and many truths, rather than one (Crotty, 1998; Kuhn, 1970; Lyotard, 1984; Ninnes & Mehta, 2004; Scott & Morrison, 2006; Scott & Usher, 1996; Schwandt, 2000).

Notwithstanding the underpinning conditions of the knowledge society in the 21st century, which brings the need for shifting the conceptualization of knowledge, our more immediate reality is made up of contrasting and sometimes controversial worldviews that coexist. The ideas associated with modern knowledge still pervade a new order of ways of knowing. These ideas channel the economic features of the industrial age that is characterized by human capital skills and fixed knowledge, and continues with a new scheme of services and human capital that lean towards innovation, creativity,

entrepreneurship, and consumerism. This way of thinking has been understood as cognitive adaptation (Andreotti, 2010), which is driven by the hegemonic neoliberal discourse of the knowledge economy where knowledge is viewed as capital in direct connection with countries' economic growth.

Cognitive adaptation is the ability to be engaged in a fast-paced environment with rapid technological changes, and equipped to face uncertainty, multiplicity, and complexity of the market knowledge economy. This logic has been interpreted as a neoliberal order emphasizing knowledge as commodity, as well as reproducing the instrumentalist thinking of the 20th century; a knowledge system easy to impose in every context that ignore the legitimacy of local, grassroots knowledge (Gran, 1986; Weiler, 2006). Hence, knowledge is understood in terms of its use value, reflecting a utilitarian conception of knowledge.

In contrast, as noted above from a postmodern perspective, there are multiple types of knowledge –with different foci and effects. The notion of knowledge and its legitimation in the sense of which and whose knowledge is valued, why and for what purposes, align with three main interconnected flows (Appadurai, 1990, 1996) of the knowledge society. First, we can consider policy flows that refer to political conditions of knowledge production and dissemination through the intimate linkages of power/knowledge relationships. Second, there are economic flows, which comprise enforced discourses of the neoliberal agenda and market orientation of the global knowledge economy. Third, there are knowledge flows, which include two distinct paths. On the one hand, we have the unified science and universal thought of the Western knowledge system clustered as an epistemic instrumentalist hegemony where science,

policy, and economic flows converge. This is what Lyotard and other postmodern thinkers (e.g. Foucault) refer as modern knowledge (scientific, linear/evolutionary, rational) from the rationalistic, positivist paradigm already mentioned. On the other hand, there is a postmodern approach to thinking otherwise about knowledge, which opens up possibilities for engaging with epistemological pluralism and alternative ways of knowing the world. The latter constitutes the epistemological and ontological shift within which this dissertation is situated. In the next section, I connect postmodern thought with postcolonialism to show the convergence of these two approaches, which challenge the universal notion of knowledge and binary thinking and its associated hierarchies such as the West and the rest (Ninnes & Mehta, 2004) to unveil and recast difference from a non-exclusive, pluralist and more nuanced view of the world.

Postcolonialism and knowledge otherwise

Postcolonial theory also informs the framework of my study. Postcolonialism involves diverse ideas under some commonalities; it is not one homogenous body of thinking (Ninnes & Burnett, 2004). It relates to significant reconceptualizations of colonizing and the binary oppositions of colonizer and colonized, black and white, and the 'developed' and 'developing' status of First and Third World; at the same time it is attentive to the epistemological, cultural, and social changes that have occurred globally during and after colonization. In this respect, post-colonial theory has been highly influenced by the ideas associated with post-modern and post-structural thought.

Postcolonialism is a highly contested political and theoretical terrain where postcolonial criticisms "have come from both the left and the right and from indigenous scholars as well" (Rizvi, Lingard & Lavia, 2006, p. 259). This theoretical approach seeks

to transform people's thinking and attitude framed with colonial discourses and practices

that are immersed in cultural identity and power relations. Crossley and Tikly (2004)

posit that:

> the 'post' in postcolonialism is often taken as having a dual meaning. Firstly, it is
> used to denote the historical 'end' of classical colonialism characterized by
> country-to-country occupation. Secondly, it is used to indicate the use of
> poststructural and postmodern forms of analysis. (p. 148)

However, in relation to the former, some scholars argue that colonization has not

ended, but has changed its form and has been assimilated to contemporary globalization.

This perspective is criticized by Hall (1996) who asserts that this claim holds a

homogeneous view of globalization, and contributes to the same mistake of a sole

colonial process. Interpreting globalization and colonialism as a unitary phenomenon

where each of them happened in the same way and the same time everywhere is a very

restrictive view. Such ideas about colonization and globalization reflect a modern need

for simplification (Dussel, 2006). From this correspondence thinking, the discourse of

development and knowledge production in relation to globalization reinscribes the fixed

binaries such as First and Third World, developed and developing (Escobar, 2004; Said,

1978), and again, these ideas are reflective of the linear, scientific, and rational

knowledge associated with modernity.

In contrast to this modern/positivist conception of colonization, poststructuralist

and postmodernist forms of analysis, provide a more subtle and complex approach that

focus on the multiple contextual experiences of those who were colonized in specific

geo-politically-informed historical trajectories. This perspective informs my study of

knowledge production in IRC. This is where post-foundational approaches intersect and

align with my theoretical framework. Moreover, I do not pretend to define divisible lines

between these approaches; on the contrary, I see and highlight here the confluence and intersections between these related theoretical approaches. In doing so, drawing from post-structuralism, postcolonial theorists deny the notion of totality and the binary oppositions of Western and non-Western or developed and developing, First and Third World, as noted above, which privilege Western systems of thought (Hall, 1996; Said, 1978).

From this perspective, the system of knowledge and representation as part of the colonial narrative blurs and simplifies a reality that claims new discursive positionalities (Hall, 1996). The binary of Western and non-Western perpetuates and reproduces relations of power/knowledge embedded in a single, one way, and universalistic logic. On the contrary, drawing on post-structural ideas described above, postcolonial theorists argue that practices of knowledge production worldwide call for re-conceptualizations and the emergence of epistemological shifts (Andreotti, 2010) that embrace contextual and multiple logics. These logics align with the complexities of different flows of knowledge, policies, and practices that become part of processes of knowledge construction in relational contexts.

For instance, writing about the postcolonial context of Latin America, Escobar (2010) stresses the need for a new intervention in

> the modern sciences in order to craft another space for the production of knowledge –an-other way of thinking, *un paradigma otro*, [which embraces] the very possibility of talking about 'words and knowledges otherwise'…[where] an-other thought, an-other knowledge… are indeed possible. (p. 24)

To this extent, the postcolonial perspective advocates for cognitive justice where epistemologies of the South are not only valued in countries in the South, but in the North as well. For instance, rural and indigenous forms of knowledge respond in connection to

the preservation of our world's biodiversity (Santos, 2014). However, these indigenous knowledges have been ignored and often subjugated.

A postcolonial approach then engages in reviewing the multiple forms of subordination in the legitimation of knowledge. It acknowledges the internal limits of the dominant Western Eurocentric and Anglo/American way of thinking, which preclude understandings of knowledges that are outside those limits. Postcolonialism dislocates the epistemological exclusiveness of the Western academy (Gandhi, 1998). It disrupts an imaginary line that divides acceptable, visible knowledges, and those knowledges that have been absent due to the limits of representation and evaluation of modern thought (Santos, 2014).

In other words, postcolonialism unveils and values other forms of knowledge construction according to different contextual realities in relation to geographical settings (i.e., diverse countries and regions across the world). These knowledges emerge from alternative ways of seeing reality, from diverse social practices that are non-rival; they are then not knowledges against another knowledge. These multiple knowledges focus on knowledges of the marginalized. Foucault (1980) calls these, subjugated knowledges, which are discussed below. They represent a constellation of knowledges that coexist in the world; knowledges learnt and brought to the academy with the aim to give answers to previously unanswered questions (Santos, 2014).

In my theoretical framework, I consider all knowledges as partial and incomplete. Knowledge production in IRC should provide a way to develop mutual articulation between knowledges instead of the annihilation of other knowledges as it has commonly happened throughout centuries (Santos, 2014). Moreover, an "intercultural translation"

(Santos, 2014, p. 201) becomes a way to draw out the underlying assumptions of alternative knowledges. It implies complex and reciprocal interactions in a contact zone between individuals, where different linguistic and cultural forms of communication are in dialogue and mutual meaning making. Envisaging coexistent difference allows acknowledging that equivocation is also possible in this space of contact where cultural worlds encounter, mediate, negotiate, and clash. Hence, questioning and engaging with difference in IRC creates a space for reflexivity, critical perspective, and epistemological pluralism in intercultural encounters.

In addition, re-thinking knowledge construction from other emergent epistemologies also entails an understanding of the notion of "hybridity" (Bhabha, 1994). Hybridity implies the idea of cultural difference as a result of the transformative processes that overcome the colonial settlement. Bhabha (1994) proclaims the coexistence of different cultures and forms of thought that become part of modernity. He posits that "[d]eprived of their full presence, the knowledges of cultural authority [Western knowledges] may be articulated with forms of 'native' knowledges or faced with those discriminated subjects that they must rule but can no longer represent" (p. 115). In other words, the binary perspective of Western and non-Western can no longer become the lens to illuminate analyses of knowledge in different context. From this standpoint, the social articulation of difference in a given context creates a more challenging but mutual and reciprocal forms of intercultural interactions (Bhabha, 1994), which at the same time underpins new knowledge and ways of knowing.

I argue that global/local processes comprise changes and transformations that surpass the technical, imposed assimilation of a sole epistemological perspective.

Moreover, the dynamics and global/local movement of ideas, people, and capital (Appadurai, 1996, 1990) are no longer happening in only one-way of the colonial routes from centre to periphery. On the contrary, global dynamics entail a more complex circulation of flows and networks of power/knowledge relations across, between, or within various regions of the world (Rizvi et al., 2006). Hence, a postcolonial approach contributes to a more nuanced and pluralistic worldview to interpret the intricate complexities of a globalizing, interconnected world in constant flux.

Foucault's contribution to poststructuralism

I focus this section of my chapter on a discussion about Foucault's critical approach, power/knowledge, and discourse, as underpinning assumptions of the discourse analysis that I use as part of my methodological framework in this dissertation. Foucault's (1996) poststructuralist worldview provides support to the critical perspective entwined within the post-foundational approaches of my study. His critical perspective entails a different procedure than the form of an inquiry of the rationalist, positivist modern paradigm, which seeks to legitimate knowledge or particular modes of knowing. I refer here to the Kantian critique, to the positivist approach of the Enlightenment already noted above. On the contrary, drawing on Foucault's critical perspective, I engage with reflexivity and interrogative practice using the archaeological and genealogical model to tease out the events, the assemble of elements and contents that constitute knowledge produced through IRC within the three research networks of my study. This provides me with the tools to analyze the constitutive ideas of bodies of knowledges or discourses informing my findings (Chapters 5 and 6), which are essential to my discussion in Chapter 7.

How does a Foucauldian poststructuralist approach help me to engage in discourse analysis in my study? Foucault (1988) denies the idea of an underlying simple structure that governs our thoughts and behaviour and that any assumption is self-evident (Foucault, 1988). The focus is on not one, but many interpretations, or systems of thought. As Foucault states, "criticism is a matter of flushing out [a] thought and trying to change it, to show that things are not as self-evident as once believed, to see that what is accepted as self-evident will no longer be accepted as such." (p. 155). Foucault's poststructuralist, critical approach provides a more nuanced view to understand knowledge production in IRC, where diverse disciplinary/interdisciplinary bodies of knowledge as discourses respond to their own logic and ways of knowing, rather than to a unique, universal, system of thought.

Using Foucault's poststructuralist critical approach, I can analyze the elements or ideas that conform the particularities of the system of knowledge within each research network of my study. In this way, I look at researchers' work and their knowledge production in IRC. Also, I can unveil knowledges from my findings that have been disqualified by the scientific discourse. As Foucault (1972) posits "[t]here are bodies of knowledge that are independent of the [modern paradigm of] science" (p. 183), which have been identified as not legitimate. Certain knowledges have been situated low down on a hierarchy, beneath the required level of cognition or science. Foucault (1980) calls these subjugated knowledges. These are "particular, local, regional knowledges, a different [and/or specific] knowledge" (p. 82) which have not common meaning nor validity in the established system of thought. Social, art, and humanities discourses have

been also included among these subjugated knowledges in relation to traditional positivist concepts of knowledge.

In addition, this poststructuralist form of interrogation helps to understand connections between mechanisms of coercion and elements of knowledge (ideas) as effects and holders of power that are part of a system of knowledge in an international network of interconnections. These power/knowledge relations can be veiled or explicitly enforced. In particular, the work of researchers that is not perfectly framed within the Western knowledge has been considered as inadequate according to the modern thought, which holds explicit power/knowledge relations (Foucault, 1996). In other words, this critical perspective contributes to disclose the power/knowledge relations immersed in particular disciplinary/interdisciplinary discourses of the relational contexts and international knowledge networks within which the research networks of my study are situated. This poststructuralist form of interrogation contributes to disrupt the privileging rational, Western knowledge and set the foundations of the contextual and relational analysis of my dissertation.

Power/knowledge and discourse

The concepts of power/knowledge and discourse are central to the theoretical framework of my study. There is a direct connection between power/knowledge relations and discourse as there is no knowledge without power, nor power without knowledge, and discourses are made up of power/knowledge relations. As Foucault states,

> the word knowledge [*savoir*] is used to refer to all the procedures and the effects of knowledge [*connaissance*] that are acceptable at a given moment and in a defined domain…the term "power" does nothing other than cover a whole series of particular mechanisms, definable and defined, that seem capable of inducing behaviour or discourses. (1966, p. 394)

Discourse is understood in this dissertation in terms of bodies of knowledge rather than the idea of language in a linguistic system. I draw on Foucault's (1972) notion of discourse, which comprises not only a means or representation as a text in the linguistic analysis; but also it embodies disciplinary/interdisciplinary knowledges, as well as disciplinary/interdisciplinary practices within socio-historical conditions. These disciplinary/interdisciplinary practices are productive in the sense that they enable and constrain our forms of living, writing, speaking, and thinking. Foucault (1972) calls

> discourse a group of statements in so far as they belong to the same discursive formation; it does not form a rhetorical or formal unity, endlessly repeatable,…it is made up of a limited number of statements for which a group of conditions of existence can be defined. (p. 117)

Discourse then consists of all than can be said and thought about a particular matter, as well as who can speak and with what authority (Foucault, 1972). Thus, I look at the ideas that constitute bodies of knowledge or discourses in my findings according to each research network.

It is also important to notice that disciplines internally determine what is accepted as a discourse and what is not (Foucault, 1971). This is a sort of legitimation that happens within a discipline. They "constitute a system of control in the production of discourse" (Foucault, 1971, p. 17). Therefore, the legitimated discourse and its linkage to the exercise of power create a system of inclusion-exclusion, with institutional support. Processes of exclusion are operationalized by a set of practices such as education and its instruments (e.g. the system of books, writings, and other publications, as well as technologies and laboratories). These educational practices and their instruments have been replicated and used for the sake of a specific discipline in different contexts. Thus,

disciplines are characterized by their objects of study, their methods, their theoretical frameworks as they are considered to be true, as well as their rules, techniques, and tools.

Understanding of power/knowledge relations goes beyond the procedure of legitimation of discourses in relation to structures that do not relate to their own meanings and conditions. Power here is not a force or domination. Rather power and knowledge are considered inseparables in a grid of interactions; and this logic of interactions circulates between individuals or groups (Foucault, 1996, 1980). Moreover, the particular ensembles of elements (ideas) of knowledge and mechanisms of power are not universal. They constitute, as an effect, disciplinary/interdisciplinary discourses, and as such, they comprise their own rules and singularities, linkages, and processes (Foucault, 1996).

To this extent, the will to knowledge and the how of power become central components in analyzing particular disciplinary/interdisciplinary discourses and avoid the kind of totalistic theories of domination associated with modern/Enlightenment views of knowledge. Individuals are viewed as vehicles in this network of interrelations, which become the element of articulation. They carry out and contribute to the struggles and flows of power/knowledge relations. Individuals or groups create discourses of power/knowledge through history as part of events in which they are involved (Foucault, 1980). Thus, using discourse analysis I can trace out the events and look at the ensembles of elements (ideas) of knowledge and the mechanism of power that produce disciplinary/interdisciplinary discourses in the relational contexts of my findings. Also, how particular ideas, elements of knowledge and mechanisms of power that constitute discourses are entwined in the production of knowledge in IRC within each research network of my study.

I have mentioned how power/knowledge relations are entangled within and produce disciplinary discourses. In that sense, "power is everywhere; not because it embraces everything but because it comes from everywhere" (Foucault, 1978, p. 93). I consider power as productive in the sense that it produces reality when it is exercised. As Foucault (1980) mentions "[p]ower must be analyzed as something which circulates, or rather as something which only functions in the form of a chain" (p. 98). It is not about power as being positive or negative, but how it is used. As he posits, "it traverses and produces things, it induces pleasure, forms knowledge, [and it] produces discourse. It needs to be considered as a productive network which runs through the whole social body" (Foucault, 1980, p. 119).

The analysis of power/knowledge relations requires unveiling the power mechanisms interconnected with the contents of knowledge. And the notion of knowledge, rather than being a fixed concept, or ideal, is formed by discursive formations and disciplinary/interdisciplinary practices that comprise a group of ideas according to the relational context in which they are involved. These ideas are produced in a regular manner, and may or may not be essential in the formation of every science. Hence, the notion of knowledge comprises the historical discontinuities of discourses in a given relational context; it is not a fixed notion of a system of thought.

This poststructuralist approach in contrast to the modernist approach outlined above, then, rejects a sole underpinning structure that governs our thoughts and behaviour. From this perspective, I advocate for a poststructuralist account where knowledge changes over time and under different conditions. The notion of structure is broken down to overcome its underlying simple notion of a fixed, institutionalized,

repetitive, and transferable scheme. Discursive formations and disciplinary/interdisciplinary practices or bodies of knowledge are relationally produced between individuals and groups, which in turn constitute networks of knowledge (1986). This poststructuralist perspective helps to introduce the concepts of global/local interconnectivity, flows, disjunctures, and networks in transnational space.

Post-structuralism and the notion of transnational space

My discussion in this section engages with a post-structuralist understanding of transnational space. The ideas I explore in this section form a part of my post-structural, spatial theoretical framework. This post-structural spatial perspective draws upon spatiality theories that allow me to break down the fixed notion of space/place, from modern thought, much in the same way that the post-colonial perspective above breaks down fixed binaries of colonized-colonizer, local/global, First/Third World, West /non-West. Moreover, this framework goes beyond region, country, or institutional analysis as fixed structural notions of space/place, to investigate researchers' work through cross-border research networks.

I frame transnational space as relational, socially-produced, fluid, and dynamic, where the local and the global are interconnected through unbounded flows and networks. This poststructuralist conception of transnational space in my study undergirds my examination of research networks and their relational contexts, and their interconnected globalized world. I use this spatial framework as a tool to analyze researchers' practices of knowledge production in IRC within the three research networks. In this way, this perspective of a dynamic post-structural spatial framework helps me to understand disciplinary/interdisciplinary discourses as flows and disjunctures

that circulate through transnational space. These discourses, constituted by power/knowledge relations, become the enablers and constraints that researchers face in their collaborative and international work. Before outlining the key components/aspects of transnational space deployed in this dissertation, I first review the fixed notions of space and place that have influenced educational research from the rationalist, modern paradigm.

In modern thought, the notion of space and place are divided where place is associated with the local –a physical, geographical location, and territory drawn on maps, and space is considered as something external or abstract, as the global (Harvey, 2006; Larsen, 2016; Larsen & Beech, 2014; Massey, 2005; Robertson, 2010). This conception of internal space-place (the local) and external space (the global) define space and place as separated entities. Besides, this divide between space/place, local/global comprises a limited narrative of modernity and globalization, as a metanarrative in Lyotard's (1984) words, that represents an external force that dominates the local. Indeed, these ideas about space and place have underpinned the global expansion of capitalism of modern times as part of the broader metanarrative of globalization. Interestingly, Beech and Larsen (2014) call this metaphorical narrative of modernity and globalization as "spatial empire of the mind" (p. 77), which involves the binary thinking of space and place, entails a hegemonic notion of power, and blurs a more rich perspective of interconnectivity of our world. Educational research, and particularly some studies in comparative and international education have drawn during the twentieth century from this positivist perspective to analyze social phenomena in local contexts, as an effect of globalization, where the global determines the local (Dale, 2000, 2005).

In addition, space and place, in the modern paradigm, has been represented by bounded and fixed structures as containers organized hierarchically or systems nested one into the other (i.e. the local nested inside the national; the national inside the regional; the regional inside the global). Studies in higher education from this positivist, linear, and structural model have focused on regions, nation-states, and institutions as bounded units to investigate educational phenomena (Dale, 2005). This traditional spatial binary of space and place is again a restrictive approach that limits analyses to fixed structures rather than to a more inclusive and complex worldview of the global/local interconnections (Sassen, 2009).

On the contrary, I drew upon a relational approach to understand space/place, which involves poststructural theory from the 'spatial turn' (Foucault, 1980, 1986; Harvey, 1989; Lefebvre, 1976, 1991; Massey, 2005; Robertson, 2010; Soja, 1989; Warf & Arias, 2009). This poststructural spatial approach defines the notion of space as relational, socially produced, and fluid, which is represented by a mobile spatial interconnectivity of flows, disjunctures, and networks (Appadurai, 1990, 1996; Castells, 2010; Warf & Arias, 2009). It is worth mentioning that the notion of space/place from a poststructuralist worldview restates the notion of space from pre-modern times which was intrinsically linked to place (Harvey, 1989) and mediated by social relations in a specific community of people or territory, as well as between communities. The notion of space from a post-modern, post-structural perspective additionally comprises a more complex and intricate socially produced net of interconnections where technology plays a crucial role in space-time compression (Massey, 2005; Warf & Arias, 2009).

Foucault's (1980, 1986) and Lefebvre's (1991) poststructural works, inspired the epistemological and ontological insights to understand not only the physical qualities of space, as a material object, but also, the relational, and socially productive capacity of space (Larsen & Beech, 2014; Warf & Arias, 2009). Both Foucault and Lefebvre reject the ideas of fragmenting and privileging time over space, and the binary distinction between space and place. On his lecture notes *Of Other Spaces,* Foucault (1986) questions why time has been understood as dynamic, movement, development, dialectic, process while space as a dead, fixed, unproblematic background as a container of social process and history. He defines this assumption as an ontological distortion of the Western social thought. Foucault (1986) states that the space in which we live, "living space…takes the form of relations among sites" (p. 23) being simultaneous, and juxtaposed to the "space [] of knowing" (p. 23). Rather than a static and fixed notion of space, a material container, he states that our living space is heterogeneous as it is an unbounded grid of interconnections between individuals and groups that define a sort of configurations or networks. In other words, individual and groups' interconnections create a space where knowledge emerges.

Lefebvre (1991) states that space is socially produced. He claims that "the production of space" (p. 1) is a process that involves social actions in three overlapping material and abstract dimensions: *Spatial practice* corresponds to the perceived, every day material space. *Representations of space* entail a conceived and conceptualized, more abstract notion of space that is depicted in maps, symbols, and sign. *Representational spaces* constitute a lived, experienced, felt, more emotional and performative connotation of space (Lefebvre, 1991, pp. 38-39). I emphasize Lefebvre's material and abstract

notions of space, which involve social actions to illustrate how researchers produce knowledge in IRC in ways that are related to material practices, their own representations (or conceptions) about the spatial networks they belong to, and the actual representational spaces that constitute the networks. These ideas point to the relational, imaginative, and socially produced notions of space central to this dissertation.

This post-structural spatial approach helps me to disrupt the material and exclusive notion of space in terms of its steadily encroached territoriality and economic production taken its origins since the colonial discoveries from the sixteenth century, which again is limited and static. In this dissertation, the material and abstract dimensions of space show how space is relational and socially produced through researchers' practices/interconnection of knowledge production in IRC, their relational contexts, and the global/local transnational interconnectivity.

As part of the group of theorists of the spatial turn, Massey (2005) challenges the binary distinctions between space and place, the divide with time, and the discourses these imaginaries mobilize. In so doing, she emphasizes the consequent failure of these assertions in not taking into account the contemporary multiplicity and constitutive complexities of the notion of space. Massey (2005) proposes an alternative approach that involves few propositions: First, she recognizes "space as the product of interrelations" (p. 9), which comprises interactions from the global to the local dimensions and vice-versa. Second, space is understood as a sphere of possibilities for multiple trajectories and "coexisting heterogeneity" (p. 9) in the sense of the "contemporaneous plurality" (p. 9). Third, space then is relational, complex, multiple, never a closed system, and "always under construction" (p. 9) as the product of relations-between and within social practices.

Massey (2005) integrates the relational and socially productive capacity of the notion of space mentioned by Foucault and Lefebvre, and argues that this relational and productive understanding involves a range of connections between the spatial imagination and the political imagination of the world, called geopolitics of space (Massey, 2005; Soja, 2009). Her perspective then helps me to highlight the multiple, heterogeneous, and complex understanding of the notion of space of our contemporary times where coexisting disciplinary/interdisciplinary discourses and power/knowledge relations produce on the one hand, a global neoliberal metanarrative to see the world, but on the other hand, alternative narratives that spatial turn theorists advocate for.

These post-structural ideas about space inform my thinking about globalization in ways that recognize knowledge as being partial and incomplete, rather than as a sole metanarrative. From the positivist, rationalist modern paradigm globalization is considered linear, progressive, and aligned to the related processes of capitalism, colonization and more recently, to neoliberalism. This metanarrative of globalization is again a Western-centred viewpoint of the universal modern paradigm of knowledge. In contrast, globalization in this dissertation is understood to be a complex, varied process, and an increase of connectivity and mobility (Kenway & Fahey, 2009; Massey, 2005) where space is socially produced and produces knowledge. I highlight here the capacity of space as relational made up of interconnections and the productive capacity of space where knowledge emerges.

Imagining the world of spaces made up with multiple interrelations, in process, open, never static has also brought the important achievement of the "dynamisation and dislocation of structuralism's structures" (Massey, 2005, p. 42). Rather than a static and

fixed idea of space, the relational, imaginative, and socially produced notion of space connotes systems in motion (Urry, 2007). Thus, this poststructuralist understanding of space as flexible and as conjoined systems has also inspired other theorists to conceive our globalized world in constant movement and transformation. In particular, I draw upon the work of Appadurai (1990, 1996) and Castells (1996) to engage with the idea of our globalized world as made up flows, disjunctures, and networks through which knowledge circulates and emerges.

Flows, disjunctures, and networks

In my post-foundational spatial framework, I draw upon Appadurai's (1996) view of the world as an interactive system constituted by flows, disjunctures, and networks. Appadurai (1990) defines five dimensions of global cultural flows, which he calls ethnoscapes, financescapes, technoscapes, mediascapes, and ideoscapes. *Ethnoscapes* involve the global flows of people and the interaction of cultures. *Financescapes* include the global circulation of money and trade. *Technoscapes* entail both the mechanical and the informational high speed global flows. These technoscapes facilitate the circulation of images and popular and scientific information, which is called by Appadurai *mediascapes*. He represents the flow of ideas and ideologies as *ideoscapes*. Appadurai's framing aligns well the notions above concerning space as being fluid, relational, and productive.

In my dissertation, flows of information, ideas, and resources enable the exchange, interaction, and production of knowledge in IRC. These flows of knowledge circulate throughout actors/researchers' interconnections fostering complex and enduring networks. On the other hand, disjunctures are blockages, which create tensions in the

production of knowledge in IRC. Disjunctures alert us to the fact that there are differences in how knowledge is valued, exchanged, and produced.

Appadurai's scapes depict, in a certain way, what Castells and Cardoso (2005) suggest as the horizontal community building of the knowledge network society. Since the world is an interactive system through interconnections among actors, we can conceptualize these interconnections as channels of communication. In that sense, this horizontal communication produces a space of participation and connections without intermediaries or controlled channels where ideas and diverse kinds of knowledges circulate. It is important to mention that vertical channels of communication also coexist, implying lines of power or authoritarian relationships, also highlighted by Massey (2005) as the geopolitics of space. Vertical channels embody one-way communications creating hierarchies and divides as disjunctures. Horizontal channels comprise multiple-way communications where flows of ideas, policies, people, and resources flux through interconnections and networks. Hence, through these horizontal and vertical channels of communications disciplinary/interdisciplinary discourses made up power/knowledge relations circulate within networks and their relational contexts.

Finally, the related idea of networks is central to my post-foundational spatial theoretical framework. Networks, according to Castells (1996), are a set of interconnected nodes/actors as open systems, which are able to expand without limits. I use the term open systems to understand the configuration of scholarly or academic networks in my dissertation. Each of the three research networks in my study involves interconnections among professors, students, alumni, staff members, and other networks. These interconnections constitute direct relationships among researchers within each

research network, other indirect actors, and networks' relational contexts. In the next chapter, I discuss in more detail how to operationalize the ideas of networks methodologically using social network analysis (SNA). And then in Chapters 5 and 6, where I present my findings, I focus particularly on interconnections between researchers as practices of knowledge production in IRC.

Moreover, I aim to examine the world as a relational space that is socially produced, in motion, where the global and the local are interconnected through flows, disjunctures, and networks, as unbounded and complex systems. My framework is a post-foundational non-linear perspective of global-local space that works to avoid the binary oppositions of space and place, and space and time. Transnational space crosses borders, permeates cultures, and unevenly interconnects people everywhere. To this extent, the notion of space in this dissertation involves space as relational, which is socially produced by interconnections, as well as space as productive, which produces knowledge. This approach also helps to engage the world of coexistent heterogeneity and plurality, where our spaces of knowing create and recreate multiple imaginaries simultaneously and give meaning to our living space.

Summary

In this chapter I outlined my post-foundational spatial theoretical framework that informs the analysis and discussion of practices of knowledge production in IRC within three distinct Canadian and Colombian research networks. Post-foundational approaches in my research involved theoretical perspectives from postmodernism, post-colonialism, and post-structuralism (Ninnes & Mehta, 2004). Drawing upon these post-foundational spatial approaches, I explicate on the notions of knowledge and space and their

underlying epistemological and ontological assumptions that are employed in my study.

This theoretical framework serves to clarify the notions of power/knowledge relations

and disciplinary/interdisciplinary discourses (Foucault, 1972, 1980) and how these post-

foundational pluralistic approaches become essential to overcome exclusions and

misunderstandings of knowledge production in IRC. Also, it is helpful to illuminate the

comparative, transnational, and exploratory dimensions of my multiple-case study. In so

doing, rather than taking a nation-state-centered approach where the binary distinctions

between space and place have been assumed. I use a relational and socially produced

notion of space. I conceive transnational space as made by flows, disjunctures, and

networks in continuous transformation, where knowledge production emerges.

Chapter 4: Methodological Framework and Methods

Overview

This chapter includes the methodological framework and methods used in this research. I begin with a broad overview of qualitative inquiry and an interpretivist/constructivist worldview. Second, I introduce the case study approach, the characteristics of its design in this particular research, and limitations. In the third part, I explain two methodological approaches to frame and delineate the processes of data gathering and interpretation in my study. The fourth part comprises methods including data collection tools, research networks' and participant's selection criteria, recruitment strategies, as well as codes assigned to participants and other members interconnected within the networks. Next, I review the data analysis, categorization and coding describing how data is analyzed in this research. Finally, ethics considerations are presented in connection with the positioning of the researcher supplementing what was included in the introductory chapter of this dissertation.

Qualitative research

Qualitative research involves "an interpretive, and naturalistic approach to the world" (Denzin & Lincoln, 2005, p.3) with an in depth and detailed analysis of contextualized issues (Creswell, 2013; Patton, 2002). Creswell (2013) states that qualitative inquiry is informed through philosophical frameworks according to the meanings individuals or groups assign to a social or human situation. Thus, qualitative

inquiry brings a representation of the world through the interpretative/theoretical lens, the voices of participants, as well as the subjectivity/reflexivity of the researcher.

In this research, qualitative methodology is employed to study three research networks-cases: the study illuminates the nature of these networks' reality and the relational discourses that build their practices of knowledge production in IRC. In studying how knowledge is produced in IRC, I begin with the understanding that knowledge is socially constructed. This constructionist approach helps me to understand the processes of knowledge construction in these research networks where different voices, perspectives, and experiences shape their work. Hollstein (2011) mentions that "[q]ualitative studies are employed to explore new or yet unexplored forms of networks…and networks practices" (p. 406). However, little is studied from inside a research network. In this research I address this gap and develop insights on how participants in the research network understand how they 'do' IRC.

The two qualitative methodological approaches employed in data gathering and interpretation in this research are social network analysis (SNA) (Borgatti & Halgin, 2011; Hollstein, 2011; Pinheiro, 2011; White, 2011) and Foucauldian discourse analysis (Foucault, 1972). SNA facilitates the depiction of the configuration of the three research networks; identifying the actors of the networks, their interconnections, and how they are engaged in IRC. Foucauldian discourse analysis helps to reveal the power/knowledge relations that build up underpinning discourses of knowledge production in IRC of the three research networks in my study. But, before explicating these two methodological frameworks, the following section presents the 'case study' approach.

Case study

Case study is a choice that a researcher takes during the design stage of qualitative research with the purpose of an in-depth, comprehensive, and systematic examination of a phenomenon embedded within an actual context or system. The definition of the 'case' determines its uniqueness; the case can be defined at the level of an individual, group of individuals or organization, a program, processes, or events (Patton, 2002; Stake, 2005; Yin, 2014). In this way, "[c]ases are units of analysis" (Patton, 2002, p. 447) to be defined and studied in detail. They can be a single-case or cases to be examined and compared in a multiple-case design. There are also different types of cases: exploratory case study, descriptive case study, and explanatory or causal case study depending on the purpose of the researcher. However, these three types of case studies are not mutually exclusive (Yin, 2014).

This research is a *comparative* and *exploratory* multiple-case study (Stake, 2010; Yin, 2014) designed to deeply illuminate the complexities of knowledge production in three independent research networks of IRC. The units of analysis of this study are three research *networks*. The study first offers a "thick description" (Stake, 2005, p. 450) of the units of analysis to analyze the micro complexities of each research network as an independent system. Then, a cross-case examination follows in my discussion (chapter 7) in order to compare and contrast the cases.

Stake (2005) points out that examining a number of cases jointly can provide insight to a specific issue or phenomenon. Collecting data from individual cases may or may not provide some common characteristics, but a variety of meaningful information from each case results in significant data in a multiple-case study. In a comparative study,

researchers seek to understand both what is particular and what is common about cases. However, according to Stake (2005) the results frequently bring more uncommon characteristics than common ones. Some of these distinctive characteristics are shaped by the following: the historical background; the nature of the activities and their functioning; the geographical setting; and other contextual aspects such as the economic, political, and socio-cultural conditions.

The selection of a key phenomenon guided by the research questions is crucial to better understand a case or cases in a study. In my study, knowledge production in IRC as a relational, complex, and situated phenomenon focuses on the examination of the three cases. Stake (2005) emphasizes that "[q]ualitative case study calls for the examination of these complexities" (p. 449). Hence, the cross-case and comparative analysis of three research networks in my dissertation is a way of providing insights into nuanced practices of knowledge production in IRC in different contexts. It requires a continuing triangulation to reflect on the multiple perspectives the cases bring to the fore with the aim to clarify their meaning and identify their different realities. Thus, one can learn much about knowledge production in IRC comparing one singular case to other alike and/or unlike cases (Patton, 2002; Stake, 2005; Yin, 2014). However, studying cases also has limitations. Case studies lack of generalization; meaning that what is a significant characteristic in a case study may or may not be identified in other case studies. Hence, it is helpful to engage in numerous case studies in order to get a bigger picture of the phenomenon as embedded in contextual realities.

Social Network Analysis (SNA)

In my post-foundational spatial theoretical framework I developed the relational and socially-produced notion of transnational space. In doing so, I understand the world as a space made up of interconnections, flows, disjunctures, and networks. Networks are a set of interconnected nodes as open systems (Castells, 1996). Scholars such as Borgatti and Halgin (2011) and Scott (2012) among others followed Castells' (1996) definition of network, but they specifically point to the notion of social network. They emphasize that a network consists of a set of actors/nodes along with a set of ties of a specific type (such as friendship) that link them. Both definitions emphasize that the way a network is understood depends on the researcher's approach.

In my study of three research networks, scholars are interconnected across borders academically beyond national and institutional boundaries. I interchangeably use the terms research networks with scientific communities (Kuhn, 1970), and scientific networks (Crane, 1971, 1972; Scott, 2012) as I early presented them in my literature review (Chapter 2). This use of the terms is purposive since they all refer, in my dissertation, to the assemblages of scholars and their interrelations in the production of knowledge through IRC. More precisely, they constitute scholarly or academic networks as communities of knowledge in transnational space.

In addition, conceiving transnational space as made up of interconnections and networks allows us to view the world as a series of complex living systems, rather than only one ordered and structured system or global society (Andreotti & Souza 2008). This approach of networks as living systems is then a non-linear and more holistic way to

analyze processes and practices of IRC knowledge production in a world of diversity and in continuing transformation.

To this extent, SNA is a methodological approach that helps to map the configuration of a network and the interconnections between network's members/nodes. From mathematical graph theory, networks are also called graphs where points are "vertices" and connections or lines, "edges" (Scott & Carrington, 2011, p. 392). The foundation of SNA is social sciences' assumption that "individuals are embedded in thick webs of social relations and interactions" (Borgatti, Mehra, Brass, & Labianca, 2009, p. 892). SNA studies all information about the relations of the network members (nodes) focusing on *the ties or connections between the nodes*, rather than the members/nodes themselves. As Pinheiro (2011) states, "this [focus on the relations] is the basic difference between data analysis and social network analysis" (p. 4).

Using SNA as a methodological approach, then, requires the examination of the roles of the nodes and links, as well as the definition of the boundaries of the networks (Borgatti & Halgin, 2011; Pinheiro, 2011). In doing so, the conception of the links (ties) varies according to the subject of interest in a specific study. SNA varies in this way from one field of knowledge to another, from one particular problem to another, and from one researcher's position to the other. From the same field or topic of study, it is possible to visualize different types of nodes and different types of links (ties). In focusing on processes of knowledge production in a specific network of IRC in my study, I look at its interconnections as practices and activities, which define the types of links of the network's members. Following Pinheiro's (2011) advice on conducting SNA, "the way individuals share their ideas, compile their works, and how their institutions collaborate

their resources is more influential than individual skills, talents, and initiatives" (p. 5). In this way, I use SNA as a relational approach to analyze interconnections/practices of knowledge production through IRC in three distinct research networks.

In this research, a visual representation of the types of configurations and characteristics of nodes, links, and multiple connections in a specific research network helps also to illustrate flows that enable knowledge production through IRC. As Mische (2003) states, "social networks are…composed of culturally constituted processes of communicative interaction." (p. 1). Thus, links not only represent activities or actions among members, but also knowledge, policy, economic, and socio-cultural flows that circulate through the networks by means of processes of communicative interaction. Moreover, these interconnections help to identify economic, political and socio-cultural global/local flows coming from other networks (e.g. other research networks, policy networks, and financial networks) that are interwoven within IRC practices in specific geographical contexts. Then, links within a network enable particular flows of ideas, policies and resources between nodes (Borgatti & Halgin, 2011).

Links constitute channels of communication that can be represented by the width of the tie in a visual representation of a network showing the strength of the connections between the nodes. Links with arrowheads show direction of flows, so links can be one-headed, one-way forms of communication, or two-headed, two-way communications (White, 2011). In this way, it is possible to identify how nodes are connected to each other, how strong their links are, the central or peripheral position they have, and the number of short paths they belong to. Nodes occupy different positions in a network according to their roles, which result in multiple nodes that are not always directly tied.

Consequently, the recognition of networks' characteristics allows identifying the

behaviour of the nodes, as "the influential nodes, the leaders, the followers, and the

isolated or irrelevant ones" (Pinheiro, 2011, p. 13). It also depicts the type of influence

nodes have on each other, such as a form of power/knowledge, suggestion or domination,

which is represented by centralized and decentralized nodes' positions.

It is important to highlight the similarity between this notion of decentralized and

centralized network members' positions of SNA, and Castells and Cadoso's (2005)

notion of horizontal community building and vertical channels of the network society,

respectively. Castells and Cardoso (2005) emphasize that horizontal ways of

communication is a space of participation and connections without intermediaries or

controlled channels. This notion of horizontal and vertical channels of communication

aligns with the idea of flows that circulates through a network and a notion of space that

surpasses the institutional and national orders depicting different connections and ties

between a network's members transnationally. Also, vertical channels of communication

coexist with horizontal channels implying lines of power or authoritarian relationships

between nodes in scholarly networks.

Using SNA to study research networks allows us to focus on what connects/ties

scholars within a network. In the cases of my study, scholars interconnect through

disciplinary/interdisciplinary common practices (White, 2011). White (2011) points out

that scholarly networks are complex systems that develop and can change over time.

Scientific and scholarly networks are characterized by interactions among co-authors and

other colleagues participating in varied research activities internationally (White, 2011).

In this way, highly active and interactive researchers become central nodes that connect

other scholars in a network and establish links of many kinds of collaborations. On the contrary, lower connections with a scholar represent a peripheral position in a network.

In addition, Granovetter (1983) states that strong ties involve overlapping relationships between people due to their similarities, knowledge, and expertise in a specific field. As such, if A and B have a strong tie and B and C have a strong tie, there is a high probability that A and C would have at least a weak tie. Second, weak ties can be bridging relations as a possible source of novel ideas that have not circulated in a set of strong ties. Strong ties have local cohesion whereas weak ties can provide more distant interconnections. Therefore, a node with more weak ties has the capacity to be a better source of new ideas compared to a node with more strong ties. The latter can be saturated with the same information or knowledge because of familiarity of its interconnections. Granovetter's (1983) insights provide an important perspective to interpret the effect of varied types of ties or links characteristic of the research networks analyzed in my study.

Finally, it is important to emphasize that, in my study, the relational methodology of SNA focuses on the "ego-net" approach (Crossley et al., 2015, p. 1), which is particularly useful for qualitative network analysis. Crossley et al. (2015) state that ego-net analysis or centred actor analysis means that a network is formed around a particular social actor, (e.g. a researcher, supervisor) involving other actors named "alters" (p.1). Thus, ego and alters are nodes of a network, but the former occupy a central position in the network. Ego-net analysis provides the notion of centrality and a sense of community in a network. This approach aligns with Edwards' (2010) qualitative perspective of SNA, meaning that it offers the analysis of the network from the inside, or in other words, from the bottom up. Qualitative SNA is considered a powerful tool to explore the dynamics

and practices of research and scholarly networks providing an in-depth examination of their collaborative initiatives (Hollstein, 2011).

Members (nodes) of a network are interdependent and influence one another. When ties cluster, they generate enduring connections and become what Granovetter calls strong ties (1983). Consequently, everybody in a network is affected in a certain degree depending on the role they occupy in a network. To this extent, relational data from SNA is gathered, stored, represented, and interpreted according to a specific network. This is where qualitative analysis enters to identify each research network as a distinct case study to be examined as a unit of analysis. Qualitative methods help not only to map the network, but also to analyze the network and its effects. They provide information about the central actor's ties to other members, as well as member-to-member ties. This information is incorporated into matrices for qualitative analysis.

Crossley et al. (2015) state that qualitative SNA rests on the information provided by members of the network through qualitative data sources such as semi-structured interviews, archives, biographies, diaries, documents, and so on. In my research, this information involves members' ideas and descriptions about their interconnections, experiences, and network events. As Crossley et al. (2015) emphasize, this information centers on "[members'] account of the network from their point of view… what ties 'mean' to network members" (p. 106). Furthermore, they help in analyzing the dynamics and processes of the network. The network's system is then rooted in, and shaped by, the meanings of members' ties/interconnections and the way they categorize them. In other words, the way the network is represented is built upon the members' perception and meaning of the interconnections of the network.

There are some weaknesses of this methodological approach. For instance, Ball (2012) asserts the difficulties of mapping the level of power relations, as well as the instability and short-term existence of some networks and network relations. He identifies these limitations as methodological challenges. Also, Roldán and Schupp (2006) critique the restrictions of drawing a network's boundaries, and its limiting effect in pursuing a complete analysis of the network. Furthermore, White (2011) emphasizes that the simplicity of this methodology requires other modes of analysis to dig deeper into the phenomenon.

Notwithstanding the current limitations of SNA' approaches, Larsen and Beech (2014) emphasize that SNA's focus on interconnections, flows, and networks "is a way out of dominant, binary thinking about space and place" (p.14). Moreover, this approach allows for a depiction of both diverse and multiple flows of knowledge within a network through interconnections among scholars, rather than the static method of understanding knowledge production in IRC as an effect of knowledge transfer. Qualitative SNA helps to trace the interconnections among members of a network and explore the way they share, exchange ideas and resources, and co-construct knowledge. In sum, qualitative SNA is used in my research to depict the configurations of the research networks studied, to explore the meaning of their interconnections, and to open up the analysis of underpinning discourses of knowledge production in IRC.

As White (2011) points out, other forms of analyses are required to go further and deepen the examination of the information of the network's members. To this end, I use Foucauldian discourse analysis, reviewed in Chapter 3, to examine the information network members offer in the interviews and to explore the diverse policy, economic,

socio-cultural, and knowledge flows and disjunctures as disciplinary/interdisciplinary discourses that affect the networks' dynamic in processes of knowledge production in IRC.

Methods

This exploratory multiple-case study involves a comparative analysis of three independent research networks, linked to universities in two geographical contexts, one research network in Canada and two research networks in Colombia.

Data collection tools

The study included two sets of data gathering in each research network: policy and research documents, and semi-structured interviews.

Policy and research documents

Documentary research is part of my study since it helps to understand underpinning discourses embedded within policy documents that normalize the work of scholars in connection to their relational context, as well as discourses in research documents that frame the work of the networks. As Ryan and Bernard (2000) state, researchers examine documents to do an interpretative analysis of text "as a window into experience rather than the linguistic tradition that describe how texts are developed and structured" (p. 790). In this way, policy and research documents, in this study, are examined in connection to participants' interviews.

In this study, policy documents included institutional, national, international plans or mandates regarding IRC. Policy documents were gathered through the Internet and in the interviews with participants in each research network during the fieldwork in

Colombia and Canada. These documents were collected to examine policy aspects about the internationalization of higher education, and in particular about knowledge production in IRC. Research documents were also collected through the Internet, interviews, and visits to the research networks' labs and museum. They comprise flyers, brochures, pictures, and video-recordings of diverse events such as colloquia, speeches, and conferences, as well as dissertations and publications of articles, books, book chapters and a virtual bulletin.

Semi-structured interviews

With the aim to minimize the interviewer influence both in the collection of data and findings report, semi-structured interviews are useful tools (Denzin & Lincoln, 2005). Semi-structured interviews provide the opportunity of listening to participants' own perspectives and interpretations of the topic in a study. In my study, interviews were a way to allow participants' voices to be heard in the findings report and get a better understanding of their ideas and experiences about how knowledge is produced in IRC within each research network.

Semi-structured interviews in my study were conducted with members of each research network involving university staff, professors and students. The total of interviewees included 24 participants. These interviews were conducted in English and Spanish according to participants' preference and/or country (see Appendices F and G). They took place face-to-face in the university and country to which each research network is tied, or by Skype, and lasted approximately one hour. The interviews were recorded and transcribed.

These interviews addressed a number of objectives. First, they facilitated the mapping of the configuration of the research networks, identifying their members/nodes and the types of interconnections/ties. These interconnections/ties characterize their activities and practices of knowledge production in IRC. Second, they helped to identify the different knowledge, policy, economic, and socio-cultural flows as enablers, as well as disjunctures as constraints that affect practices of knowledge production in IRC within these research networks. Third, these interviews allowed me to identify power/knowledge relations entangled in discourses of knowledge production in IRC through flows and disjunctures that researchers face within the networks.

To map the interconnections of network members in each of the three research networks, participants were asked first about the members in the network, the role of the members and their ties, which represent relationships in terms of activities and practices of knowledge production that link them through IRC (Crossley et al., 2015). Participants' responses allowed the exploration of their interpretations about other members' ties and the significance of these relationships (ties) within practices of knowledge production in IRC. These responses helped then to examine in detail the form and the content of each research network and to unveil participants' meanings, experiences, and practices. Through these responses I envisioned how members are connected, how they perceive their purposes and products, and what kinds of flows and disjunctures define the networks' practices. This SNA information seeking produced meaningful information to set the configuration and identify interconnections as practices among researchers within the networks. In addition, using Foucault discourse analysis I engaged in an interpretation

of underpinning discourses of these representations of IRC knowledge production in and across the three research networks.

Research network selection criteria

The selection of the three research networks was based on the following criteria. All of the research networks are in the areas of Social Sciences and Humanities in relation to Hispanic and pre-Hispanic studies. The three of them handle IRC projects. They all involve a minimum of seven researchers connected to other scholars and networks internationally. The linked institutions of the research networks are research-intensive universities with a high level of interest and involvement in internationalization processes and IRC. Each of these three research networks has a webpage that facilitated the researcher to search for key information that matched the selection criteria.

The two universities in Colombia to which the two networks are tied were chosen given the significant distinctions between private and public universities and the significant size of both the public and private university sectors in Colombia. The public university depends entirely on state funding and regulations. The private university is also regulated by the state, but it is self-financed by student's tuition and particular sponsorships. In contrast, the Canadian government mostly funds Canadian universities and their regulatory system depends on the respective province. It is worth noting that the Canadian research network selected is connected to several (Canadian) universities; therefore, it is bigger than the Colombian ones. This factor also informed selecting only one network, instead of two networks in Canada.

Codes for research networks

To facilitate the visualization of the three research networks in this study using SNA graphs, specific codes identify each research network and the nodes within them. Research networks' codes begin with the acronym of the country: CO−Colombia, and CA−Canada; then, with the acronym of the university: Pub−Public University, and Pri−Private University; Res−Research; and Net−Network. Therefore, Colombian Public University Research Network is the same as COPubResNet; Colombian Private University Research Network is COPriResNet; and Canadian Research Network equal to CAResNet.

Participants

The total number of participants in this study is twenty-four (24) individuals. In the CAResNet, nine (9) individuals participated; in the COPubResNet, eight (8) participants; and in the COPriResNet seven (7) participants. In each of the two research networks in Colombia, two (2) staff members were interviewed (the person in charge of the international office and the person in charge of the research office). In the CAResNet one staff member assumed the interview of the research and international offices. There were a few email attempts to invite other staff members, but the recruitment was unsuccessful. The number of professors, students, alumni, and other scholars interviewed in each network entail: in the COPubResNet three (3) professors, one (1) student, and two (2) other Colombian scholars (one who is a postdoc abroad and another who is a PhD scholar who studied abroad and return to the country to work in another university in Colombia); in the COPriResNet two (2) professors, two (2) students (one in undergrad

and one in doctorate program); and one (1) Colombian scholar studying a doctorate

program abroad who was doing an internship in the private university to which the

network is tied. In the CAResNet, there are three (3) professors, four (4) alumni (PhD

scholars working abroad), and one (1) PhD student of the university to which the network

is tied (see Table 4.1).

Table 4.1 Participants of the Canadian and Colombian Research Networks

Participants		
Canadian Research Network (CAResNet) 9 Participants	Colombian Research Networks (COResNets) 15 Participants	
	Colombian Public Research Network (COPubResNet) (8 Participants)	Colombian Private Research Network (COPriResNet) (7 Participants)
Staff International & Research Office (1)	Staff International Office (1) Research Office (1)	Staff International Office (1) Research Office (1)
Professors (3) Alumni (4) PhD Student (1)	Professors (3) Scholars: Postdoc & PhD (2) Undergrad Student (1)	Professors (2) PhD student internship (1) PhD Student (1) Undergrad Student (1)

Selection criteria

Participants in the study are those who have been involved in one of the three

research networks mentioned above for at least two years. The participation of the

university staff, professors, students, and other scholars of the networks was voluntary.

The selection of participants was based on the research networks' membership and participants' willingness to participate in the individual interviews.

Recruitment strategy

Participants were invited to participate in this research by e-mail. Some participants are contacted through members of the research network who responded initially. An e-mail, with attached letter of information about the study, was sent to invite them to participate in this study (see Appendices B, C, D, and E). Research network participants in Colombia were contacted first through the international office in each university, and then the coordinator of each research network helped to contact other participants. In Canada, research network participants were contacted first through a professor member of the network, and then the coordinator of the network facilitated the contacting of other participants.

Codes for participants and other members

In this study, members' networks included participants that were interviewed and other members connected to the networks. Codes were assigned to all members/nodes of the three research networks according to their roles in the network, their respective university, and their interconnections as direct or indirect members/nodes to a specific research network. The direct members are professors, students, alumni, and other scholars who are involved in knowledge production through varied IRC practices. Indirect members are university staff and external actors who temporarily participate or support the research network. Some nodes in each network represent other interconnected networks. Members' codes begin with the acronym of the country (CO or CA); then, the

acronym of the type of university (Pub or Pri) in the Colombian cases; third, the acronym

of the role of the member in the network as a professor, student or staff member

(Prof−Professor, Int−International; Off−Office; Vic−Vice; Fac−Faculty;

Postdoc−Postdoctoral scholar; Dr−Doctor and/or Alumni; Number indicates the sequence

number e.g. Prof1, Prof2); fourth, other professors interconnected beginning with the

acronym of a professor and continue with the acronym of the country (e.g.

ProfAu−Professor in Australia, ProfBO−Professor in Bolivia, and so forth); fifth, other

research networks/nodes begin with the acronym of a region, country, or locality (e.g.

Euro−Europe; Latin−Latin America; CONatNet; COLocalNet). In the findings chapters

(5 and 6), Table 5.1 (CAResNet), Table 6.1 (COPubResNet), and Table 6.2

(COPriResNet) include the list of the research networks' members with respective codes,

and indicate the participants, who were interviewed in this study.

Data analysis

In this dissertation, two modes of analysis are conducted. First, a network analysis

helps to describe and visualize the configuration of the three research networks, as three

distinct units of analysis in transnational space. I use SNA to depict the configuration of

each of the networks in this study tracing the interconnections among the different

members and their specific roles (i.e. the coordinator/researcher of the network, other

researchers as professors, students, alumni and other scholars, as well as interconnections

to other networks). To this end, I used NodeXL's software for network analysis that

helped to visualize the nodes/members and their ties/interconnections as practices of

knowledge production in IRC.

NodeXL is Microsoft software to visualize the connections between the actors as nodes in network analysis. I use this tool to graph the research networks in my study. The nodes comprise the direct and indirect actors of the research networks including scholars, as well as staff members and other networks to which researchers of these networks are linked. Using the data from my study, each actor from each of the networks was input into the software program as a node in connection to other nodes. For example, I input CAProf1 and then input all of the other actors that were connected to CAProf1 through practices of IRC knowledge production and activities. This was to establish the relationships (or what SNA calls 'acquaintances') between the nodes.

I then assigned each actor a colour that represented different research groups within each network. For example, in the Canadian network, four colours were used to reflect the four different research areas in that network. In the Colombian networks, the colours represent the individual networks that each of the researchers were involved in. Each actor was, then, assigned a number in relation to his or her influence or leadership in the network. Therefore, an actor with the most influence was assigned the number 5 and actors with the least influence were assigned the number 3. Actors with the number 5 represent the central actor in the ego-net. After inputting the data, NodeXL created graphs that depicted the relationships between the actors and influence of each. I was then able to manipulate each graph to best represent those interconnections visually.

Interconnections are understood, in this study, as horizontal channels of communication among researchers that go beyond institutional and national boundaries. Through these interconnections scholars share ideas, knowledge, and discursive practices, as well as co-construct knowledge within the networks. To engage in a better

understanding of these practices of IRC knowledge production in a world of interconnections, flows, disjunctures, and networks (Appadurai, 1996; Castells, 1996), I draw upon my post-foundational spatial theoretical framework. In doing so, I deepen my interpretation of these interconnections/practices of IRC in transnational space engaging with Foucauldian discourse analysis, the second mode of analysis.

Foucauldian discourse analysis (Foucault, 1972) helps to make visible underpinning discourses of practices of IRC knowledge production within the networks, in connection to their relational contexts, and to our interconnected world. This analysis helps to disclose power/knowledge relations enmeshed in disciplinary/interdisciplinary discourses that enable or constrain knowledge production. Flows are enablers of knowledge and constraints are disjunctures that block or limit the production of certain kinds of knowledges in these international collaborative practices. In the discourse analysis, I analyze participants' interviews and policy and research documents where discourses unfold.

Discourse analysis in my study focus on practices where researchers from different academic, generational, cultural, and linguistic backgrounds bring different voices and worldviews and embrace the production of knowledge when working in IRC. Discourse analysis helps to reveal the contextual realities in which scholars' work develops. Besides, it provides a better understanding of these international initiatives in a world of interconnections. Thus, discourses of IRC knowledge production are key components for the comparative analysis of the three research networks in my study.

Discourses involve disciplinary/interdisciplinary knowledges and practices of knowledge production in IRC, as well as policies that affect the work of the networks.

These discourses are entangled in flows and disjunctures as enablers and constraints of IRC knowledge production. I identify two main discourses that emerge from my findings: neoliberal discourse and pluridimensional discourse. I come back to these contrasting discourses in my discussion chapter (7). But, in order to analyze my findings and the underpinning discourses of IRC knowledge production, I organize my data by themes.

Themes for data analysis

In this dissertation, I organize my collected data by themes attentive to the research questions of my study and the information gathered from documentary research and semi-structured interviews. In my findings chapters (5 and 6), I identify six main themes: the relational contexts of the Canadian and the two Colombian research networks; actors/nodes and research networks' configuration; interconnections and practices of knowledge production in IRC, including activities of the research networks; productive effects of knowledge production in IRC; enablers as flows of knowledge production in IRC; and constraints as disjunctures of knowledge production in IRC. These six themes comprise the description of my data and situate the three cases or units of analysis.

In my discussion chapter (7) the comparative analysis unfolds based on the three research networks that are described in the findings chapters, but in particular, from themes that emerge as commonalities and differences among them. These commonalities and differences situate the discourse analysis in a broader sense.

Data triangulation is a continuous methodological strategy during the whole process in my study (Stake, 2005). It supports the comprehensive, detailed, and in depth interpretative analysis within and between cases, and allows accuracy and credibility of

findings (Denzin & Lincoln, 2005; Patton, 2002; Stake, 2005; Yin, 2014). The emerging

themes and discourses from my findings in each research network and their relational

contexts, as cases or units of analysis, helped to bring together the comparative analysis

in this study. Hence, a cross-case analysis (Patton, 2002, p. 438) facilitates identifying the

common and unique features of the cases and better illustrates the nuanced practices of

IRC knowledge production in transnational space.

Ethical considerations

Qualitative research, in particular, qualitative interviewing, brings significant

challenges to both participants and the researcher as well. Patton (2002) states "[t]he

process of being taken through a directed, reflective process affects the persons being

interviewed and leaves them knowing things about themselves that they didn't know−or

at least were not fully aware of−before the interview" (p. 405). Thus the interview

process involves a different experience for each participant where unknown ideas and

feelings are involved. To this extent, the interviewer needs an ethical framework to face

these challenges and start with clear information about the study. This information has to

be provided to the interviewee before starting the process. Being open-minded during the

interview helps to understand participants' responses and to clarify any question

participants may have. Also, during the interview it is important to focus on the research

questions and have time to conduct the interview comprehensively.

In qualitative inquiry, the values and interpretations of the researcher are always

present (Patton, 2002). Therefore, the researcher has to express her/his positionality and

voice. Accordingly, research that involves international fieldwork requires, from the

researcher, a permanent self-reflection of experiences, attitudes, and feelings in

intercultural encounters as a sine qua non condition in the research. As mentioned in the introductory chapter, my positionality in this study involves an 'in-betweenness' (Crossley, Arthur & McNess, 2016) that has been part of my academic and personal journey. Since I was born in Colombia and settled in Canada ten years ago, conducting interviews with scholars in both countries and using both English and Spanish elicits many feelings and memories. These feelings and memories undoubtedly suggest more questions than answers during the writing phase of this dissertation.

From a more general starting point, there are a number of ethical considerations to make explicit. First, the comprised risk in participating was minimal for all the individuals involved in this study. Answers to the questions included in the semi-structured interview questionnaires are confidential. All identifiable information of the participants was removed. Codes were assigned with the purpose of maintaining participants' confidentiality. In the same way, specific information regarding policy and research documents was not disclosed in the findings and discussion chapters to ensure the anonymity of the research networks and the universities to which these networks are tied. After finishing the study, the provided information has been kept protected and encapsulated or destroyed. Upon completion of the study, the members of the three research networks will have access to the final document of the doctoral dissertation.

Summary

This chapter included the qualitative methodological framework and approaches of the study. Qualitative methodology is framed by the constructionist approach that aligned with a comparative and exploratory multiple-case design of three distinct research networks tied to universities in Canada and Colombia. Two methodological

approaches framed the data gathering and analysis, namely, SNA and Foucauldian

discourse analysis. Methods and data collections tools included policy and research

documents, and semi-structured interviews; research networks' and participants'

selection and recruitment criteria, as well as codification. Data analysis focused on

discourse analysis in this study. Finally, ethical considerations were also included. In the

two next chapters, I will present the findings of the study.

Chapter 5: Findings - Canadian Research Network

Overview

In chapters 5 and 6 I include findings from the field collected through semi-structured interviews and policy and research documents. I use the specific research questions of my study to organize themes that emerge from data. The research questions that I answer in this chapter are:

1. What are the contexts of the research networks?

2. Who are the actors involved in IRC in their respective research networks?

3. How are they engaged in IRC?

4. What influences the processes of knowledge production in IRC? What are the enablers and constraints?

5. What are the effects of IRC?

In doing so, I present the configuration of the networks identifying their actors (nodes) and relationships (ties), which help to describe their different individualities and discourses. The interconnections among actors represent practices of IRC knowledge production in transnational space. Across the description of the research networks, I consider their socio-cultural, political, historical, and economic conditions in connection to their relational contexts (i.e., universities and countries to which these networks are linked). The thick description of these research networks, and the delineation of the units of analysis, scaffolds the analysis and discussion within and across cases that I present in subsequent chapters.

This chapter presents the findings from the Canadian Research Network (CAResNet) and Chapter 6 presents the findings from the two Colombian research networks (COPubResNet and COPriResNet). In both chapters, I first define the relational context of each research network. The Canadian and Colombian relational contexts entail the research networks' linkages to their higher education systems according to the universities and countries to which they are tied. The term relational is used here to indicate that the space within which knowledge production emerges is one that relates or is connected to other broader contexts within each setting. In these higher education systems, I explore the internationalization policies, and in particular, policies of knowledge production in IRC. Second, I identify the actors that represent the nodes in each research network and the role they embody in the configuration of these networks. Third, I depict the interconnections or ties between actors in each network to describe practices and activities of knowledge production in IRC. Fourth, I describe the productive effects of IRC in knowledge production in each research network. Fifth, I identify the disciplinary/interdisciplinary knowledges and policy discourses, as well as resources, which enable and constraint practices of knowledge production in IRC within each of the research networks.

Canadian Research Network (CAResNet)

This Canadian research network was formally established in 2007 as they won a seven-year grant from the Social Sciences and Humanities Research Council of Canada (SSHRC).

Relational context of the Canadian research network

The Canadian research network (CAResNet) is tied to one of the universities in the province of Ontario. This is a research-based university in which IRC is not only part of its current strategic plan (Canadian University, 2014) and international strategy (Canadian University, 2014-2019), but also it is part of its historical tradition of international practices at the university. Internationalization has been one of the main foci of this university during the last decade (Canadian University, 2004). There is a steadily growing connectivity and international mobility of faculty, graduate students, and postdoctoral fellows (coming and going abroad) to do research internships and/or IRC in this university. Conferences, academic meetings, and other scholarly events are part of ordinary international processes of this institutional community to mobilize, exchange, and co-construct knowledge among peers. Hence, knowledge production in IRC is part of the academic practices of scholars that participate in international events. It is worth noting that this Canadian research network involves interconnections with scholars in other universities in the country and in other countries, which I fully describe in the next part of this section.

The higher education system in Canada is decentralized. As Jones (2014) asserts there is no national "system", no national ministry of higher education, and no national higher education policy in Canada (p. 1). The provincial government administers and supports higher education by mandate under Canada's constitutional federation (Jones, 2014), but different institutional structures and regulations characterize the higher education system in each province. The latter receive transfers from the federal government to be released to the different higher education institutions within the

province, yet funding for research is directly and indirectly supported by the federal government (Fisher et. al., 2006; Jones & Oleksiyenko, 2010). Direct research funding has been provided by the three major granting councils: Canadian Institutes of Health Research –CIHR, Natural Sciences and Engineering Research Council of Canada – NSERC, and Social Sciences and Humanities Research Council of Canada –SSHRC; with recommendations of an elaborated peer-review process. This research funding has been offered to support areas of research considered nationally strategic such as technology transfer and commercialization of knowledge by each council since 1990. Due to the national deficit in the mid 1990s, the federal government incorporated major cuts in transfers to the provinces for higher education and less funding for research, mostly in the social sciences and humanities (Jones & Weinrib, 2014). To counterbalance the risk of brain drain of highly skilled Canadian researchers to the United States, the federal government created new initiatives such as the Canadian Research Chairs at Canadian universities to provide research support (Jones & Oleksiyenko, 2010). This initiative and the decentralized condition of Canada's higher education system also within the provinces allow universities a high level of autonomy.

To this extent, IRC practices of faculty, graduate students, and postdocs at Canadian universities are funded by external, major federal, provincial, and non-governmental grants, international foundations, agencies and companies, and, in less proportion through internal, university grants. Both the external and internal grants entail highly competitive applications annually. As the Vice-Provost of the Research Office in the Canadian university to which this network is tied stated, "[there] is a limited amount of money that is available to Canadian researchers, and it is also very competitive"

(CAVPResOff, personal communication, January 30, 2015). Thus, these competitions induce a tremendous effort in researchers to get funded.

In addition, there is no national strategy of internationalization of higher education in Canada. On the contrary, "the work of internationalization is being performed through the connections between many actors at different policy levels" (Viczko & Tascón, 2016, p.1). These interconnections determine the diverse participation of actors from the federal, provincial, national, and institutional bodies, as well as from non-governmental associations in the internationalization policy processes of higher education. To this extent, there is a decentralized approach to higher education policy in this country (Jones, 2009, 2014; Jones & Olesksiyenko, 2011; Trilokekar, 2009) along with a diversified policy actors' engagement with internationalization (Viczko & Tascón, 2016).

In tandem with this multifaceted policy scenario of the internationalization of higher education, there is a dominant neoliberal 'social imaginary' (Taylor, 2002) that has shifted the traditional notion of knowledge. From being a public good in higher education, knowledge becomes capital to be marketed and traded (Olssen, 2009); knowledge turns out to be fixed to financial interest for economic growth at the domestic and international landscapes (CBIE, 2013; CMEC, 2011; DFATD, 2014). This way of thinking refers to a cognitive adaptation (Andreotti, 2010) where knowledge is framed under the economic features of the industrial age. Moreover, IRC is also understood as a useful mechanism of prestige and competitiveness with other countries around the world (Isabelle & Heslop, 2011). In tracing the reasons why higher education policy and particularly policy on the internationalization of research and knowledge production in

Canada turned to commercialization, some scholars pointed out two particular trends that influenced the policymaking decisions by 1990s: on the one hand, the need of the government to focus on policy and investment to promote innovation, knowledge, and research; on the other hand, the simultaneous trend of globalization to move forward free trade and open borders to engage in the knowledge-based economy (Alexlrod, Trilokekar, Shanahan & Wellen, 2011). This is a challenging reality for scholars in this highly contested terrain of internationalization of higher education in which the Canadian research network of my study is embedded.

The diversified higher education system in Canada is very much engaged in a fast paced environment of the knowledge society in our globalized world (Jones & Weinrib, 2014). It provides advanced communications and information technologies that become essential resources to connect higher education scholars with peers across borders in order to participate in IRC. Besides, there is a high quality and demanding academic level that creates an atmosphere for knowledge mobilization and creation. English is usually the language of knowledge production, but French is also used due to the bilingual nature of this country. It is also important to mention the inclusive and multicultural academic ethos of this university community as constitutive of this Canadian research network. This ethos contributes to an open-minded perspective to engage in IRC with peers across institutions and countries.

Actors/nodes and research network's configuration

The description of actors/nodes and the configuration of the network I present in this section were drawn from data gathered from nine interviewees and the research network's webpage. The webpage provided general information about researchers, their

lab, their organization, and their participation in the project, which I verified with participants through the interviews.

As mentioned, this Canadian research network was established as they won a seven-year grant from the Social Sciences and Humanities Research Council of Canada (SSHRC). Before they obtained the grant, some of these scholars in small groups (from universities in the provinces of Ontario, British Columbia, and Quebec) worked on several exploratory processes and activities (CAProf1, personal communication, February 3, 2015; CAProf6, personal communication, January 12, 2015). The aim of these initial groups was to identify experts on their research topic –in Hispanic and pre-Hispanic studies– and other disciplines from other countries who could collaborate with them and complement their Canadian capacities (CAProf1, personal communication, February 3, 2015).

The network developed by means of interconnections between scholars. For instance, an interviewee recalled that "[he] was invited by CAProf1, but … [first] heard about [him] through one of [his] colleagues, CAProf13, who is an artist historian" (CAProf16, personal communication, May 27, 2015). This network involves 35 active actors/researchers who maintain direct connections in the network. Half of these scholars are from Canada and the other half are from Australia, Bolivia, Brazil, England, Germany, Mexico, Spain, and the United States. This is an interdisciplinary research network including scholars from the following academic disciplines: Literary Studies, History, Sociology, Fine Art, Music and Musicology, Anthropology, Geography, Computer Science, Architecture, and Mathematics. This network is not only interdisciplinarity, but inter-cultural/-societal in its makeup.

Researchers in this network were organized in four main groups according to their related disciplines. Each group has a professor who leads the group (CAProf1, CAProf2, CAProf3, and CAProf4). It is important to notice that the network involves not only the direct actors/researchers, but also indirect actors such as university staff and external (national/international) actors who temporarily participate in or support the research network. The Table 5.1 below involves the codes of the actor/nodes and descriptors of the research network's members including direct and indirect actors. The asterisk (*) in Table 5.1 indicates individuals I interviewed for the study.

Table 5.1   Canadian Research Network - CAResNet

Code/node	Descriptor
CAProf1*	Network coordinator - Professor Hispanic Studies
CAProf6*	Professor History & Hispanic Studies
CAProf16*	Professor Arts and Humanities
CADr1*	Doctor/Alumni in Hispanic Studies
CADr2*	Doctor/Alumni in Hispanic Studies
CADr3*	Doctor/Alumni in Hispanic Studies
CADr4*	Doctor/Alumni in Hispanic Studies
CAPhD*	PhD Student - Hispanic Studies - Works in the Lab
CAVPResOff*	Vice-Provost Research Office
CAIntOff1	International Office (connected to CAProf1)
CAResFac1	Research Faculty (connected to CAProf1)
CAIntOff2	International Office (connected to CAProf2)
CAResFac2	Research Faculty (connected to CAProf2)
LatinNet1	A global network named Americanists which connects researchers across the world
CAProf2	Professor - Hispanic Studies (Research Area socio-cultural)
CAProf3	Professor - Technologies (Research area technological)
CAProf4	Professor - Modern Languages and Literatures (Research area artistic)

CAProf5	Professor - Architecture
CAProf7	Professor - History and Literature
CAProf8	Professor - Information and Media Studies and Sociology
CAProf9	Professor - Computer Science
CAProf10	Professor - Statistic and Actuarial Science
CAProf11	Professor - Languages
CAProf12	Professor - Modern Languages and Linguistics
CAProf13	Professor - Art History
CAProf14	Professor - Art History
CAProf15	Professor - Geography
CAProf17	Professor - History
CAProf18	Professor - Anthropology
CAProf19	Professor - Hispanic Visual Art
CAProf20	Professor - Art History and Cinematography
ProfAu	Professor - Cultural Studies and Communication - Australia
ProfBO	Professor - Musicology - Bolivia
ProfBR	Professor - Art History - Brazil
ProfES1	Professor - Modern History- Spain
ProfES2	Professor - American History - Spain
ProfES3	Professor - Computer Science and Artificial Intelligence - Spain
ProfMX1	Professor - Art History - Mexico
ProfMX2	Professor - History - Mexico
ProfMX3	Professor - Philosophy - Mexico
ProfMX4	Professor - Art History and Musicology - Mexico
ProfMX5	Professor - Art History - Mexico
ProfMX6	Professor - Musicology - Mexico
ProfUS1	Professor - Languages and Culture - The United State
ProfUS2	Professor - English and Latin American Studies - The United States
ProfUS3	Professor - Spanish and Literary Theory - The United States
CADr5	Doctor/ Alumni - Hispanic Studies
CADr6	Doctor/ Alumni - Hispanic Studies
CADr7	Doctor/ Alumni - Hispanic Studies
CADr8	Doctor/ Alumni - Spanish and Latin American Literature

CADr9	Doctor/ Alumni - Hispanic Studies
CADr10	Doctor/ Alumni - Hispanic Studies
CADr11	Doctor/ Alumni - Hispanic Studies
CADr12	Doctor/ Alumni - Hispanic Studies
CADr13	Doctor/ Alumni - History and Hispanic Studies
CADr14	Doctor/ Alumni - Hispanic Studies
CADr15	Doctor/ Alumni - Hispanic Studies
CADr16	Doctor/ Alumni - Hispanic and Italian Studies
CADr17	Doctor/ Alumni - Hispanic Studies
CADr18	Doctor/ Alumni - Hispanic Studies
CADr19	Doctor/ Alumni - Hispanic Studies
CADr20	Doctor/ Alumni - Hispanic Studies
CADr21	Doctor/ Alumni - Hispanic Studies
CONet	Colombian Network
CAUNet	Canada University Network

Codes for direct and indirect actors (nodes) and descriptors of the nodes in the CAResNet
* Interviewees

The visualization of the network below (Figure 5.1) shows the configuration of

the CAResNet including interconnections among professors, students, alumni, staff

members, and other networks.
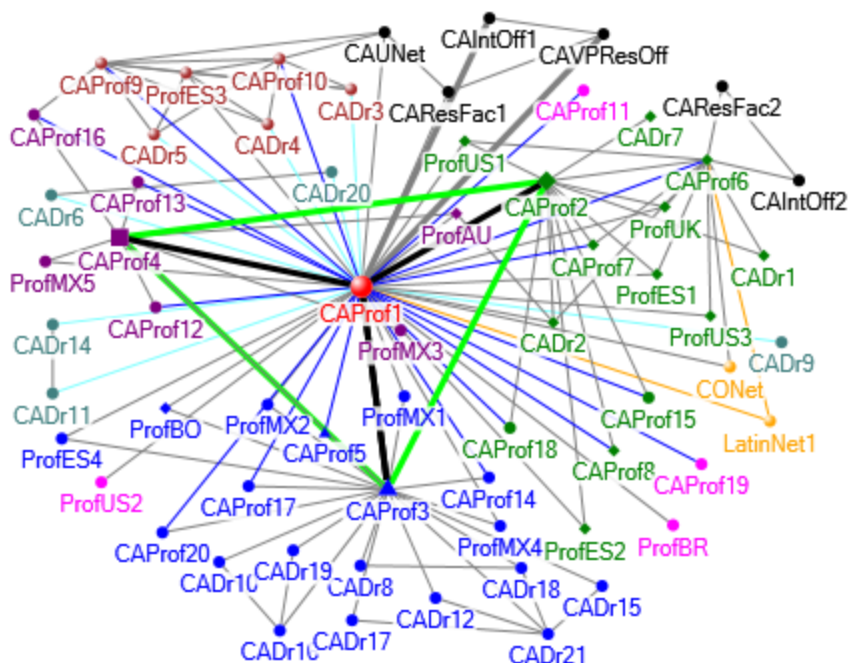
Figure 5.1   Canadian Research Network - CAResNet

Interconnections as practices of knowledge production in IRC

A large red circle in the middle of the grid above represents a central actor,

professor 1 (CAProf1), who is the coordinator of the entire network. This graph

represents what Crossley et al. (2015) call an ego-net, which I described in Chapter 4.

This central actor/researcher (CAProf1) in connection with the other three professors who

lead the other three research areas (CAProf2, CAProf3, and CAProf4) played a crucial

role in the process of coordinating and managing the different activities and practices of

the network's main project. Connected with them are professors and students, as well as

staff and other external actors who appear on the list above. It is worth noting that this

network includes other interconnections, but I essentially depict the primary ones that I

discuss in my analysis. These relationships among actors create a complex set of

interconnections defining the socially produced space within and across this particular

network in which practices of IRC knowledge production emerges.

The visual graph of the CAResNet above depicts multiple interconnections that

represent practices and activities of IRC knowledge production that link one actor to each

other within the network. These interconnections are also channels of communication

between direct actors/researchers, and other indirect actors and networks. The centrality

of CAProf1 in connection to CAProf2, CAProf3, and CAProf4 situates the leadership of

these actors within the network and facilitates communications among them and all other

actors in this relational space. The four groups previously mentioned were defined

according to four research areas: Theoretical and Digital Archives area in connection to

CAProf1; Socio-Cultural area to CAProf2; Technological area to CAProf3; and Artistic

to CAProf4 (see nodes in brown, green, blue, and purple respectively to depict these four

professors). Each leader/professor is a specialist in a different area, but not necessarily

from a different country. CAProf1 leads the entire research network, as well as the

theoretical and digital archives research area within the network. As the major leader of

the network said,

> *cada grupo adopta una perspectiva para analizar los mismos tres
> problemas…todos estábamos intentando resolver los mismos problemas pero
> cada uno desde su punto de vista.* [working in this project each group of scholars
> had its own perspective to analyze three main research problems (own
> translation)]. (CAProf1, personal communication, February 3, 2015)

Thus, each group had its own organization and internal dynamic to come up with

different activities of knowledge production through international collaborative practices.

For instance, as CAProf6 stated,

yo estoy muy bien metida en el grupo socio-cultural y es con éste grupo que he tenido la mayoría de mis interacciones, las publicaciones, las reuniones [I am very much involved in the [socio-cultural] group in which I have most of my interconnections, meetings and co-publications (own translation)]. (CAProf6, personal communication, January 12, 2015)

The interconnections among researchers and the organic characteristic of each area working semi-independently strengthen the articulation of the whole network. Thus, these multiple and diverse interconnections contributed to creating new knowledge over the seven years that the network has been in existence. As CAProf6 said,

por la gracia de la gente con quienes estaba trabajando hemos tenido la posibilidad de integrar los idiomas, digamos, multidisciplinarios [because of people we have been working with, we have the possibility to integrate multidisciplinary 'languages' (own translation)]. (personal communication, January 12, 2015)

The set of different interconnections within the research network allowed, at the same time, an interdisciplinary approach among actors to engage complex research problems from distinct worldviews. According to Professor 1,

esto ayuda a analizar lo que son los procesos de emergencia y de complejidad [en el conocimiento acerca del tema de investigación] ... ver que ocurrió es muy importante para entender el pasado pero sobre todo para entender lo que está ocurriendo hoy, a nivel de la globalización [It helps to analyze the emergence and complexity of processes of knowledge regarding Hispanic and pre-Hispanic studies during the past and in relation to our globalized present (own translation)]. (CAProf1, personal communication, February 3, 2015)

Participants in this CAResNet highlighted the opportunity to engage with complex problems from interdisciplinary worldviews in connection to a global perspective whilst working in this network during a long period of time.

The research network used complexity theory as its major theoretical and methodological framework in addressing the three research problems of the project and to embrace the network researchers' different approaches and interdisciplinary perspectives.

It provided them with an inclusive and comprehensive interpretive space to articulate

particular approaches to research from each group within the whole network. As the

CAProf1 said,

> *la teoría de la complejidad, lo que sabemos es que el énfasis hay que ponerlo no tanto en las partes que interactúan en un proceso, en los elementos separados, como en las relaciones que tienen, sobre todo lo que emerge a partir de esas relaciones….miramos lo que emerge y a partir de allí intentamos estudiar como emerge…en términos de sistemas, de procesos de sistemas. Entonces estamos aprendiendo conforme vamos avanzando* [Complexity theory put the emphasis not on the components we study separately, but on their relationships. Moreover, on what emerges from those relationships…and how it emerges…we analyze systems and the systems processes using network analysis. We are learning in tandem with our project's progress (own translation)]. (CAProf1, personal communication, February 3, 2015)

Interestingly, this research network engages with a kind of network analysis and

graphs, as does my dissertation, although they used large-scale and quantitative data

analysis. Participants in this CAResNet emphasize that they use a complexity theory

approach and network analysis to examine how knowledge is relationally produced and

emerges as a process of interconnections.

There were annual group meetings and less frequent whole network meetings to

define goals, what to do, how to do it, and when to deliver tasks. The whole network

gathered for academic meetings, conferences and other events, but also for executive

meetings. The latter were held around every three years and were responsible for writing

reports to present within the research network and to major granting agencies. As

CAProf16 stated, "not only we were collaborating intellectually, but we were also

collaborating in terms […] of the kinds of preoccupations of this project that we were

able to take up through [other countries]" (CAProf16, personal communication, May 27,

2015). This research network's work represented not only the process of IRC knowledge

production, but also the management of the research activities and events in different settings. Participants inform how they engaged in collaborative processes of knowledge production and the work of the network.

Activities of the research network

There were multiple forms of activities and practices of knowledge production in IRC, created through diverse interconnections among researchers. First, there was the exchange and co-construction of knowledge in order to address the three main problems of the major research project which include: academic discussions, sharing bibliographic resources, creating databases, writing papers and manuscripts for publications, and preparing exhibitions. Second, a comprehensive program was developed for the training of graduate students, which involves their participation in the governance of the project and the design of specialized courses. Third, knowledge was mobilized through different local and international events –in Canada and abroad– such as academic meetings, workshops, conferences, concerts, exhibitions, co-publications, and partnerships.

As an example of the beginning processes of knowledge production in IRC in the artistic group of the research network, CAProf16 described his experience in this way:

> Initially there was some travel that involved a professor, the co-curator, as well as a research assistant. We did some travel in Canada, we also went to New York and as we began that process we were in all meetings with artists in their studios; that is a form of collaboration or a sort of an exchange. But we were also meeting with gallery owners, directors, people that work in the commercial galleries that represent these artists. So in a certain sense what we were beginning is an on going conversation. (CAProf16, personal communication, May 27, 2015)

This participant highlighted several ways in which researchers collaborated, starting and during the processes of knowledge production in IRC. This experience shows how knowledge production in IRC involves diverse activities and practices.

Regarding students' experiences of the process of knowledge production in IRC an alumnus said: *Participar en IRC te obliga a reformular tus propias metodologías de trabajo y a adecuarte a lo más internacional posible* [Working in IRC drives you to reformulate your own methodological approaches and to adjust your work with an international perspective (own translation)] (CADr3, personal communication, February 12, 2015). More particularly in relation to the training program for graduate students one alumnus stated that, "[w]orking with people [in data analysis, graphs and network analysis] from different fields in different places you get to cross those boundaries a little bit between disciplines, but also international boundaries as well" (CAPhD, personal communication, September 21, 2015). Another alumnus also referred to the training program and knowledge mobilization during this project, explaining that they wrote articles that were published in a book, did presentations, received training from a researcher from Spain and experimented to develop various digital tools. These findings indicate the diverse ways students were involved not only in training within the network, but also in the process of IRC knowledge production. These experiences contributed to them learning and opening up their research perspective through an interdisciplinary and international mindset.

Productive effects of knowledge production in IRC

The evolution of the Canadian research network and the main project they carried out during seven years produced tangible and intangible products. The tangibles include

five conferences (i.e., in the United States, Mexico, Spain, Canada, Bolivia), three gallery exhibitions (i.e., in Canada museums), fieldwork and several concerts (i.e., in Bolivia), several master theses and dissertations, many co-publications, the development of software and cultural analysis, as well as the lab to store and analyze data. Professors' and students' co-publications entail three volumes, more than 100 journal articles, website information about the project, and updates. For instance, the arts and humanities group prepared and delivered exhibitions regarding the research problems of the main project, as well as wrote a special catalogue about their work. Researchers from the socio-cultural group investigated identity in the Hispanic studies doing several presentations in their research network's conferences, and wrote numerous articles and books (CAProf6). The technologies group explored early modern techniques or technologies not properly machine-like, but those that "arise from the mind, the heart, and the body" (Book-Chapter, CAProf14 & Prof17, 2008) adaptable to circumstances and time in the earlier 15th and 16th centuries. This group of researchers explored and collected a lexicon created from both Spaniards and Spanish Americans and also worked on numerous co-publications. Researchers from the theoretical and digital archives concentrated their work in the lab. Led by the coordinator of the whole research network this group gathered and processed the information from all groups assembling the entire main project, and creating archives under the complexity theory approach. As Professor 1 pointed out,

> *se trata de procesos muy complejos que requerían mucho análisis detallado de casos específicos y a la vez cierta capacidad para abstraer a un nivel conceptual mucho más elevado de lo que estaba pasando [en la historia, o las artes, o las humanidades] y ser capaz de abarcar todos estos procesos* [It is about very complex processes that required a lot of detailed analysis of specific cases. It requires certain abstract capacity to extract at a higher level of conceptualization

something that was happening [in the history, or arts, or humanities] and to embrace all of those processes at the same time (own translation)]. (CAProf1, personal communication, February 3, 2015)

This group also produced graphs and web materials through specific internally created software and computational tools, and co-publications that involved the individual groups and the entire CAResNet's work.

Working as research assistants for the main research project, PhD students who are now alumni (CADr1, CADr2, CADr3, CADr4) reviewed literature and created databases. Students' dissertations, although some of them were more directly related than others to the main research project, served to enrich students' perspectives and work.

The whole research network engaged in knowledge mobilization through the process and the closing phase of the project. Knowledge mobilization was addressed not only to the network's members, but also to the society through different events. As mentioned, there is a co-publication that the artistic group produced, which is a catalogue for an exhibition of the research stream of the main project. They produced both "the catalogue and the international exhibition open to the community", according to a researcher of the network (CAProf16, personal communication, May 27, 2015).

To mobilize knowledge, the Canadian research network organized conferences in other countries. For example, a conference in Latin America locally-placed offered scholars in the community the opportunity to participate, who were unlikely to attend in other countries. Further, professors and graduate scholars got the opportunity to know other academic and their norms and practices. As an alumnus stated,

> *[estas conferencias te permiten darte cuenta de cosas como por ejemplo] en México hay cosas que interesan que no interesan en Estados Unidos; que en Estados Unidos hay cosas que interesan que en México no se platican pero para*

nada y que realmente nadie, y bueno, primero hay lo del lenguaje. Hay cosas que se publican en español que nunca se traducen al inglés, no sólo por la lengua pero porque hablan de cosas que no interesan en un país o el otro…tener una red internacional te da la posibilidad que vas a tener que elegir tal publicación, para que mercado intelectual es, pero [también] vas a poder saber más cuáles son los mercados intelectuales, cuáles son las cosas que se platican en tal o tal país [these conferences bring about things that for example are relevant to someone in Mexico, but might not be relevant in the United States. Also, there are things that are published in Spanish that are never translated to English…having an international network gives you the opportunity to know about the audience that is going to read your research and to understand whether what you are doing has or has not relevance to them (own translation)]. (CADr1, personal communication, January 15, 2015)

CAProf16 said, "when you are looking internationally, you are not only experiencing into the odd language barriers, you are doing travel, you are dealing with all kinds of different cultural expectations" (CAProf16, personal communication, May 27, 2015). When participants relate these experiences, they acknowledge the opportunity to be mobile, and to participate in intercultural encounters that enrich their understandings of other countries, cultures, and languages.

As intangible processes in this research network, professors and students had the opportunity to collaborate internationally and participate in international conferences where they met other scholars and worked with them. Professor 6 considered these international collaborations as "*algo invaluable*" [something priceless (own translation)]. She explained the value of international collaboration:

eso es muy importante para los estudiantes de tener la posibilidad que su profesor conoce otro profesor que a lo mejor sería bien de ir a trabajar en archivo en otro lugar o estudiar allá. Bueno digamos que es un círculo de 'knowledge production' y es muy, muy, importante. Y eso no sería lo mismo si estuviera limitado a un país ó a América del Norte [that is very important for students that their professor has other colleagues in other countries since they could go to work or study there. It is a circle of 'knowledge production', which would not be the same if it would be limited to a one country or to North America (own translation)]. (CAProf6, personal communication, January 12, 2015)

Another alumnus (CADr3) expressed,

en las reuniones del congreso había un montón de gente; todos especialistas y además de muchas disciplinas. Rara vez tienes la oportunidad de estar en un ambiente tan variado y tan diverso. Entonces eso es invaluable [It is not usual having the opportunity to be involved in a very diverse academic environment with many professors from different countries and in relation to many disciplines. This is invaluable (own translation)]. (CADr3, personal Communication, February 12, 2015)

Other alumnus pointed out,

a través de este grupo [red] de investigación se puede tener el acceso a un conocimiento más amplio, especialmente con algo tan específico como es el tema de investigación [this research network allowed us access to a broader knowledge, especially to approach something as specific as the research topic of our main project (own translation)]. (CADr2, personal communication, January 20, 2015)

Professors and students emphasize the opportunity to participate in this research network and expand their connections with other professors and peers. They highlight how knowledge is shared and enriched through these interconnections. In addition, CADr2 stated,

cuando estuvimos en Colombia el año pasado, yo conocí unos estudiantes que trabajaban en un convento que es museo y tiene una galería de arte allá… entonces, hubo un intercambio de información con ellos acerca de piezas de arte en relación con mi propia investigación [when we as researchers met in Colombia last year, I met some students there who work in the museum/art gallery. I exchanged information with them about pieces of art that were useful to be included in my own research (own translation)]. (CADr2, personal communication, January 20, 2015)

She continued,

se puede adquirir muchas ideas en los congresos, al escuchar a los participantes …es una manera de ampliar el conocimiento y pensar en cosas de una menear distinta. Claro, y además hay las conversaciones que pasan entre los congresos por ejemplo cuando cenamos o algo se habla de la investigación y siempre hay alguien que tiene una nueva idea para investigar algo distinto de otra perspectiva [I acquired many ideas at our conferences, listening to other researchers... It is a way to expand knowledge and think about things differently. And then there are conversations that happened between researchers. For example when we dined,

there was always someone who had a new idea to investigate something different from another perspective (own translation)]. (CADr2, personal communication, January 20, 2015)

This quote again emphasizes the significant contributions of this research network in relation to scholars learning experiences and opportunities to develop their academic career.

Giving students the opportunity to participate in this project, in the research network's meetings and conferences provided them a way to engage in deeper discussions about a research topic. As an alumnus expressed,

> *Los congresos de asociaciones grandísimas en realidad los temas son tan generales… o sea que realmente se tenía el tiempo de desarrollar algo y lo que hacía que era interesante es que la gente desarrollaba sobre un tema que podía recoger y profundizar mucho* [it exposed us to work more fruitfully in contrast to the conferences of big associations where the topics and discussions are more general (own translation)]. (CADr1, personal communication, January 15, 2015)

Besides, another alumnus stated,

> *yo nunca había trabajado con investigadores de otras disciplinas. Ahora mis metodologías de trabajo son grupos de trabajo y con varias disciplinas* [I had never worked with researchers from other disciplines. Now my methodologies are with research groups including diverse disciplines (own translation)]. (CADr3, personal communication, February 12, 2015)

In engaging in multiple discussions, in different settings, and with scholars from diverse academic and cultural backgrounds, new scholars had valuable experiences and learning opportunities that they had had not experienced before.

Other intangible transformations were produced by the IRC of the network. The coordinator of the research network explained that he observed,

> *un cambio de mentalidad…[lo que ayuda a] superar los prejuicios que hay inicialmente entre los profesores de aprender, de dificultades para ser capaces de gestionar un montón de intereses diversos entre las personas* [change of mindset…[that helps] to overcome preconceptions of professors and researchers

to learn [something new], as well as the capacity to manage diverse interests among individuals (own translation)]. (CAProf1, personal communication, February 3, 2015)

This experience then provided a new way of thinking to scholars within the network.

Also, other researchers identified significant changes during the development of the project through IRC. For instance, a PhD student pointed out "Working in IRC is to break… down that kind of disciplinary or national boundaries…and the advantage I see is that really it allows you to broaden your perspective and see things that you may not have seen before" (CAPhD, personal communication, September 21, 2015). This graduate student continued explaining the productive effects of IRC, "While I have been working on the preliminary projects for the past three years, I have learnt so much because I have to learn, be able to produce what I needed to produce for the research. So I think that it is really great" (CAPhD, personal communication, September 21, 2015). Moreover, a professor mentioned that,

> *siguiendo el proyecto de una estudiante en relación a un museo en México, hemos visto el proceso de cambio de cultura y de mentalidad, y un proyecto muy, muy interesante* [looking at a particular student project in relation to a Mexican Museum, we have seen a cultural mental change and a very, very interesting project (own translation)]. (CAProf6, personal communication, January 12, 2015)

There were several examples in the interviews that emphasized the significant effects of participating in IRC with this research network

Scholars of this research network also mentioned the importance of the relationships established with other scholars through IRC. As a professor stated,

> *la colaboración internacional en investigación es muy importante por muchas razones, y una de las más importantes es porque los contactos con esta gente en otras partes siguen durante toda la vida* [IRC is very important for many reasons and one of the most important is contact with other people that is for the rest of

our life (own translation)]. (CAprof6, personal communication, January 12, 2015)

Another professor also emphasized the significance of the relationships between researchers in this network who affirmed:

> A lot of really deep personal kinds of connections made among the researchers, a sense of a real community, and a kind of shared, a kind of creative intellectual imaginative work that we did, and so I think that that kind of thing is not so measurable, but I do think that the team of the [artistic group] is one that in part is really about, in some sense an imaginative space that is not measurable. (CAProf16, personal communication, May 27, 2015)

To this extent, as several scholars mentioned, the productive effects of IRC have lasted more years than the project timeframe (seven years in a row) and created significant and long-lasting linkages among them.

Enablers of knowledge production in IRC

This Canadian research network obtained significant financial and institutional support during the development of the long-term project that I detail here. As mentioned, they held a 7-year grant; in total they obtained $ 2.5 CAD million. Also, this research network had support from scholars and their universities in other cities in Ontario, in other provinces (British Columbia and Quebec), and in other countries (Australia, Bolivia, Brazil, England, Mexico, Spain, and the United States). Many of the professors in each university had in kind support and tenure, to dedicate to the project. Museums and other entities contributed locally and in other countries. With the contribution of these partners the total budget approached $ 4 CAD million. When researchers win these large grants, it is important not only to the individual scholars, but also to the university as a whole. "It provides money to do research projects of great magnitude and enhance prestige to the university in the community", stated the Vice President of the Research

Office (CAVPResOff, personal communication January 30, 2015). In addition, universities in Canada provided Masters and PhD scholarships for students, which represent a significant support to the research network as well.

Regarding the norms and ways to spend the money from the large grant, researchers in this CAResNet had clear principles within the research network. As CAProf6 stated,

> *hubo mucha autonomía adentro del proyecto, entonces uno tiene que ser muy responsable en todas las cuentas, uno tiene que saber lo que puede gastar, por qué y cómo* [there was a lot of autonomy to manage the available resources; therefore, you had to be very responsible about knowing what, why, and how you spend money (own translation)]. (CAProf6, personal communication, January 12, 2015)

This example shows not only the availability of resources that professors had to develop the main project of the research network, but also the autonomy to manage and develop the research project.

Scholars of this network were provided with communications and information technologies, as well as resources for travel and face-to-face meetings. This particular research network has a specialized research lab that is located at the university to which this network is tied. The lab was financially supported by a grant from the Canadian Institute of Management (CIM) Program that the Principal Investigator, coordinator of the network, and graduate students obtained while working on the main project in this university. At the institutional level, there was support to review the SSHRC grant writing and the CIM grant to build the lab, as well as to set up the account and contracts to manage the money during the project timeframe. In addition, "public communications were also delivered to announce the project to the community using university news,

webpage, brochures, newspapers, and the like" (CAVPResOff, personal communication,

January 30, 2015). According to the coordinator of the research network,

> *ha habido mucha energía positiva entorno al proyecto y eso ha sido muy importante…gente involucrada en todos los países a nivel institucional, y de apoyo, incluso, en muchos casos de los medios de comunicación* [there is positive energy to the project of many people in different countries at the institutional level and the media have been a very important support (own translation)]. (CAProf1, personal communication, February 3, 2015)

This research network involved 15 graduate students as research assistants who

also were engaged with their own related studies. For example, CAProf6 pointed out,

> *los estudiantes que han participado, lo han hecho en un rol muy parecido a los profesores. …pero por supuesto había una posibilidad de aprovechar de la experiencia académica de los profesores* [students have participated in a similar role as professors do, but of course there is an opportunity for students to take advantage of professors' academic experience (own translation)]. (CAProf6, personal communication, January 12, 2015)

It provided space for graduate students to be engaged in a rich and

multidisciplinary environment to learn and create new knowledge. They had the

opportunity to present their papers in academic meetings and congresses internationally,

as well as to discuss their own work and co-publish with professors and other colleagues.

As a PhD alumnus stated,

> *tuvimos la oportunidad de poder compartir conceptos, teorías, entrar en diálogos además y discusiones mediante la red, con profesores de Alemania y de España en este planteamiento transdisciplinar que se llevo a cabo en principio* [we had the opportunity to share concepts, theories, having dialogues and discussions with professors from Germany, or Australia, or Spain in a transdisciplinary approach within the network (own translation)]. (CADr4, personal communication, February 12, 2015)

One student in Canada (CADr2) mentioned a relationship established with a

professor in Australia (ProfAu) that provided her the opportunity of having her

dissertation manuscript reviewed and later on she co-published with this professor. As she stated,

> *cuando intente publicar mi manuscrito, sabía que podía contar con ProfAu, en Australia como revisora. Ella no estaba en nuestro subgrupo pero me ofreció muchas ideas y fuentes importantes para fortalecer el manuscrito…De hecho, el año pasado me invitó a publicar en su libro* [when I initiated the process of publishing my manuscript, I knew I could count on ProfAu, in Australia, as a reviewer. Although she was not in our disciplinary group, she offered me many ideas and important sources to strengthen the manuscript…Then, last year, she invited me to publish in her book (own translation)]. (CADr2, personal communication, January 20, 2015)

Students in this research network had the support not only from their supervisor, but also from other scholars who were able and interested in providing them knowledge and useful resources to their individual projects.

One of the main enablers of knowledge production in this research network was the participation of many scholars from different disciplines. As stated by Professor 1,

> *creo que hicimos algo bastante innovador que tiene que ver con incorporar gente de la ciencia, de la matemática y de la computación al equipo para avanzar en el desarrollo de tecnologías digitales que nos permitieran cuantificar algunos de los procesos que habíamos visto en su desarrollo histórico* [I believe we did something very innovative as we incorporated people from science, mathematics, and computer science within the [research network] to go further in some of the processes that we had seen in the historical development of arts and humanities (own translation)]. (CAProf1, personal communication, February 3, 2015)

This research network engaged with diverse disciplinary perspectives that were supported by scholars from different disciplines.

Process, time, presence, and communication were identified as aspects that help to build trust, group work, and achievement of knowledge production in IRC in the Canadian research network. For instance, regarding communication, a PhD student pointed out "[c]ommunication is probably the best norm [the network] can come up with"

(CAPhD, personal communication, September 21, 2015). Presence is other factor that

scholars find very important to build trust in IRC. A professor mentioned,

> *uno puede tener una comunicación virtual con alguien, y tener un a colaboración muy linda con un profesor en otro lugar sin conocerlo. Pero en mi opinión, hay otros elementos más que se producen cuando la gente se encuentra y puede sentarse a charlar y que es muy importante porque hay un elemento de trust. Por ejemplo yo tengo colegas con quien yo puedo decir a un alumno puedes ir a trabajar con él/ella, esta persona va a servirte bien en tu desarrollo intelectual, esta gente es buena gente* [One can have a virtual communication with someone to have a wonderful collaboration with other professor in other country without knowing her/him, but in my opinion I think there are other elements that are produced when people meet and can sit together to have a conversation because there is trust building…from there I can send a student to work with another colleague who would benefit her/him (own translation)]. (CAProf6, personal communication, January 12, 2015)

Scholars in this network value their opportunity to meet in person with other

scholars and engage in fruitful discussion regarding their own area of research and the

main research network's project.

Also, dedicated time with colleagues and understanding the value of IRC as a

process is very important as Professor 6 explained:

> *El grupo [del área socio cultural] es muy coherente y se puede ver su nivel de cohesión pues ya se terminó el proyecto, ya no tenemos más dinero para hacer nada, pero vamos a encontrarnos en España el próximo año financiando el viaje y todo eso por su propia institución. Pues es que es un grupo muy productivo y ha sido muy interesante trabajar con esta gente y entonces nadie quiere dejar al lado las posibilidad de hacerlo* [The group [in the socio-cultural area] is very coherent and we can see the level of cohesion of the group since the project is finished, we do not have more money, but we are going to meet in Spain with our institutional resources as professors next year. Because the group is very productive and it has been very interesting working with this group; therefore, people do not want to lose the opportunity to continue working together (own translation)]. (CAProf6, personal communication, January 12, 2015)

Likewise, the professor coordinator emphasized that: "*tener esa generosidad*

intelectual y de tiempo ha sido muy importante" [this intellectual and time generosity

have been very important in this network (own translation)] (CAProf1, personal

communication, February 3, 2015). Obtaining Canadian grants, researchers had

significant benefits in their professional career, but it did not represent money that they

own personally. Researchers gained additional work, support to students, resources to do

the project, and prestige at the end. Participants emphasized that they had financial

support to carry out a massive project, but that this support also came with an immense

responsibility and workload in addition to current academic commitments.

Researchers' commitment, willingness, hard work, and an inclusive and global

perspective provided positive energy to foster knowledge production in IRC. In

particular, professors' inclusive and open-minded perspectives provided a welcoming and

engaging experience to students within the research network. As Professor 6 stated,

> *yo puedo decir que el grupo siempre ha recibido a los estudiantes con mucho respeto y con felicidad de ver lo que están haciendo pero los estudiantes han sido, muy, muy fuertes también* [I can say that the group has always received students with respect and happiness seeing what they are doing, but students have also been very, very strong and skillful as well (own translation)]. (CAProf6, personal communication, January 12, 2015)

She continued, "Looking at a particular student's project in relation to a Mexican

Museum, we have seen a cultural mental change and a very, very interesting project"

(CAProf6, personal communication, January 12, 2015). In addition, a global perspective

is much appreciated by this group as professor 1 pointed out, "*esto tiene que ver con la*

realidad mundial y que es difícil entender cualquier proceso sino se mira a nivel global"

[currently, it is difficult to understand any problem if we do not consider it at the global

level (own translation)] (CAProf1, personal communication, February 3, 2015). These

quotes demonstrate professors' willingness to create a safe and welcoming academic

environment, as well as acknowledging student's work and participation in the work of

the network. Another quote below support also support this claim. As one of the alumni said,

> *había un ambiente tan relajado y respetando el trabajo de todo que podías estar con otros investigadores y CAProf1 tomando un café y platicando de tus temas de investigación o del fútbol. Esto es una cosa que yo no he visto más que en este proyecto. Esa posibilidad de interacción de pares con los grandes investigadores. Como estudiante fue maravilloso poder tener eso. Y eso lo aplico ahora con mis estudiantes* [[t]here was a very friendly environment among scholars in the research network. We as students could have a coffee and chat about research or other topics such as football with CAProf1 who is a very important researcher. It is something that I had never seen before. As a student, it was amazing having the opportunity to interact as a peer with important researchers. Now, I apply it with my students (own translation)]. (CADr3, personal communication, February 12, 2015)

The commitment and hard work of the group demonstrated important results. As CAProf1 explained, "*ha habido una serie de procesos de crecimiento orgánico en toda la red*" [there have been organic changes and evolution of the whole research network (own translation)] (CAProf1, personal communication, February 3, 2015). This professor also stated,

> *la investigación se hace mucho más rápida si se trabaja con más investigadores…es mucho más interesante trabajar con 15 puntos de vista que con uno* [research is faster among researchers...and it is more interesting working with 15 points of view, rather than one (own translation)]. (CAProf1, personal communication, February 3, 2015)

The work of researchers in this network demonstrated their capacity and commitment to embrace a project of a large magnitude. It also allowed many transformations that shaped the work of the network and individuals who were connected at the university, to which the network is tied.

Constraints of knowledge production in IRC

On the other hand, there were also considerable constraints that interviewees mentioned. The process to come up with a grant application of this magnitude and maintain it running during the process implied big challenges and tensions. The [research] groups, [according to the four areas in the network], had to dedicate a lot of energy to apply for grants (around 18 months) instead of doing work that had to be done. Also, the elaboration of reports and meeting deadlines simultaneously with academic commitments in their respective universities represented important challenges to all professors of the network. As CAProf1 stated,

> *entonces lo más complicado es acostumbrarse a un ciclo de trabajo que es completamente disímil con el que tienes normalmente en tu lugar de trabajo… Entonces vivir en esos dos tiempos yo creo que es un poco lo que más trabajo cuesta. Hay que tener una especie de mentalidad Zen* [The most difficult part is to get used to a work cycle different to the one you have in your work place, living in two tempos is difficult. It is like living in two worlds, a kind of Zen mentality (own translation)]. (CAProf1, personal communication, February 3, 2015)

Keeping the motivation during the long process and coordinating the heterogeneity and individual perceptions of the whole network alongside one's home-faculty responsibilities were significant challenges to him.

To engage with different perspectives, ways of working, and personalities had been challenging for all professors and graduate students in the research network. For instance, CAProf6 pointed out,

> *yo hago mi propia investigación, pero en relación con el proyecto no era necesariamente la teoría de mis investigaciones entonces yo he tenido que reorganizar y reformular también la forma de analizar la información 'to fit into de framework'* [I do my own research, but in relation to the project I have to reorganize and reformulate my theoretical framework and the way to analyze the information 'to fit into the framework' (own translation)]. (CAProf6, personal communication January 12, 2015)

Also as CAProf16 stated, "I think we were having to not only become familiar with the kinds of concerns and questions that we were dealing with, but we also had to become more familiar with the kinds of methodologies and disciplinary languages of different researchers" (CAProf16, personal communication, May 27, 2015).

Also, in relation to the different approaches in the research network, a graduate student working as a researcher assistant explained,

> *cuando estábamos trabajando sobre la bibliografía ...El desafío fue de verlo de una manera muy pragmática, cómo puede servir esa base de datos a todos esos investigadores que son de disciplinas diferentes* [when I was working with my colleague on literature review for the project, it was challenging to me figure it out in a pragmatic way to come up with a database that could serve all those researchers that are from different disciplines (own translation)]. (CADr1, personal communication, January 15, 2015)

Scholars in the fields of arts and humanities have usually worked individually and sometimes it can become a preconception whether working in a group would allow for the production of important results or not. In relation to this matter, an alumnus said, "*para mi el primer reto fue de trabajar en equipo. Fue lo más difícil, pero a la vez, lo más útil*" [my first challenge as humanist [in this research network] was to work in a team (own translation)] (CADr3, personal communication, February 12, 2015). It is worth noting that constraints in this research network were associated directly to the challenges researchers faced working in teams and collaborating with each other to achieve demanding goals in the main project. The scholars' increased workload whilst participating in this massive project added significant academic pressure to professors, which also represented a constraint to deal with during the development of the project. Hence the project and its expectations, as well as the willingness to participate in it,

determined important transformations in their own ways of working as researchers and

their commitment to the research network.

Chapter 6: Findings - Two Colombian Research Networks

The Colombian public research network (COPubResNet) was formally established in 2004 with the purpose of creating and developing programs and research projects regarding teaching/learning, research, and academic service in the area of pre-Hispanic studies. This network is linked to a public university. The Colombian private research network (COPriResNet) was created around 2008 as an initiative in response to the frequent academic dialogue between a professor and his students about cultural heritage and pre-Hispanic studies. This network is linked to a private university.

Relational context of the Colombian research networks

One Colombian research network is tied to a public university; the other, to a private university. The universities are located in different provinces. The public university depends entirely on state funding and regulation. The private university, though also regulated by the state, is self-financed through student tuition and particular sponsorships. The latter is a non-sectarian institution (independent of political parties or religion). The research networks are not connected to each other and foster their international academic relationships according to their own priorities, resources, and associated institutional and national mandates. The two institutions to which these research networks are linked are research-intensive universities with high levels of interest and moderate involvement in internationalization processes and IRC. These research networks are linked to these universities through the professors' and students' academic affiliations.

Both of these universities were created in the 1940s and have developed international connectivity with universities in other countries since their beginnings. Part of this connectivity has contributed to the mobility of faculty and alumni through international scholarships from other countries (e.g., Canada, the United States, and countries in Europe). These scholarships were provided to scholars pursuing masters and doctoral degrees abroad and then returned to strengthen programs and IRC in their university community. Some professors and students of the public and private universities obtained their master and doctoral programs abroad in Latin American countries such as Argentina, Brazil and Mexico. Some scholars' relationships with Colombian colleagues abroad represent diasporic interconnections that have been maintained during a large period of time. Moreover, these diasporic interconnections produced effects that shape the configuration of the two Colombian research networks described later in this chapter.

Current policies of internationalization at these two universities demonstrate that IRC is a key priority. According to the internationalization of research and artistic creation policy of the public university, it supports, "joint international projects, international scientific and artistic events, formation of research networks, international publications with authors of several institutions or co-editing, and international peer review and collaborative works [own translation]" (Colombian Public University, 2014). In the private university "great importance is given to collaborating in research with other countries…through doctoral students and professors' internships… [the university pays much attention to] international co-authorships, in which the international collaboration is concretized far beyond the agreements [own translation]" (Colombian Private University,

2011). Knowledge production in IRC takes place in these research networks tied to these universities, but it faces significant challenges that are further described. As part of these challenges, these research networks have limited expenditure for international initiatives for scholars to attend conferences, academic meetings, and other international events. In addition to financial constraints, there is a basic difference between the private and public universities in this country. Public universities have sabbatical leave provisions, but private universities do not. As a professor in the private university stated "we have limited time allocated to do research and there is not sabbatical in this university" (COPriProf2, personal communication, November 7, 2014).

To these universities, IRC is important to obtain visibility and prestige internationally. Also, IRC facilitates international funding. As the International Office interviewee of the Colombian public research network stated,

> *las colaboraciones internacionales no son sólo una necesidad de captación de recursos sino de reconocimiento de la educación superior de Colombia, lo que es incluso más necesario* [not only is IRC a means to financial resources, it also constitutes positive recognition of Colombian higher education, which is sometimes even more necessary (own translation)]. (COPubIntOff, personal communication, November 18, 2014)

In a similar way, the Assistant of the Research Office at the Faculty of Social Sciences at the private university describes internationalization as a process when,

> *es que dejemos de estar tan cerrados y la colaboración no siempre tiene que ver con recursos económicos sino mas bien para que nos demos a conocer, y sepamos, incluso no repitamos errores sino que hagamos cosas que de verdad sirvan que sean mas pertinentes para ambas partes y que salga también una investigación también de más calidad y de más difusión* [we should stop being so closed. Collaboration does not always have to do with economic resources, but rather than that we make ourselves known. It helps that we do not repeat errors and do things that really serve and become more pertinent to both parts. Also, that we do an investigation of more quality and more diffusion…it is that we break the borders of the local and pass to the regional, as well as the international (own translation]. (COPriResFac, personal communication, November 4, 2014)

Internationalization of higher education is then a priority for both universities to which these networks are tied. This interest in internationalization represents to these universities not only academic development, but also a means to elevate their status and visibility internationally.

The higher education system in Colombia is regulated under the constitution by the Ministerio de Education Nacional –MinEducación (National Ministry of Education) and in association with several national organizations to ensure its quality and accessibility as a public service. The constitution grants public and private institutions academic and administrative autonomy in coordination with national law. The Departamento Administrativo de Ciencia, Tecnología e Innovación (COLCIENCIAS) (Administrative Department of Science, Technology, and Innovation), leads, guides, and coordinates Colombia's national policy on science, technology and innovation. It operates a national research database system that registers active researchers and research groups from public and private universities and other research centers and institutions, as well as their research projects according to areas of knowledge (COLCIENCIAS, 2015). Researchers of the two Colombian research networks and their research projects are registered in COLCIENCIAS' database.

Notwithstanding the assumed centralized policy approach of the higher education system in this country, the lack of a national policy of internationalization of higher education has implied independent and disarticulated actions between the national government, higher education institutions, international organizations, and other agents (Mejía, 2015). Recently, in response to this fragmented internationalization policy scenario, the Ministry of Education and the Observatorio Colombiano de Ciencia y

Tecnología (OCyT) (Colombian Observatory of Science and Technology), created a document named Reflections to the Internationalization Policy of Higher Education in Colombia co-authored by diverse national and international actors (OCyT, 2014). Also, a guide for the Internationalization of Research is a comprehensive document created by the association of accredited universities in the country (CCYK, 2015).

It is worth noting that the market driven orientation of knowledge production in IRC, as well as university rankings worldwide, have informed the creation of indicators and strategies of internationalization of higher education in Colombia (CCYK, 2015; OCyT, 2014). IRC is considered not only as a means of knowledge creation, but also as "a profitable investment, [that at the same time], leverages international resources and greater research funding" (CCYK, 2015, p. 17). This view of internationalization of higher education enhances IRC as a way to gain prestige. It challenges scholars in the Colombian relational context to compete and engage at the international level no matter what are the limitations and uneven conditions at the local institutions.

The higher education system in this wider relational context is increasingly engaged in the wave of the fast passed environment of our globalized world (ASCUN, 2010). There is a trend to internationalize the university, and provide new technologies that facilitate more fluent interconnections with other educations systems across the world. Particularly, these two Colombian research networks linked to public and private accredited universities provide access to information and communication technologies to faculty and, to some extent, to students as well. These resources allow researchers to maintain contact, share knowledge, and work on projects of mutual interests with their peers across borders. Knowledge mobilization is a usual practice among colleagues since

resources that are not digital or located in accessible libraries can be shared online between peers. Based on the internationalization policies of higher education at the national and university levels, the two universities are culturally open and very welcoming to foreign students and faculty. These characteristics facilitate researchers in both research networks to establish mutual respect and facilitate IRCs with international scholars.

Spanish is the native language in this wider relational context. The private university has a high level of bilingualism with English as the main second language. Certain students also dominate languages such as French, German, and Italian. The public university has a moderate level of bilingualism, but English is not the main second language. Students study and use second languages such as Portuguese, French, Italian, German, among others. Although most researchers in these research networks have a certain level of Spanish-English bilingualism, given the dominance of English in the highest ranked international journals, Colombian researchers' manuscripts are still disproportionately rejected from scholarly journals compared to English manuscripts. Also, there is limited access to publishing in these international journals due to the knowledge perspectives that are valued. In the next chapter I provide particular examples of these constraints in each research network.

I present the two Colombian research networks separately and in parallel organization to Chapter 5. For each network I describe the following dimensions: the particular actors/nodes and research network's configuration, interconnections as practices of knowledge production in IRC, productive effects of knowledge production in IRC, as well as enablers and constraints of knowledge production in IRC.

Colombian public research network (COPubResNet)

Actors/nodes and research network's configuration

The description of the actors/nodes and the configuration of the Colombian public research network (COPubResNet) draw upon data gathered with eight interviewees and the webpage of this network. The latter includes general information about researchers, their projects, their direct link with a museum, and other useful resources. This information served initially to select the research network and was also confirmed in the interviews.

As mentioned, this research network was established to create and develop programs and research projects regarding teaching/learning, research, and academic service in the area of pre-Hispanic studies. This network is relatively small. It involves eight (8) permanent and active actors/researchers including professors, students, and alumni who maintain direct interconnections in the network. One alumnus is a postdoc in Mexico. Another is a university professor working in another province, in Colombia, who did her PhD in Argentina. Interconnections of those alumni and professors who have been abroad are part of a diaspora network. This is a multidisciplinary research network including scholars from Archaeology, Paleontology, Musicology, Ethnomusicology, Geophysics, Biology, and Art Design.

The network comprises not only the direct actors/researchers mentioned above, but also indirect actors such as university staff and external (national/international) actors who temporarily participate in or support the research network. External actors that are part of my study are mentioned in the list (Table 6.1). Also these external actors are

included in the visualization of the network (Figure 6.1) below. The asterisk represents

actors that participated in the semi-structured interviews in this study.

Table 6. 1   Colombian Public Research Network - COPubResNet

Code/node	Descriptor
COPubProf1*	Network Coordinator (Professor-Archaeology and Museum director)
COPubProf2*	Professor - Musicology
COPubProf3*	Professor - Geophysics
COPubPostdoc*	Postdoc/Alumni -Paleontology (In Mexican University)
COPubDr*	Doctor/Alumni -Archaeology (In other Colombian University)
COPubMon*	Student-monitor-Art Designer
COPubIntOff*	International Office
COPubVicResOff*	Main Research Office
COPubProf4	Professor - Ethnomusicology
COPubProf5	Professor - Biology
COPubResFac1	Research Office Faculty of Integrated Arts
EuroAsianNet	EuroAsian network mostly from Russia connected to COPubProf1
COPubUNet	University network which includes students and other professors
CONatNet	National network related to cultural heritage
LatinNet1	A global network named Americanists which connects researchers across the world
LatinNet2	Mexican researchers
LatinNet3	Argentinean researchers
USNet1	US network connected to Prof3
EuroNet4	EU connected to Prof2
CANet	Canadian network connected to Prof2
USNet2	US network connected to Prof1 (Funding for publications)
COLocalNet3	Local network connected to Prof2
COLocalNet4	Local network connected to Prof3
EuroNet5	German network connected to Prof3

COPubResFac2	Research Office Faculty of Physics
COPubResFac3	Research Office Faculty of History
EuroNet6	Italian network connected to COPubPostdoc
LatinNet4	South American network connected to COPubPostdoc
COLocalNet5	Local network connected to Postdoc
COLocalNet6	Local network connected to Dr.
COLocalNet7	Local network connected to Monitor

Codes for direct and indirect members (nodes) and descriptors of the nodes in the COPubResNet
*Interviewees

Figure 6.1 below depicts the configuration of the COPubResNet involving the interconnections of the central actor/node and other direct actors/nodes (professors, students, and alumni) and indirect or external actors (staff and other research networks).
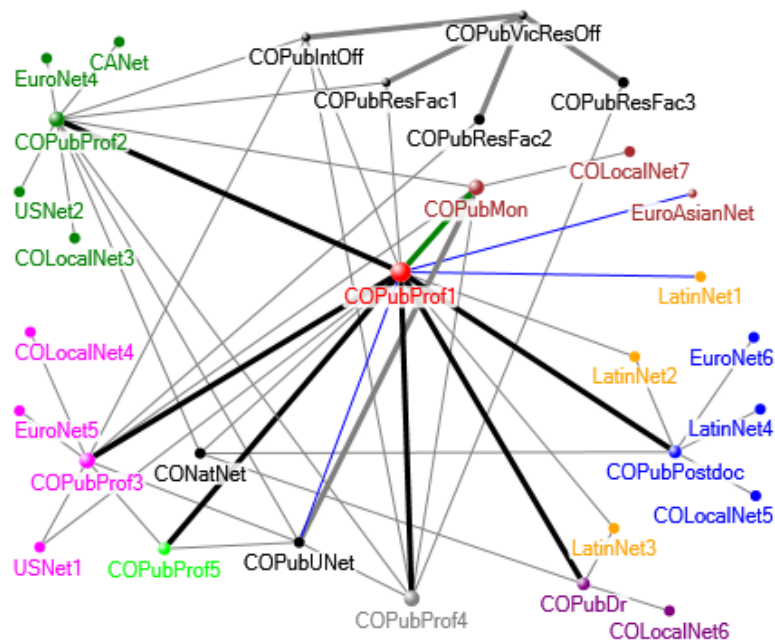
Figure 6. 1   Colombian Public Research Network - COPubResNet

Interconnections as practices of knowledge production in IRC

The coordinator of this network, Professor 1 (COPubProf1) is a scholar who obtained his doctoral degree abroad in Russia. He is a central actor/leader, represented by a large red circle in the middle of the visual graph below (see Figure 6.1), to whom other professors, students, and alumni are directly connected. Similarly to the CAResNet, the centrality of one professor as coordinator of the research network defines its characteristic as an ego-net (Crossley et al., 2015). This professor also has indirect connections with staff and other (national/international) actors. These interconnections define the relational space of knowledge production in IRC that is socially produced among actors of the research network.

The configuration of this Colombian public research network (COPubResNet) presented above involves interconnections as channels of communication between direct actors/researchers and indirect actors and other networks. These interconnections represent activities that link one actor to each other within the network. The central actor, the professor/coordinator (COPubProf1), leads the research network and is strongly connected to other professors (COPubProf2, COPubProf3, COPubProf4, and COPubProf5), as well as to alumni (COPubDr, COPubPostdoc), and a student assistant (COPubMon) who designs and manages information of the webpage and other materials such as brochures and posters.

Each of these researchers is a permanent member of the network who, at the same time, has her or his own connections to other nodes/networks and researchers internationally. In this network, actors, and their respective linked nodes/networks, are represented by different colours (e.g., COPubProf2 and her own network in colour green;

COPubProf3 and his own network in pink; COPubPostdoc and his own network in blue, etc.). This means that the central actor in this research network is not directly tied to all the actors/nodes represented in the network. The direct actors of the network develop some independent and some common research projects, but this relational academic space supports in diverse ways researchers and their work. This network focuses on four main research areas (Environmental Archaeology; Socio-cultural Archaeology; Pre-Hispanic Aesthetics; Contemporary Villages and Archaeological Footprints; Bio-Archaeology) according to the disciplines and interests of permanent, direct actors/researchers constituting this transdisciplinary research group. To integrate the different perspectives in the research network the coordinator of the network explained, "*la filosofía del grupo es la filosofía del pensamiento complejo o la complementariedad del conocimiento*" [the philosophical foundations of the network are based on complex thought or complementary knowledge (own translation)] (COPubProf1, personal communication, November 10, 2014).

Activities of the Research Network

COPubResNet was established within a museum and lab that belong to the university library. The central actor (COPubProf1) of the research network is also the director of these units (the museum and the lab). Therefore, different activities and practices of knowledge production in IRC of this network are first of all associated with the museum's and the lab's interconnections and events. Second, these activities and practices respond to the mission of teaching/learning, research, and academic service of these units of the university involving professors, students, alumni, and community.

Although this research network fosters many activities, in particular exhibitions in the

local community, I only focused my study on their IRC practices.

For instance, there is a project that COPubProf2 developed with COPubProf4 and

COPubProf1 about pre-Hispanic music instruments using archaeological pieces from the

museum. As COPubProf2 stated,

> *en el 2006 tuve la oportunidad de conocer al COPubProf1 y arrancamos este*
> *proyecto que es el que hemos estado trabajando con un par de profesores. ... El*
> *tema que yo trabajo se llama Arqueo-musicología. Es un tema muy nuevo que*
> *sólo pocos investigadores lo conocen internacionalmente* [I met COPubProf1 in
> 2006 and since then we have been studying pre-Hispanic music instruments,
> aerophones, with two other professors. This topic of Archaeomusicology is very
> new and only few people internationally do this kind of research (own
> translation)]. (COPubProf2, personal communication, November 12, 2014)

This practice of analyzing pre-Hispanic music instruments has inspired this

professor to find other scholars internationally who are interested in the topic of

Archaeomusicology.

COPubProf2 was a visiting scholar in Alberta, Canada and brought recorded

sounds with those pre-Hispanic instruments to do computer compositions based on the

recordings. Also, she brought those recordings to her Masters in Music program in the

United States to create other compositions. Later on, she presented her research in

different conferences internationally. As she pointed out,

> *en colaboración con colegas en otros países se ha tenido feedback acerca de un*
> *software que alguien desarrollo en Alemania y que nos servía mucho para la*
> *investigación de nuestro grupo de investigación* [establishing IRC with colleagues
> in other countries offers the opportunity to have feedback and to access software
> that become very useful to our own projects in the research network (own
> translation)]. (COPubProf2, personal communication, November 12, 2014)

This professor established collaboration with other scholars internationally who provided her resources to continue developing her research when she was doing her master's degree abroad.

The interconnections of researchers in this network with other scholars internationally contribute to the common projects within the network, but at the same time, the museum provides other international connections that contribute to researchers' individual projects. For instance, COPubProf2 said,

> *a través de este grupo podemos relacionarnos con otros museos a nivel nacional, regional y a nivel internacional para trabajar con otras colecciones* [this research network allows interconnections with other museums in other countries and to access to other archaeological artifacts (own translation)]. (COPubProf2, personal communication, November 12, 2014)

Besides, researchers in this network have exchanged knowledge and discussed their own individual research. Therefore, this research network has become a space of reflection and discussion among colleagues to find the way to create common research projects of IRC within the network and beyond.

This research network's major interconnections are with researchers in Mexico, Russia, and the United States, as well as, more regionally, in South America (Peru, Venezuela, Ecuador, and Argentina). COPubProf1 mentioned,

> *nosotros estamos haciendo un proyecto conjunto, nosotros vamos juntos en todo: los informes; van los tres directores del proyecto en Rusia, México y nosotros; formamos estudiantes en cada país; y cada uno pone sus propios recursos* [At the moment we are planning a research project with our colleagues in Russia and Mexico. Our plan is that we all invest, we all have our students in each program in each country, and we will do it together (own translation)]. (COPubProf1, personal communication, November 10, 2014)

Several professors of this network are also connected with an international research network focused on Latin American studies (LatinNet1) and have participated in

five conferences in different countries. COPubProf2 found being part of COPubResNet

helpful because of the multiple interconnections with scholars internationally. As she

said,

> *a través de la red podemos reunirnos con otros investigadores y compartir*
> *académicamente soluciones, o conocimiento, o bibliografía* [the network provides
> the opportunity to meet with international peers and engage in interesting
> discussions to share academically solutions, or knowledge, or bibliography (own
> translation)]. (COPubProf2, personal communication, November 12, 2014)

Researchers in this network value the opportunity to maintain their

interconnections with other scholars in other countries, particularly in South America, to

share their knowledge and resources. Participating in conferences they engage in

discussion about their own projects.

Professors in this research network provided seminars in other countries bringing

their research to teach and exchange knowledge with other scholars. For example,

COPubProf1 stated,

> *esos seminarios de maestría y doctorado los hemos hecho en México, en Costa*
> *Rica, y en Perú. También cuando fuimos a hacer un proyecto de investigación al*
> *Perú, nosotros presentamos nuestra investigación, acerca de Paleo-patologías,*
> *patologías antiguas* [we did special seminars in Masters and PhD programs in
> Mexico, Costa Rica, and Peru. In Peru we brought our interdisciplinary research
> about Paleobiology (own translation)]. (COPubProf1, personal communication,
> November 10, 2014)

Also, professors in the network have used their international connections to bring

to the university visiting scholars and give students the opportunity to listen to and

interact with international scholars. A COPubProf1 said,

> *nosotros apoyamos la investigación de los profesores y estudiantes que están*
> *vinculados a la Universidad…y preparamos los estudiantes para estudiar afuera.*
> *Nosotros sabemos que los mejores lugares para estudiar en nuestra área son*
> *México, los Estados Unidos, y Rusia* [we support professors' and students'
> academic processes and research development in the university…also we prepare
> our students to apply to study abroad… In our field we know that Mexico, the

United States and Russia are the best places to study (own translation)].
(COPubProf1, personal communication, November 10, 2014)

Scholars in this research network maintain their interconnections with
international colleagues to deliver seminars and collaborate in relation to their research
projects.

The experience of being connected to this research network has allowed students
to access broader learning and create new knowledge. They establish contact with foreign
professors, share their learning experiences and research projects, access broader
bibliographical resources, and explore new research venues. As a student (COPubMon)
stated,

> *hace unos meses vinieron unas arqueólogas y estuvieron haciendo un análisis con
> COPubProf1. Esto fue un análisis comparativo entre piezas arqueológicas de
> culturas de la región, con unas piezas de culturas de México. Esto nos permitió
> ver el contraste de investigaciones que se hacen acá e investigaciones afines que
> se hacen en otros contextos culturales* [when visiting Mexican archaeologists
> came a few months ago, they worked with our professor (COPubProf1) analyzing
> and comparing archaeological pieces in our museum. This collaboration allowed
> for us, as students, to see how studies are being done here and also hear foreign
> researchers talk about similar studies that are being done in their own countries
> (own translation)]. (COPubMon, personal communication, November 14, 2014)

Students through this research network had the opportunity to interact with
international scholars and learn about similar archaeological studies developed in other
countries. Another way of doing IRC that contributes significantly to student learning
was the co-supervising of a PhD student in Argentina by COPubProf1 in collaboration
with the student's Argentinian supervisor. This doctoral student was COPubProf1's
former student in the university in Colombia.

After working for three years with this research network as a technology assistant,
an undergrad student (COPubMon) of the Art and Design program became part of it and

decided to develop his own research under the supervision of COPubProf1. He was in charge of designing different materials and managing the webpage of the research network and the museum. Also, other students in the university participated in different international events that this research network organized. These events generally involved two to three week seminars and other meetings to discuss research interests and mutual projects.

Productive effects of knowledge production in IRC

This research network in association with the museum developed an academic space where interconnections of researchers with other scholars internationally contributed to the creation of new knowledge. Researchers in this network had experienced IRC through different individual and group research projects. These experiences in IRC provided tangible and intangible forms of knowledge production during its ten years of existence. Tangible productive effects of knowledge production include the co-supervision of several theses in masters and doctorate programs, and co-publications of several journal articles in English, Russian, and Spanish. Between 2007 and 2011, this research network also published an international journal of Latin American archaeology. This research network organized diverse events including exhibitions, conferences, and other presentations such as symposia and forums with visiting scholars. Also, members of this network taught seminars in other countries and presented research findings in international conferences abroad.

Maintaining interconnections with foreign scholars or the Colombian diaspora abroad, researchers in this network developed an important source of exchange of knowledge using pieces and artifacts from the museum. As COPubPostdoc said,

algunas de la muestras que tenía el grupo, que había escavado, –dientes-, yo las utilicé para elaborar la tesis en mi doctorado en la universidad Nacional de Córdoba en Argentina [I used some of the archaeological pieces –teeth– from the museum in my doctoral dissertation in the National University of Cordoba, Argentina while being in connection to this network (own translation)]. (COPubPostdoc, personal communication, November 15, 2014)

He continued explaining his participation with the research network: "*en algunas ocasiones han salido muestras de dientes entonces yo he estado en esas excavaciones*" [I occasionally went to archaeological excavations with this group because there were some teeth to collect (own translation)] (COPubPostdoc, personal communication, November 15, 2014).

In the interview with COPubDr, she pointed out that the co-supervision of her doctoral dissertation between the professor coordinator of this network and her supervisor in the University in Argentina ensured a better way to analyze data from the fieldwork in Colombia. She stated,

> *COPubProf1 fue de hecho mi co-director de tesis. Entonces el apoyo de COPubProf1 fue muy importante, porque es uno de los arqueólogos que más sabe de Arqueología Vallecaucana. Y yo sabía que no solamente por su conocimiento y su experiencia sería fundamental, sino también por sus aportes en el proceso de co-dirección. Además que él duró muchos años haciendo trabajo de campo y a través de él pude conectarme con gente local que fue muy valiosa y me facilitó muchos procesos, sobre todo en los trabajos de campo que realicé en esa zona* [having COPubProf1 as my co-supervisor in Colombia was very important because he is one of the archaeologists that knew more about my research topic in this region of the country. I knew that he would be good supervisor not only because of his knowledge about my research topic, but also because of his contribution during the co-supervision's process. Moreover, since he had a lot of fieldwork experience in that area, I could contact local people through him, which was valuable and facilitated my fieldwork there (own translation)] (COPubDr, personal communication, November 18, 2014)

This participant's experience illustrates not only tangible productive effects of knowledge production in IRC, but also intangible ones.

Researchers in this network mentioned other intangible productive effects of knowledge production in IRC through different events that they organized. For instance, as the coordinator of the network said,

> *a través del museo y con el grupo de investigación organizamos eventos como el seminario internacional de museos de Eurasia que hicimos entre noviembre y diciembre del 2003… Lo mismo lo de la visita de las arqueólogas este año, en septiembre* [we organized an international seminar of Eurasia museums in 2003 with international researchers…also, we had visiting scholars from Mexico in September this year (own translation)]. (COPubProf1, personal communication, November 10, 2014)

In relation to these events, students had the opportunity to discover new ideas and practices and become more open-minded and innovative. As COPubProf3 said,

> *los estudiantes tienen la posibilidad de compartir con otros investigadores internacionales los estudios que hacen aquí, lo que les permite valorar la investigación desde otras perspectivas* [having the opportunity to share their research interest with other scholars internationally, students start to see and value the work that they do here at the university from other perspectives (own translation)]. (COPubProf3, personal communication, November 12, 2014)

These events demonstrate collaborative experiences among scholars, which contribute to students' learning in this research network, as well.

Productive effects of knowledge production in IRC in this research network occurred also through diverse means such as their webpage, and most importantly, among researchers and their individual networks. As COPubDr mentioned,

> *yo comparto con otros investigadores referencias bibliográficas y artículos a través de Internet que no se encuentran en las bibliotecas. Lo cual me permite reconocer el valor de publicaciones locales que están impresas y que no se encuentran en Internet. Algunas veces mis colegas en otro país se encargan de escanear los materiales y me los envían a través del correo electrónico* [we share bibliographical references and articles with other researchers through the Internet that we cannot find in libraries. Moreover, it gave us the opportunity to acknowledge the value of local publications in print that are not online. Some colleagues from other countries who studied with me in Argentina scanned materials and then sent them to me by e-mail (own translation)]. (COPubDr, personal communication, November 18, 2014)

Scholars' international connections involved a continuous process of interaction between researchers not only within the network, but also with other researchers who contributed to processes of knowledge production in IRC.

Enablers of knowledge production in IRC

As mentioned, this COPubResNet is directly tied to a museum and its lab as part of the university library. Thus, this research network develops research, academic programs, and service to the community (nationally and internationally) through the museum. It this way, the museum affords space and basic resources to host academic meetings, exhibitions, conferences and other academic events in the network. As the coordinator of the research network states,

> *este museo es muy diferente a un museo de la ciudad donde solamente hacen exposiciones. Como es parte de la biblioteca universitaria, en este museo hacemos investigación, docencia y extensión de acuerdo a la misión de la Universidad* [this museum is different to a museum of the city, which usually only does exhibitions. Being part of the library, in this museum we research, teach, and promote academic service to the community according to the university mission (own translation)]. (COPubProf1, personal communication, November 10, 2014)

> Moreover, as COPubProf1 stated,

> *tenemos en el museo casi 4.000 piezas arqueológicas. Hay una colección osteológica de más de 250 huesos de individuos prehispánicos, además de fotos, afiches y otros materiales que usamos en la colaboración internacional* [the museum possesses a collection of around 4000 archaeological pieces, and more than 250 bones of pre-Hispanic individuals, in addition to photos, research posters, and other materials that researchers of the network use in IRC (own translation)]. (COPubProf1, personal communication, November 10, 2014)

> As he continued,

> *los proyectos de investigación que nosotros hacemos en el grupo están dentro de las líneas de investigación de acuerdo con los intereses de investigación de los profesores y los estudiantes. Estos proyectos corresponden a las áreas de música, arte y diseño, arqueología y geofísica. Nosotros investigamos y hacemos uso de las piezas del museo* [the research that is currently underway is in the areas of

biology, music, and art design in relation to professors' and students' research interests, where the pieces of the museum are very helpful (own translation)]. (COPubProf1, personal communication, November 10, 2014)

Thus, this museum provides a significant support to the work of the network.

Moreover, this research network in relation to the museum has an open and

transdisciplinary perspective to work with different disciplines and welcomes different

kinds of research projects. Researchers of this network have access to basic

communication and information technologies in the university, the lab, and the museum.

The library also provides online access to national and international catalogues of

scientific journals and other virtual collections. The webpage of the museum is directly

linked to the webpage of the research network in a way that shows the work of the

network in alliance to the museum.

One of the main goals of the public university to which this research network is

tied is to internationalize research and IRC. According to the vice-provost of the research

office,

> *la política de internacionalización se aprobó en este año (2014). La universidad tiene experiencia en educación internacional pero ahora se está elaborando el plan de acción para implementar la política. Allí se habla de la importancia de las redes, de facilitar los procesos para presentar proyectos con entidades internacionales. Es evidente que la mayoría de proyectos son distintos…Nosotros participamos en la parte formal de la firma de los convenios y el respaldo institucional al profesor que está realizando el proyecto con otras Universidades internacionalmente* [we have an internationalization policy recently delivered in 2014. Although the university had experience in international education, we are creating new mechanisms to put this policy in practice. The policy mentions the importance of networks and facilitating the processes to present projects with international entities. It is evident that most projects are different...We give institutional support to professors signing agreements with other universities internationally in relation to professors' research projects (own translation)]. (COPubVicResOff, personal communication, November 19, 2014)

The internationalization policy of the public university encourages professors to be engaged in IRC, which represents an enabler to the work of the network.

This university also provides support to students' applications to masters, doctoral, and postdoctoral international programs, as well as internships, which guarantee the development of their research. For instance, as the vice-provost of the research office continued,

> *en universidades Europeas o en los Estados Unidos tienen equipos muy sofisticados que nosotros no tenemos y que necesitamos para hacer el proyecto entonces se hace el contacto. La Universidad de allá pone el equipo para que los estudiantes hagan sus pruebas pero el proyecto lo hacemos juntos. Hay instituciones que ponen el dinero para que los estudiantes vayan y vengan, entonces estos estudiantes no han tenido dificultades* [universities in European countries or in the United States have very sophisticated equipment that we do not have. Then we need to do the project and contact the university. They provide the equipment for the students to do what they have to do. There are institutions that offer money for students to go; therefore, these students do not have difficulties (own translation)]. (COPubVicResOff, personal communication, November 19, 2014)

In addition, the director of the international office mentioned that in relation to the internationalization strategies of this university "*[ellos quieren] hacer una movilidad internacional que responda a propósitos académicos pero principalmente con propósitos de investigación*" [they want to make international mobility to respond to academic purposes, but mainly to research purposes (own translation)] (COPubIntOff, personal communication, November 18, 2014). These explanations of the purposes and practices of the university in relation to support IRC to professors and students contribute to projects these scholars develop in the research network.

The research network occasionally received support from other organizations. For instance, as a COPubProf1 pointed out, "*con el apoyo financiero de una fundación del museo Smithsonian de los Estados Unidos nosotros publicamos dos libros*" [a foundation

in the Smithsonian Museum in the United States supported financially our research

network to publish several books (own translation)] (COPubProf1, personal

communication, November 10, 2014).

This international financial support is an example of alternative solutions this

network had to seek for to develop their research and publish their work for a certain

period of time.

In addition, through its connection to the university, this research network had

students working as assistants from disciplines other than anthropology and archaeology.

This students' assistantship is an important support from the university to the research

network, and at the same time it contributes to academic training for students. As an

example, I mentioned a student, Art Designer (COPubMon), who worked on projects for

the research network in connection to the museum and the lab. As this student pointed

out,

> *yo siempre he tenido una afinidad hacia las culturas pre-hispánicas. Yo empecé a*
> *trabajar con COPubProf1 con el trabajo de monitoria en todo lo correspondiente*
> *a diseño, impresos y página web, todo eso de la red; y luego también en la parte*
> *de investigación con el profesor como mi supervisor de tesis. El trabajo que yo*
> *estoy haciendo es con una cultura de la región, lo que estoy haciendo es un*
> *análisis iconográfico de unas piezas que tienen unas marcas en la piel, son piezas*
> *antropomorfas* [I have always have interests in pre-Hispanic cultures. I came first
> to be assistant working on design for the webpage with professor 1 and then he
> became my dissertation supervisor. With him, I extended my dissertation to be not
> only about design, but also to complete research doing an iconographic analysis
> of some anthropomorphic pieces that have marks on the skin (own translation)].
> (COPubMon, personal communication, November 14, 2014)

This is an example of the training process students received in this research

network, which contribute, at the same time, to the work of the network.

Professors are very committed to their projects in this research network. Most of

the research that is done is part of their full-time assignments if their studies are

registered in the university and COLCIENCIAS database. However, since professors

have to apply for external and international grants to get IRC funding, they spend

additional time working on these projects. There is also trust building among researchers

in this network, which responds to the long lasting relationships established with

professors and alumni through the diaspora as significant linkages among Colombian

scholars.

Constraints of knowledge production in IRC

On the other hand, this research network faces limitations. Although the

university to which this research network is tied financially supports their research, there

is a limited amount of money. The university spends approximately 3000 CAD dollars

for all research projects annually. At the national level, COLCIENCIAS has grants, but as

the director of the International Office said, *"hay mayores presupuestos para las ciencias*

de la salud, ingenierías y las ciencias naturales que para las artes, las humanidades y las

ciencias sociales" [funding is mostly provided to research in the health sciences,

engineering, and technology (own translation)] (COPubIntOff, personal communication,

November 18, 2014). Also, as COPubProf1 stated,

> *las restricciones en investigación son realmente de tipo económico, especialmente*
> *en las ciencias sociales y las artes integradas. En primer lugar, en nuestro país*
> *sólo se dedica a la investigación el 0.02% del producto neto interno bruto. En*
> *Segundo lugar, COLCIENCIAS no tiene una política clara de investigación para*
> *el país…nosotros pensamos que COLCIENCIAS realmente no representa la*
> *investigación en el país. Pero lógicamente es un problema hegemónico. Todos los*
> *políticos hablan de la sociedad del conocimiento, de la generación del*
> *conocimiento, pero eso es mas retórica* [we have economic limitations to do IRC,
> especially in the fields of social sciences, arts, and humanities. Our country only
> spends a very low percentage of its GDP; I believe is 0.20 %. Moreover,
> COLCIENCIAS does not have a clear research policy…nor does it respond to our
> reality. It is also a hegemonic problem. All politicians talk about the knowledge

society, but it is only rhetoric (own translation)]. (COPubProf1, personal communication, November 10, 2014)

To this extent, professors in this research network look for other financial sources at the national level. COPubProf1 pointed out,

nosotros no aplicamos a COLCIENCIAS. Ahora estamos viendo la posibilidad de trabajar con recursos del Ministerio de Cultura porque nuestras líneas de investigación están relacionadas con el Patrimonio Cultural para lo cual este ministerio ofrece becas [we do not apply for grants to COLCIENCIAS; we apply to the Ministerio Nacional de Cultura –MinCultura (National Ministry of Culture) because it offers grants to do research in the field of cultural heritage (own translation)]. (CoPubProf1, personal communication, November 10, 2014)

Thus, IRC in this network has obstacles as COPubProf2 said,

tenemos un par de relaciones construidas relativamente temprano con un par de profesores de España y con el museo de las Américas. Pero no se ha podido hacer un trabajo con ellos porque no tenemos la financiación [we have two professors in Spain and connection to a museum there to which we could expand and collaborate internationally, but the problem is that we do not have funding (own translation)]. (COPubPrif2, personal communication, November 12, 2014)

Moreover, she said,

no tenemos tantas dificultades para desarrollar la investigación local y conseguir la financiación de las convocatorias internas, pero si es complicada la solicitud de dineros para profesores y estudiantes para participar en un evento internacional [funding opportunities at the institutional level are generally restricted to local projects and do not provide resources for professors or students to travel to meetings abroad (own translation)]. (COPubProf2, personal communication, November 12, 2014)

Since Colombian scholars have very limited support to attend international conferences, this professor asserted, "*nosotros usualmente pagamos la mayoría de nuestros gastos de viaje*" [we often pay personally for the majority of our travel expenses (own translation)] (COPubProf2, personal communication, November 12, 2014). Funding limitations are also a constraint in relation to the size of the network. As a participant

explained above, not having funding to engage in IRC with scholars abroad reduces their

opportunities to expand and develop other research projects.

In addition, IRC's funding is becoming scarcer within developed countries and

there is a need to transform the way these processes of internationalization have been

done. As the director of the international office said, we have to change our perspective

in relation to funding IRC,

> *nosotros tenemos que cambiar nuestra perspectiva, estamos siendo reactivos en este momento y pegándole como a todo y no podemos dispersarnos. Tenemos que centrarnos y ser proactivos para saber con quién vamos a tener colaboración. Nosotros no tenemos mucho dinero pero podemos ofrecer apoyo institucional para diferentes eventos y actividades* [we have been very reactive to the internationalization processes. We have to be proactive and think about in which way we should establish collaboration with other universities. We do not have much money, but we can offer in-kind support (own translation)]. (COPubIntOff, personal communication, November 18, 2014)

This is a different view of the financial limitations that alert to the need of a

change of mentality. Although staff members in the public research network recognize

the Colombian government's advances and support, they also emphasize there is much

yet to be done. For instance, the director of the international office in the public

university argues,

> *yo creo que hay algo que se necesita es la despolitización del presupuesto de los asuntos de ciencia y tecnología y de las ciencias humanas y de la cultura. Yo creo que lo que estamos padeciendo a nivel mundial o en Colombia es que se ha sectorizado esto en las entidades del gobierno* [the government must depoliticize research matters with regard to the way in which decisions are made and let universities set their own IRC budgets and procedures (own translation)]. (COPubIntOff, personal communication, November 18, 2014)

These examples show the significant financial limitations those Colombian

scholars in this research network face when developing IRC projects.

There are also other obstacles this network faces. Professors in this research

network mentioned that time allocated to do IRC and recognition of research developed

in the social sciences, arts, and humanities is reduced in this university. Policies to

internationalize research in this country also represent tensions for professors and

students. The allocation of certain indicators to qualify knowledge production in the

country and its alignment with international standards represent big challenges to

overcome. For instance, the interviewee from the main research office at the public

university mentioned, "*COLCIENCIAS cambio el modelo y nos dice que para que el*

grupo de investigación esté en el top tiene que tener revistas en Q1 y Q2 en ISI y en

SCOPUS" [COLCIENCIAS indicators push researchers to publish in Q1 and Q2

journals[1] that are registered in ISI and SCOPUS databases (own translation)]

(COPubVicResOff, personal communication, November 19, 2014). This represents

limitations to scholars, as COPubProf1 pointed out,

> *la investigación que se hace aquí debe ser una investigación hacia lo nuestro y esa investigación tiene que cumplir una función social del rescate de la memoria historia de las identidades culturales nuestras que no siempre responde a las prioridades internacionales* [our research often responds to local realities that are difficult to relate to foreign contexts or priorities (own translation)]. (COPubProf1, personal communication, November 10, 2014)

Researchers in this network have to deal with significant limitations to get IRC's

support: not only is the knowledge that is produced in the area of social sciences, arts,

and humanities is not well recognized at the national, but also at the international level. In

addition, the national norms that align with the international standards for publishing in

---

[1] The Journal Citation Reports by Thomson Reuters provides rankings of science and social science journals every year according to the Impact Factor (IF) data registered in ISI and Scopus. Rankings are categorized by Quartile Scores: Q1 represents the top 25% of the IF distribution, Q2 for middle-high position (between top 50% and top 25%), Q3 middle-low position (top 75% to top 50%), and Q4 the lowest position (bottom 25% of the IF distribution). Retrieved from: http://researchassessment.fbk.eu/quartile_score

high ranked journals (Q1 and Q2) represent to these researchers significant challenges.

Here is another example in relation to publishing and the challenges scholars have to

overcome in this research network. A Colombian scholar that is part of the COPubResNet

and pursuing post-doctoral work in Mexico (COPubPostdoc) stated,

> *en Norte América [US] siempre hemos encontrado una dificultad para publicar, siempre hay un impedimento allí… ellos son reacios a publicar información de Sur América… Entonces nos ha tocado buscar revistas de Europa que son un poquito mas neutras en ese sentido* [my colleagues and I always have trouble publishing in US journals… they reject Latin American work…we have found that European journals are more accessible and willing to review research from Latin American researchers (own translation)]. (COPubPostdoc, personal communication, November 15, 2014)

There are always questions about the reasons why one international journal

rejected the article of these scholars and why another international journal in a different

context approved and published it. It involves, again, the knowledge that is produced and

the kinds of norms that are implied for publishing in international journals. After I asked

this participant if the Spanish language could be an additional factor in publication

decisions, he responded that a scholar, whose mother tongue is English, had edited their

article.

Colombian private research network (COPriResNet)

Actors/nodes and research network's configuration

I draw upon data gathered with seven interviewees and their webpage to describe

the actor/nodes and configuration of the Colombian Private Research Network

(COPriResNet). The webpage comprises information about researchers, their projects,

their virtual bulletin, as well as other important resources. Similarly to the previously described research networks the webpage was a first source of information of the network, further checked in the interviews.

As mentioned this researcher network was created as an initiative to respond to students' inquiries regarding cultural heritage. As the professor Coordinator of the research network pointed out "the topic of cultural heritage surged in discussions in class at the university with students who wanted to investigate this particular topic, but there was not a space to engage more deeply and develop research about it, nor specifically about the archaeological cultural heritage" (COPriProf1, personal communication, November 5, 2014). Thus, initially through informal meetings, these discussions became a space of academic reflection where the will and research interests of a few professors and students converged to engage in research about this topic. Then, members started inviting guest speakers and organizing events. Also, interconnections with former students and professors who studied or worked in other countries or returned to Colombia are part of a diaspora network, about which I will discuss in the next chapter. At the moment of the interviews, there were two Colombian scholars in this research network studying for their PhDs in Spain who came back to the country to do their research internship working within this research network.

This research network is small. Its size is similar to the Colombian public research network (COPubResNet). It entails seven (7) permanent and active actors/researchers including professors and students mostly from Anthropology, Archaeology, Music, and Cultural studies, who establish the direct interconnections in the network and are also connected individually to other colleagues internationally.

In addition to the permanent researchers, this network maintains frequent participation of students for short periods of time, usually according to certain courses and research interests, during their studies at the university. The network also involves other indirect actors/students who provide support with web design and other materials, as well as staff and external (national/international) actors. Table 6.2 includes the list of direct and main indirect actors who participate in the research network. The asterisk represents actors that participated in the semi-structured interviews in this study.

Table 6. 2   Colombian Private Research Network - COPriResNet

Code/node	Descriptor
COPriProf1*	Network Coordinator - Professor Anthropology and Archaeology)
COPriProf2*	Professor - Anthropology and History)
COPriPhD1*	PhD student in Anthropology (same university)
COPriPhD2*	Colombian PhD student in Spain who returned to do an internship in cultural heritage within this research network linked to the private university
COPriMon*	Student – Monitor - Music and Anthropology
COPriResFac*	Research Office Faculty of Social Sciences
COPriIntOff*	International office
COPriVicResOff	Main Research Office
COPriProf3	Professor - Anthropology
COPriProf4	Professor - Anthropology
COPriPhD3	Colombian PhD student in Spain who also returned to do an internship in cultural heritage within this research network linked to the private university
COPriUNet	University network which includes students and other professors
CONatNet	National network related to cultural heritage
COLocalNet	Local network connected to COPubProf1 and COPriPhDc1
LatinNet1	A global network named Americanists which connects researchers across the world
EuroNet1	French network connected to COPriProf2
EuroNet2	Italian network connected to COPriPhD1

COLocalNet1	Local network connected to COPriPhD2
EuroNet3	Spanish network connected to COPriPhD2

Codes for direct and indirect members (nodes) and descriptors of the nodes in the COPriResNet
*Interviewees

Figure 6.2 below illustrates the configuration of the COPriResNet including a central actor/node and its interconnections with other direct actors/nodes (professors, students, alumni, and other researchers) and indirect actors/nodes (staff and other external actors) within the network.
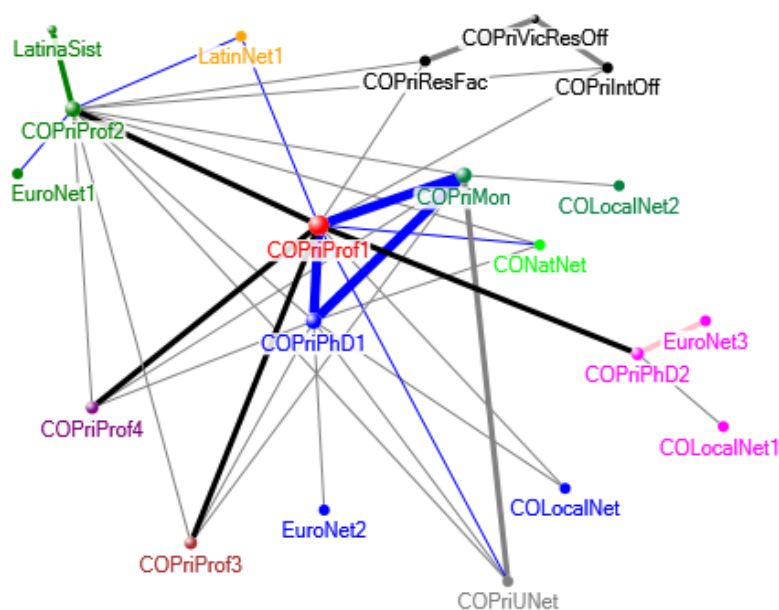
Figure 6. 2   Colombian Private Research Network - COPriResNet

Interconnections as practices of knowledge production in IRC

The configuration of this research network depicts a central actor/researcher who is the coordinator of the network (COPriProf1) illustrated in the graph above (Figure 6.2) by a large red circle in the middle of the network. Again, the centrality of the professor

coordinator determines the characteristic of this research network as ego-net (Crossley et al., 2015). Likewise as with the previous network, this professor obtained his doctoral degree abroad (in the United States). He has direct connections with professors and students and other indirect connections with staff and other external (national/international) actors as mentioned. These interconnections create the socially produced space of knowledge production in IRC of the research network.

The visual graph of the COPriResNet represents interconnections as channels of communication between direct actors/researchers and indirect actors and other networks. Also, these interconnections depict activities linking one actor to each other inside the network. Professor 1 (COPriProf1), central actor/coordinator, leads the entire research network, but he shares this leadership with a PhD student (COPriPhD1) who has been involved since the establishment of the network. Both the COPriProf1 and COPriPhD1 maintain permanent communication with the student assistant (COPriMon), who is in charge of updating the network's webpage. The three of them also facilitate communication with other researchers in creating a propitious relational space to support the research network's dynamic.

On the one hand, the graph depicts more closeness between COPriProf1, COPriPhD1, and COPriMon in the center of the network. On the other hand, there are more distant interconnection with professors and other students and their own respective networks. Different colours help to identify the individual networks of professors and students. For example, colour green represents COPriProf2's individual network; colour pink, COPriPhD2's network, and so on. Thus, researchers in this network have connections with other researchers internationally through the network, but they also

have their own interconnections and IRCs. Therefore, the central actor/coordinator is not

directly tied to those researchers that form individual networks of professors and

students.

As mentioned, this network is tied to the private university, and yet maintains its

own independent dynamic. As COPriProf1said,

> *aunque tenemos el laboratorio y los recursos tecnológicos para la página web a través de la universidad pero no es oficial, en ese sentido nosotros tenemos autonomía. Este es un espacio que se administra independientemente con relación a los proyectos que tenemos con los profesores y los estudiantes* [although we have a lab and technological resources to develop our webpage and diverse events in the university, the network has its own autonomy. This is an independent space where professors and students participate in relation to their particular projects and common research interests in the network (own translation)]. (COPriProf1, personal communication, November 5, 2014)

In this way, the network is independent, but it also has the university's in-kind

support including some resources and physical space.

According to COPriProf1, researchers in this network do not have a specific

theoretical or methodological framework in IRC. As the coordinator of the network

stated,

> *hemos sido bastante eclécticos en el tema para ser analizado pero sin ponerle una perspectiva única, en ese sentido apoyamos con estas investigaciones diferentes estrategias…Entonces no tenemos como una plataforma única teórica metodológica* [we are eclectics and support research from different perspectives and different streams…we do not have a sole theoretical and methodological platform (own translation)]. (COPriProf1, personal communication, November 5, 2014)

The PhD student, who also leads the network with COPriProf1, referred to the

fact that, "*se han adelantado diferentes procesos que responden a diferentes enfoques*

metodológicos y lo mismo abrevan información de diferentes fuentes" [different

processes have been advanced that respond to different methodological approaches and

different kinds of sources (own translation)] (COPriPhD1, personal communication,

November 5, 2014). In relation to the work of the network, he added, *"hemos utilizado*

diferentes autores de diferentes países (por ejemplo teoristas europeos, norte Americanos

y algunos Latinoamericanos" [we have used different authors from different orientations

and countries (e.g. European, North American, and some Latin American theorists) (own

translation)] (COPriPhD1, personal communication, November 5, 2014). Particularly,

this PhD student commented that in his own dissertation regarding carnivals in Colombia

(which are considered world heritage by UNESCO), he said*, "mi enfoque teórico se*

adscribe dentro de los estudios críticos del patrimonio cultural" [my approach draws on

critical cultural heritage studies (own translation)] (COPriPhD1, personal

communication, November 5, 2014). Thus, the work of the network includes different

perspectives according to the participation of scholars with different disciplinary

backgrounds.

Activities of the research network

The Colombian private research network (COPriResNet) develops IRC and other

activities in the local community. It is important to mention that I concentrated my study

only on their activities in IRC. Since the beginning of COPriResNet's establishment, the

coordinator of this network, the PhD student (COPriPhD1), and other student's assistants

created a webpage with open access not only to national and international researchers, but

also to the general public. The webpage's main topic is about cultural heritage, which

orients the different activities and practices within the network. Activities of knowledge

production in IRC in this network involve, first, a virtual bulletin that concentrates a

significant workload of researchers. Second, research provides support to undergraduate

and graduate students mainly in the areas of anthropology and archaeology, and some support in history and music. Third, there are IRC practices of professors with other scholars across borders.

The virtual bulletin is one of the main activities of researchers in COPriResNet. It reaches professors, current students, local or abroad alumni, and other international scholars interested in publishing articles regarding cultural heritage. This is a biannual virtual bulletin included in the webpage, which also provides academic interconnections. As stated by the coordinator of the network, "*el boletín en la página web es una vía para invitar interesados en el tema del patrimonio cultural y crear oportunidades para colaboraciones internacionales futuras*" [the bulletin facilitates discussions on cultural heritage among researchers internationally and creates potential future collaboration (own translation)] (COPriProf1, personal communication, November 5, 2014). The bulletin is a way of engaging in IRC as ongoing interconnections internationally.

COPriProf1 provides support to international or local PhD students who study abroad and develop their research internship in this research network as part of their doctorate program. This professor facilitated doctoral students' interconnections with other researchers in the network to build IRC around their doctoral research. As a Colombian scholar –COPriPhD2– pointed out,

> *hay un apoyo real fuerte que es COPriProf1 quien me ha apoyado para hacer mi pasantía aquí en esta universidad, ahorita en mi doctorado que estoy haciendo en España. Así yo puedo ser investigador externo aquí en ésta universidad y tener el respaldo en nombre nominal de COPriProf1 y de la universidad durante estos tres meses. Es más que todo formalidad, y cartas de que yo estoy investigando, acceso a la biblioteca, y para hacer contacto institucional con otras universidades o personas en ésta ciudad* [COPriProf1 gave me support to do the research internship here as part of my PhD in Spain. I am in contact with my supervisor in Spain and with COPriProf1 here regarding my dissertation. I am an external researcher of this private university and work with COPriProf1. Through

this research network, I have access to the library of the university. Also, I have institutional support with official letters that introduce me as researcher. It facilitates establishing contact with other universities and other scholars to do my study in this city (own translation)]. (COPriPhD2, personal communication, November 7, 2014)

In this way, doctoral students, who are doing their PhD in other countries, find

support to do their internship participating in the work of the network. This represents

also a significant contribution to the network in maintaining connections with

international scholars abroad.

As mentioned, professors in COPriResNet support activities of the network and

also have their individual IRCs. For instance, Professor 2 (COPriProf2) who obtained his

PhD in Anthropology in England and returned to Colombia to work at this private

university is one of the editors of the bulletin of this network. In addition, he has

individually participated as researcher with international organizations regarding

transnational policies. As he stated,

> *yo he hecho trabajo de campo multisituado acerca de las políticas públicas del Banco Mundial o del Banco Interamericano de Desarrollo entonces eso me ha llevado a entrar en contacto con antropólogos internacionales* [I have participated in multisided research projects studying public policies about the World Bank and the Inter-American Development Back (IDB) which have allowed me to interact with international anthropologists (own translation)]. (COPriProf2, personal communication, November 7, 2014)

He also noted that international organizations provide funds to do research in

Colombia. As he explained,

> *además mi interés de investigación tiene que ver con activismo transnacional entonces eso me ha llevado a conectarme con redes de las Naciones Unidas, del Concejo Latinoamericano de Ciencias Sociales - CLACSO, y de LatinaSist. Estas son redes apoyadas por investigadores Latinoamericanos y de otros países que centran sus estudios en Latino América. Por ejemplo LatinaSist tiene apoyo de Francia. Esta es una red muy activa y es con la cual estoy más involucrado* [also my research interest is about transnational activism; therefore, it has led me to participate in networks such as the United Nations, the Latin American Council of

Social Sciences –CLACSO, and LatinaSist. These are networks of researchers from Latin America and other countries that focus on research in Latin America with support from different countries. LatinaSist has support from France. It is a very active network and is the one with, which I work the most (own translation)]. (COPriProf2, personal communication, November 7, 2014)

This professor's individual connections with other networks internationally provide him significant experiences to share with other scholars in the network. His experiences as a researcher involve not only his academic participation in international projects, but also, information about the way research projects are funded by international organizations.

As part of the activities of this research network, COPriProf1 and COPriPhD1 participated in an international panel realized in Colombia that gathered academics and administrators of cultural heritage institutions from Argentina, Colombia, China, the United States, France, Great Britain, Greece, Italy, Mexico, and Peru. This panel had the support from COPriResNet, the private university, other Colombian and French institutions, as well as the embassies of Colombia, France, and Mexico. This special event provided the opportunity to present and discuss legal frames and policies of cultural heritage from different countries. As a PhD student pointed out, *"el centro de la discusión era: se puede comprar o no se puede comprar el patrimonio cultural?"* [the main discussion of this event focused on: Can you buy or not buy cultural heritage assets? (own translation)] (COPriPhD1, personal communication, November 5, 2014), which provided an opportunity to expose different approaches to this international topic from the different countries represented in this panel. Also, some of these panelists from different countries (Argentina, China, Colombia, France, England, and Italy) contributed articles regarding this topic. These articles were compiled in a book. Also, this book

included a comparative analysis among the different approaches, accomplishments, and
challenges presented in the articles (this book is one of the supporting documents of data
collected in this study).

Productive effects of knowledge production in IRC

Activities and practices of knowledge production in IRC in this research network
had tangible and intangible effects. Among tangibles, there are several articles in ten
bulletins written by international scholars from other countries or scholars abroad who
are part of the Colombian diaspora. Researchers in this network also organized other
events and exhibitions with the participation of international visiting scholars. There was
a symposium compendium as a co-publication of the international panel realized in
Colombia with visiting representatives from other countries (as mentioned above).
COPriPhD1 stated,

> *si hubo un interés marcado por parte de algunos panelistas para participar en las*
> *memorias del evento…nosotros [COPriPhD1, COPriProf1, otro profesor y dos*
> *estudiantes más de la universidad también hicimos una relatoría comentada del*
> *evento* [there was a clear interest from some international panelists in
> participating in the publication of a symposium compendium…also we
> [COPriPhD1, COPriProf1, other professors and two more students of the
> university] did a critical report about the event (own translation)]. (COPriPhD1,
> personal communication, November 5, 2014)

The bulletin and the example of the book published with the participation of
international panelist represent significant tangible products of the work of the network.

Researchers in this network also mentioned tangible productive effects such as the
support that editors bring to academic writers who participate with their articles in the
bulletin. As COPriProf2 explained,

> *lo que hacemos es que todos los miembros del comité editorial leemos todos los artículos y decidimos cuales se van a publicar entonces nos encargamos de contactar el autor y darle directamente los comentarios, es un proceso de retroalimentación directa* [after we review all articles and decide which ones should be published, we establish direct communications with writers to give them feedback to their manuscripts (own translation)]. (COPriProf2, personal communication, November 7, 2014)

This work of editing manuscripts to other researchers internationally to be published in the bulletin contributed to opening more space for academic international discussions within this network.

In addition, there are *intangible* effects of IRC that individual researchers experienced within their own network. For instance, COPriProf2 mentioned his experience with the LatinaSist, in which he had participated doing research in Latin America with different researchers from France, Germany, and Latin America. As he said,

> *una cuestión muy interesante que ha pasado recientemente en este proyecto de LatinaSist es una familiaridad para construir un piso común en un proyecto. Esto es como empezar a hablar un lenguaje común entre nosotros que no existía previamente en los referentes teóricos del proyecto y eso ha sido clave gracias mucho a los colegas en Brasil que han movido muchísimos recursos para que nos podamos encontrar concretamente en eventos y podamos hablar y debatir artículos* [something that has recently happened in a project with LatinaSist is that we experienced a kind of familiarity building a common ground to work in a project. It is like starting to speak a common language between us that did not previously exist in the theoretical references of the project. That has been key thanks to colleagues in Brazil who have moved many resources, so we can specifically meet at events, where we can talk and discuss articles about the topic of the project (own translation)]. (COPriProf2, personal communication, November 7, 2014)

These experiences provided international academic perspectives from professors' individual practices to the research network.

Doing their research internship with this research network, doctoral students experienced support in multiple ways. They not only had contact with other researchers

and people they interviewed for their own doctoral research, but this network provided

them with a space to discuss topics that have not been explored in other contexts. For

instance, COPriPhD2 pointed out,

> *el tema del patrimonio como política pública en relación al turismo cultural, y como interés académico es muy reciente. Yo he tenido la oportunidad de escribir un artículo acerca de este tema con una visión internacional y participar aquí en un evento con mi trabajo* [the topic of public policy and heritage in relation to cultural tourism is new in the academia. I had the opportunity to write an article and participate in an event here with my work taking into account international orientations (own translation)]. (COPriPhD2, personal communication, November 7, 2014)

Productive effects in this research network were also associated to the opportunity

to bring and discuss topics with an open perspective.

Conversely, there are other experiences within the research network as

COPriProf1 stated,

> *el estudiante de doctorado que hace parte de la coordinación de éste grupo hizo su pasantía en Roma, Italia… allí participó en varios eventos acerca del patrimonio cultural lo que le ofreció una visión del tema en otro contexto cultural diferente… Lo que además le proporcionó otra lectura de su investigación por parte de profesores que trabajan allá* [the PhD student who collaborates with the coordination of this research network, had his doctoral internship in Rome, Italy…his experience of participating in this event provided him the opportunity to see how other scholars manage the topic of cultural heritage in other completely different socio-cultural contexts…In addition, [this experience] provided to the student other readers, professors that are working there, and gave their opinion about his research (own translation)]. (COPriPro1, personal communication, November 5, 2014)

Establishing these connections with international scholars in other countries has

facilitated this PhD student to maintain long lasting relationships with professors in Italy,

which also contribute to the research network discussions.

Participation in conferences had created interconnections with other scholars internationally whose research is focused on cultural heritage as well. As COPriPhD1 stated,

> *COPriProf1, otro compañero del doctorado y yo participamos en un congreso de Americanistas en Viena, en Austria. Mi compañero y yo fuimos organizadores del simposio y establecimos contactos con otros investigadores interesados en el tema del patrimonio cultural…Queríamos hacer unos encuentros y traer esas personas pero no tuvimos el dinero para esto…de todas maneras podemos contactarlos para colaborar en el futuro* [COPriProf1, other PhD student, and I attended a conference named Americanists in Vienna, Austria where I was part of the planning team. We established important connections with researchers [interested in cultural heritage] to whom we would like to do other meetings. Although we did not have money at that time to organize an event we can still contact them for further collaboration (own translation)]. (COPriPhD1, personal communication, November 5, 2014)

Scholars' multiple interconnections provided the opportunity to engage with other international researchers in further projects within the research network.

Enablers of knowledge production in IRC

For the researcher in COPriResNet, the webpage, and particularly the bulletin, provide a medium for knowledge mobilization, and IRC. It creates an open space to maintain updates of Colombian cultural heritage's policies and news, as well as current academic discussions about this topic internationally. As COPriProf1 stated, "*nuestro boletín se ha ido dando a conocer más internacionalmente a través de los contactos que tienen los profesores con otras redes*" [our bulletin is becoming more international through its connections with other research networks worldwide and over time has become a higher quality publication (own translation)] (COPriProf1, personal communication, November 5, 2014). This bulletin showcases articles of foreign and Colombian scholars who are studying in graduate programs abroad. As COPriProf2

pointed out, *"hemos recibido y publicado artículos de algunos colombianos, cuyos artículos son producto de una maestría en España, o en México, o en Argentina"* [we have published articles of Colombian scholars whose work is the product of their Masters in Mexico, or in Spain, or in Argentina (own translation)] (COPriProf2, personal communication, November 7, 2014). Thus, the embedded diaspora of interconnections in this network represents a valuable source of knowledge production in IRC.

Internationalization is one of the main goals of the private university to which this network is tied. As the Assistant of the Research Office at the Faculty of Social Sciences explained,

> *la universidad tiene como una política es una apertura total a que se hagan proyectos y se haga colaboración internacional para la investigación… Entonces lo que se ha buscado es facilitar todos los procesos a través de convenios… A través de visitas de los profesores a otras universidades, pero también que profesores de otras partes puedan venir a visitar acá. Nosotros los apoyamos en la aplicación para conseguir fondos en el exterior y para hacer sus reportes de investigación* [this university is open to make projects of IRC with other universities abroad…we seek to facilitate the internationalization process establishing agreements with other universities…our professors visit other universities, but also professors from other universities come to visit us. We support them to apply to external funding and to do their research reports (own translation)]. (COPriResFac, personal communication, November 4, 2014)

Also at the international office, they have facilitated collaborative processes by signing agreements with professors interested in working with researchers in other countries or to these professors' doctoral students that are seeking their internships. As the coordinator of the international office pointed out,

> *nosotros firmamos convenios con otras Universidades. Normalmente los profesores envían a sus estudiantes donde su contacto, donde su colaborador, en otro país donde ellos hicieron su doctorado entonces ahí las redes funcionan de esa forma* [we sign agreements with other universities. Normally, professors send their students to their collaborator in another country where they have contact, where they did their doctorate program, then networks work that way (own translation)]. (COPriIntOff, personal communication, November 6, 2014)

To receive funds and to develop IRC in this network professors and students have

administrative support for grant applications through the university. To this extent, as

COPriResFac stated,

> *muchas veces gran parte de lo que obstaculiza a que los profesores se presenten a las convocatorias es la cantidad de papeles que tienen que reunir, o de firmas, o de requisitos administrativos, entonces aquí nosotros nos encargamos de ayudarles a cumplir todos los requisitos que exige una convocatoria externa* [what is usually a barrier to apply to research foreign convocations are the amount of documents, signatures, and administrative requirements that professors have to collect. We help them with this paperwork (own translation)]. (COPriResFac, personal communication, November 4, 2014)

Other in-kind support from the university involves scholarships for students in

graduate, masters, and doctorate programs who become assistants to contribute to web

design, the bulletin cover, and other materials in print, as well as the preparation of

exhibitions, and other public events. As COPriPhD1 stated,

> *nosotros hemos tenido contribuciones indirectas de la universidad: Por ejemplo, la facultad de ciencias sociales nos ayuda con el diseñador que hace la diagramación del boletín en la pagina web. Ha habido veces que no hemos contado con ellos entonces nos toca imaginarnos quién nos puede ayudar, quién nos hace la edición por fuera* [we have indirect support from the university. For example, from the faculty of social sciences they help us with a designer who does the layout of the bulletin in the webpage. Sometimes we had to find support outside the university too (own translation)]. (COPriPhD1, personal communication, November 5, 2014)

The private university to which this network is tied provides in-kind support in

different ways, although scholars also have to find other financial sources.

Researchers in this network are open to different ideas and perspectives in relation

to cultural heritage to be included in the bulletin and events of the network. As Professor

2 said,

> *este boletín es un producto académico bastante peculiar porque no es exactamente como un journal academicista, tampoco es una revista periodística*

es una mezcla bien interesante entre comunicación para el gran público y temas realmente académicos [this bulletin is a quite peculiar academic product because it is not exactly like an academic journal, nor it is a periodical journal, rather it is a very interesting mixture between communication for the wider public and really academic subjects (own translation)]. (COPriProf2, personal communication, November 7, 2014)

In relation to this open perspective to different disciplines and people interested in cultural heritage, the coordinator of the research network pointed out,

*estamos abriendo un canal en el cual estudiantes de maestría, de doctorado, profesionales, pero también artistas, gente que son actore*s, gestores culturales y también los miembros de las comunidades indígenas, puedan escribir [we are opening a channel in which masters and doctoral students, professionals, but also artists, people who are actors, cultural managers, also the members of the indigenous communities can write (own translation)]. (COPriProf1, personal communication, November 5, 2014)

As he continued,

aquí es tratar de mantener un balance entre esa línea mucho más fuerte académica en el sentido estricto de investigación y un ámbito en el cual múltiples experiencias puedan concurrir sin tener un referente único ni metodológico preestablecido [here we try to maintain a balance between that much stronger academic line in the strict sense of research and an area in which multiple experiences can concur without having a single reference or pre-established methodology (own translation)]. (COPriProf1, personal communication, November 5, 2014)

This bulletin is very inclusive, which provide the opportunity to include diverse materials from diverse writers.

Through this research network, students received research training. As COPriProf1 said,

con un estudiante en particular que tiene un doble programa en diseño y en antropología hicimos una muy buena sinergia y con él fue que en realidad diseñamos la primera propuesta de la pagina web. Entonces no es solamente que el estudiante hizo un trabajo de diseño sino que tuvo que ir a hacer consultas bibliográficas, sintetizar la información, pensar en un producto que pudiera llegar a la gente. Y de esa manera surgió otra alternativa, otro sistema donde los estudiantes se han ido vinculando y produciendo una base de datos acerca del patrimonio cultural [a student that was taking double programs, in anthropology

and design, created one of the first designs to the webpage…it is not only that the student made a design, but also he had to search bibliography, synthesize the information, and think of a product that could make sense to the work of the research network. In that way we are creating another alternative system where students produced new ideas…also, students are creating a database regarding cultural heritage (own translation)]. (COPriProf1, personal communication, November 5, 2014)

Students' work with the network's website is connected to research projects in the

network. This is not only a learning experience, but also it gives to them the opportunity

to create and propose their own ideas.

Researchers' time dedication, commitment and hard work on the bulletin are also

enablers for this network. As COPriProf1 emphasized the work of this network is:

lo que convocan es una sinergia de intereses…Todos los que estamos aquí salvo COPriMon con relación a la monitoria, es trabajo voluntario que hacemos porque creemos y nos interesa [a synergy of research interests… All of us on this team, except COPriMon, do volunteer work because we care and believe in what we do (own translation)]. (COPriProf1, personal communication, November 5, 2014)

Besides, time dedication to work in this research network is always more that it is

assigned according to COPriMon, who stated, "*yo tengo seis horas asignadas, pero*

generalmente es más pues siempre hay que estar revisando el correo, o actualizando

cosas en la página web" [I have to work six hours, but generally I spend more time here

to check e-mails, or update things in the webpage (own translation)] (COPriMon,

personal Communication, November 5, 2014). In this way, COPriProf2 and COPriProf3

are part of the editorial committee as volunteers. Also, the PhD student said that this

network is "*una confluencia de voluntades*" [a confluence of wills (own translation)]

(COPriPhD1, personal communication, November 5, 2014). There is mutual interest

among scholars to participate and contribute to the work of this research network. For

instance, during the first years this student was doing his PhD, he was a graduate

assistant, but he continued participating as a volunteer in the network. Scholars' work

enables knowledge production in this research network.

Constraints of knowledge production in IRC

Like the public Colombian network, this research network also faces difficulties.

As the coordinator of the network mentioned, *"este grupo no tiene un presupuesto"* [the

research network does not have a budget (own translation)] (COPriProf1, personal

communication, November 5, 2014). He continued explaining,

> *no hacemos parte del presupuesto de la facultad. Nosotros recibimos cierto apoyo y dedicamos nuestro trabajo y tiempo extra…Ese es el misterio y esa es la magia de esto* [we do not receive funding from the Faculty. We do receive in-kind support and dedicate our own time to make it work…this is the magic of our effort (own translation)]. (COPriProf1, personal communication, November 5, 2014)

Also, Professor 2 explained that at the beginning of its creation *"la financiación*

de esta red fue con un capital semilla que dio la universidad" [this research network only

received an initial capital grant from the university (own translation)] (COPriProf2,

personal communication, November 7, 2014). Thus, these financial limitations represent

challenges to do IRC for researchers in this network.

In addition, the smaller allocation of time for professors to do research in this

private university limits the opportunities to be engaged in IRC. As COPriProf2 stated,

> *uno siempre está condicionado a hacer un trabajo de investigación más concentrado en los períodos inter-semestrales. Eso es un obstáculo porque los períodos de productividad en investigación no siempre coinciden entre universidades y eso me parece a mi que es un obstáculo fundamental para la colaboración internacional…además, no tenemos año sabático en esta universidad* [the time allocated for research is concentrated between academic semesters as opposed to during the school year, complicating IRC and engagement with foreign counterparts… also, we do not have sabbatical at this university (own translation)]. (COPriProf2, personal communication, November 7, 2014)

Professors of this research network dedicate extra time to accomplish their projects. The professor coordinator of the network said,

> *no tengamos redes o cooperación internacional mucho más estructurada por la falta simplemente de tiempo. Porque esto yo lo hago pero no me hace a mí una merma de la carga laboral* [we do not have much more structured international collaboration because lack of time. What [he] does in this research network does not make a reduction of [his] workload (own translation)]. (COPriProf1, personal communication, November 5, 2014)

The time that the scholars in this research network have available to dedicate to IRC is very limited; this restricts their opportunity to be engaged academically with international researchers. Limited time and funding in relation to the size of the network is also a constraint of this research network. As COPriProf2 mentioned, these restrictions limit the opportunity to engage in IRC.

At the national level, COLCIENCIAS is the organization that provides grants for researchers. However, as Professor 2 pointed out,

> *ahora que he tenido fondos de la universidad y de organizaciones internacionales para investigar he evitado COLCIENCIAS porque presenta más obstáculos que facilidades. Los formatos de proyectos son horrorosos, preguntan datos irrelevantes, condicionan la presentación de proyectos a la pertenencia a unas bases de datos y de consulta del CvLAC, son absolutamente burocráticos en el manejo de los dineros, los dineros no fluyen como al ritmo de las investigaciones pero esperan resultados al ritmo de las investigaciones. Entonces es una absoluta pesadilla* [now that I have some resources to do IRC from the university and from international organizations, I prefer to avoid COLCIENCIAS. It presents more obstacles than facilities for research. The project formats are horrific, ask irrelevant data, condition the presentation of projects belonging to a database and query CvLAC[2], are quite bureaucratic in handling the money, the money does not flow like the rhythm of the research, but they expect immediate results. It is an absolute nightmare (own translation)]. (COPriProf2, personal communication, November 7, 2014)

---

[2] CVLAC is a system in COLCIENCIAS that archives the Curriculum Vitae of researchers in Colombia.

There are inconsistencies in the way the national institution normalizes IRC. It represents significant constraints for scholars to seek the national support and to be engaged in these international initiatives of IRC knowledge production.

At the international level, there are other limitations for researchers in this network to be engaged in IRC. Funding and international policies are considered the most challenging factors. As the interviewee from the international office in this private university mentioned, "*la financiación de investigación en Colombia por parte de organizaciones internacionales se limita a veces por la situación del país"* [the situation of our country limits obtaining research funding from international organizations (own translation)] (COPriIntOff, personal communication, November 6, 2014). Also, the decreasing investment of international organizations in providing funds to researchers is challenging. As explained by the interviewee from the Research Office in the Faculty of Social Sciences,

> *la financiación por parte de instituciones extranjeras para proyectos de investigación dura máximo uno o dos años…además los fondos para investigaciones en las áreas de arqueología y patrimonio cultural son más limitados* [funding from foreign institutions lasts a maximum of one to two years… also funds for research topics such as archaeology and cultural heritage are more restricted (own translation)]. (COPriResFac, personal communication, November 4, 2014)

This implies reduced financial support to develop long-lasting research projects in IRC.

COPriProf2 presented another example in relation to the international funding for IRC and the way it constraints the scholars' work in this research network. As he explained,

> *yo creo que en mi disciplina la colaboración de tipo internacional es, el dinero fluye en una dirección y la información fluye en otra. Básicamente la*

colaboración en términos internacionales ha convertido el científico social de países como el nuestro en un informante en el más clásico sentido de la palabra…Pero digamos que eso es un efecto colateral muy desafortunado que ha pasado que es que entonces la colaboración internacional es para que salgan datos de aquí. No tanto teoría de aquí. Y eso es muy llamativo porque los encuentros para compartir cosas es para compartir resultados. Entonces eso es muy importante porque al menos esa es mi experiencia. Como los dineros vienen de otros lados, entonces en esos lados es básicamente donde se atribuye la vocación de construir teoría sobre los casos comparativos. Es mucha más limitada la posibilidad de los que hacemos parte de esa red, cuando estamos en la periferia geográfica de esa red [in IRC in my discipline money flows in one direction and information flows in another. Basically collaboration in international terms has turned the social scientist in countries like ours as an informant in the most classic sense of the word…a very unfortunate collateral effect happened then. It is that international collaboration is to leave our data there. Not so much theory from here. And that is very striking because meetings to share things are to share results. So that is very important because at least, that is my experience. Therefore, since money comes from elsewhere, then in those places it is basically where the vocation to build theory on cases and comparative analysis is attributed. Our possibility of becoming part of that network is much more limited because we are in the geographic periphery (own translation)]. (COPriProf2, personal communication, November 7, 2014)

This quote illustrates the controversial terrain in which IRC is involved and the challenges scholars in this research network face. It shows the enforced one-way relationship of international funding aligned with the production of knowledge in IRC.

According to the assistant of the research office at the faculty of social sciences "*los fondos internacionales para investigación a los que los profesores pueden aplicar son limitados, y los temas de investigación también están muy limitados*" [when professors apply for funding, there are limited international funding and limited research topics to be funded (own translation)] (COPriResFac, personal communication, November 4, 2014). Moreover, as expressed PhD student 1,

cuando yo estaba haciendo mi pasantía doctoral en la Universidad de la Sapienza en Roma, Italia, fue difícil encontrar académicos interesados en discutir el tema del patrimonio cultural en otro contexto que no fuera Europa. Ellos no tiene ningún interés de pensar el tema en forma global entonces son sólo discusiones locales [when I was in my doctoral internship in the Sapienza University of

Rome, Italy, it was hard to find academics interested in discussions about cultural heritage in other contexts. They do not have a global perspective. They only focused on their cultural heritage there (own translation)]. (COPriPhD1, personal communication, November 5, 2014)

These are examples of the relationship between sources of funding and the research interests that are connected to them and how it becomes a constraint for researchers in this network.

Summary

Findings in Chapters 5 and 6 included data from semi-structured interviews, as well as research and policy documents of the Canadian and the two Colombian research networks. Information about each research network was presented by themes according to the research questions in order to describe the relational contexts, to identify the different actors and configuration of the networks, the activities and practices of knowledge production in IRC, the productive effects of IRC, as well as their enablers and constraints.

These themes allowed me to situate the description of the three cases/units of analysis. SNA facilitated me to trace the interconnections and visualize the configuration of the networks as a socially produced space where knowledge production in IRC emerges. In deep analysis, I will discuss in the next chapter the following: First, the distinctiveness of the three research networks of my study and some commonalities among these networks. Second, practices of IRC knowledge production in transnational space where I identify the flows and disjunctures as enablers and constraints of the work of the networks. Finally, the underpinning discourses of IRC knowledge production to unpack power/knowledge relations and elucidate understandings of how knowledge is

produced in these research networks. Next, I turn to an analysis of my findings drawing

on my post-foundational spatial theoretical framework.

Chapter 7: Discussion

Overview

In this chapter, I analyze practices of IRC knowledge production in three research networks drawing upon my post-foundational spatial theoretical framework. This post-foundational spatial worldview helps to examine the work of the three research networks as embedded in multiple interconnections, flows, and disjunctures (Appadurai, 1996; Castells, 1996, 2000, 2010) in transnational space, rather than within fixed notions of nation-state and/or institutions. In this way, space in this dissertation is not fixed to place, but is theorized as the production of social interconnections within and across borders (Lefebvre, 1991; Massey, 2005; Soja, 1989). This interconnectivity defines the relational and socially produced notion of space in my study. Moreover, space is dynamic, mobile, and always in transformation, where underpinning discourses of knowledge production circulate through flows and disjunctures as enablers and constraints that intersect the work of the networks.

I first summarize what knowledge is produced in IRC within the research networks according to the findings outlined in Chapters 5 and 6. Second, I analyze the qualities of the three distinct research networks. Third, I highlight the existing communities of knowledge within the networks, which constitute strong academic ties among scholars including professors and students. Fourth, I analyze practices of knowledge production of the networks in transnational space, which include flows as enablers and disjunctures as constraints scholars face in IRC. Then, I disclose underpinning discourses of IRC knowledge production by analyzing the ensemble of the

ideas that constitute the neoliberal discourse and pluridimensional discourse, made up of power/ knowledge relations. Thus, in the final section, I employ discourse analysis informed by Foucault (1972, 1980, 1988), to unveil where power/knowledge circulates across these research networks.

As one can see in the findings from this study, there were many different ways that knowledge was produced through the work of the networks in IRC. First, participants in all three networks co-published journal articles and book chapters with other members of the network. Participants across the networks discussed the co-supervision of graduate students across borders. Many also noted that they were involved with coordinating events such as conferences, symposia, and exhibitions. All participants were involved in specific research projects within the network and in connection with other networks. In particular, the CAResNet developed software to work on cultural analysis, and installed a lab to storage and analyze data. Researchers of the COPubResNet did studies using archeological artifacts from the museum of the university to which this network is linked. This relationship with the museum provided support not only to access pieces and artifacts, but also to do fieldwork and excavations in the region. The COPriResNet published works from international scholars through a bulletin on its webpage. One can consider these the tangible products of knowledge creation in these research networks.

This confirms that there are multiple forms of knowledge produced in IRC, beyond co-publications (Katz & Martin, 1997; Smith, 2001; Smith & Katz, 2000). Many scholars argue that journal co-publications are the most important products of these international initiatives. Also, some scholars mention that large-scale studies provide the best understanding of researchers' interconnections across borders. However, my study

shows that there are multiple kinds of practices of knowledge production among scholars in IRC, which require 'thicker' forms of documentation, with tangible and intangible productive effects.

Participants also revealed intangible products of knowledge creation in IRC in these research networks that cut across formal and informal activities, disciplines, countries, and cultures. They discussed how IRC provided the opportunity to change a researcher's mindset and broaden their perspective on research and collaborative work. Many also emphasized extended networking and the creation of long lasting relationships between scholars, which provided mutual academic enrichment. Also, participants noted that IRC in these networks enhanced creative, imaginative work, and created an intellectual space to share knowledge, resources, and to engage in discussions, which are not measurable. These transformative experiences of knowledge production in IRC helped to value not only local knowledge, but also knowledge produced in other contexts. Thus, one can also identify multiple intangible processes and productive effects of IRC through the three research networks of this study.

These tangible and intangibles productive effects of IRC involve nuanced practices of knowledge creation according to the distinct qualities of these three research networks in my study. The internal organization of the networks, researchers' working style, and resources (Zittoun et al., 2007) define their own particular activities, size, and configuration in transnational space. Moreover, researchers' diverse disciplinary background and expertise in Hispanic and pre-Hispanic studies, specific research projects, as well as their particular collaborative practices within the network in connection to their relational contexts characterize the kind of knowledge that emerges in

these networks (Bukvova, 2010; Morrison et al., 2003; Wasser & Bresler, 1996). This finding resonates with Jöns (2007), who argues that different disciplinary and interdisciplinary research practices, academic mobility, and collaboration in transnational space influence knowledge production.

Three distinct research networks

There are significant differences in the way these networks were established and maintained, which also influenced how knowledge was produced in IRC. For instance, CAResNet was initially created with few scholars in Canada who used their own professional networking to contact other scholars interested in Hispanic studies from different disciplines in Canada and in other countries. This confirms Sonnenwald's (2007) assertion regarding researchers' use of their own networking whilst looking for both novel ideas and collaborators to start new research projects. Scholars in this CAResNet had the capability of physical and virtual academic mobility that facilitated frequent communications and meetings to create strong linkages among numerous researchers. Regarding researchers' mobility, Kenway and Fahey (2006) link the increased flux of scholars' traveling and meetings in conferences and symposiums across the world to the mobility of ideas, knowledge, and knowledge creation in transnational space. Thus, CAResNet scholars' networking and academic mobility represent fundamental qualities of this network that shaped how IRC knowledge was produced.

This fluidity of networking and academic mobility of the CAResNet was due to several factors. First, the strength of the establishment of CAResNet was founded on obtaining a Canadian major federal government grant (SSHRC), which provided the financial resources to engage with numerous scholars and work on a massive research

project during seven years. Second, although being a big network (35 researchers including professors and students), researchers had a clear internal leadership. Also, scholars' high level of expertise, in the research topic (Hispanic-pre-Hispanic studies), maintained cohesion among researchers in the network (Quan-Hasse, Suarez, and Brown, 2014). These scholars' leadership and expertise from different disciplines and from different countries brought to the network a robust body of interdisciplinary, international, and cross-cultural knowledge. The large size of the CAResNet, including many researchers, fostered multiple tangible and intangible IRC productive effects within the network. In this way, scholars in this network engaged in diverse research practices and activities during seven years.

Moreover, professors and students maintained intergenerational relationships that enrich the work of the network. Jöns (2007), Smith (2000), as well as Shin, Lee, and Kim (2013) emphasize in their studies the important effects of new insights, interdisciplinarity, diverse backgrounds and perspectives of researchers in IRC to robust knowledge production. Thus, the strength of CAResNet can be attributed to the confluence of having the 'right' (knowledgeable and hard working) scholars, at the 'right' (allocated tenure and scholarship) moment, and with the 'right' (substantial) funding came together and worked in a project that was significant to each of the members involved. This confluence explains how interconnections/practices among highly qualified researchers with academic and financial support in the CAResNet created a strong internal synergy and configured a large, productive research network.

On the other hand, the two Colombian networks –COPubResNet and COPriResNet– were both created by relatively few permanent scholars (four or five

professors and alumni) and students who participated during short periods of time according to their courses in undergraduate and graduate programs. These scholars' core interconnections were established through universities to which these networks are tied and, more importantly, through a Colombian diaspora network. This Colombian diaspora is constituted by professors and students studying and living in other countries or by professors and students who return and work in the university or other universities in the country (Meyer 2001; Meyer & Brown, 1999; Meyer & Wattiaux 2006; Meyer et al. 1997; Tejada, 2012). Scholars' studies regarding the Colombian diaspora network have examined the influence of IRC's activities and practices on the production of knowledge in this country. For instance, Meyer and Wattiaux (2006), who examined diasporic connections between Colombian academics that live in Colombia and Colombian scholars living abroad, emphasized the effects of knowledge transfer on research/development projects.

More recently, Tejada (2012) studied transnational collaborative practices of scholars from Colombia, India, and South Africa living in Switzerland and she found new and important differences among them. She highlighted a distinct diasporic approach from Colombian scholars who early established a bottom-up relationship and provided an academic platform for academic exchange, circulation of knowledge, and collaboration to contribute to the decentralization of knowledge of Western countries. This study shows two-way interconnections/practices between scholars living abroad and living in Colombia, which demonstrates more equitable interactions in the co-construction of knowledge in IRC. These forms of interactions among scholars align with some practices of IRC knowledge production in my findings in the two Colombian networks

(COPubResNet and COPriResNet). First, academic interconnections among Colombian scholars in my study create interconnections with other Colombian scholars in other countries that shape the way these networks are configured and also affect the kind of knowledge that is produced in IRC. One can see here a different understanding of knowledge production in IRC, rather than only as a result of knowledge transfer. Therefore, knowledge is produced according to the different perspectives that scholars bring to the work of the research network. Second, the Colombian diaspora network provided important transnational interconnections among foreign scholars creating bridges and establishing communications with other researchers abroad. Thus, this connectivity through the diaspora network helps scholars to overcome their limitations of physical mobility, which represent one of their constraints in IRC knowledge production (later in this chapter I develop this aspect). These researchers' interconnections through the Colombia diaspora network align with Granovetter's (1983) ideas about the effect of strong and weak ties to the work of the networks. The diaspora network's connections embody strong ties that strengthen the network as a community, and at the same time, it allows interconnections with other scholars, as weak ties. The latter bring new ideas, knowledge, and resources to the network that would not be possible otherwise.

Although my analysis goes beyond the traditional notion of diaspora to engage with interconnections and networks, I emphasize the significant effect of this kind of kinship, as a diasporic knowledge network, among Colombian scholars. As Baldacchino (2006) explains in his case study regarding the mobility and return of a scholar to his remote island in the Atlantic, the notion of diaspora has transformed into a notion of transnational fluent mobility of scholars, ideas, and knowledge given the advances in

information and communication technology. Fahey and Kenway (2010b), in their study

Moving Ideas, also advocate for a different approach to understand the mobility of

scholars. They argue that scholars' ideas and knowledge not only travel with them, but

also move more independently to transform and reshape their understandings of the

world. Moreover, these researchers emphasize that scholars' mobility is a more complex

phenomenon than the notions of brain drain, brain gain, and brain circulation. Thus,

diaspora and the associated ideas of brain circulation are understood in a much broader

sense in my study. Rather than mapping the mobility of researchers from developing to

developed countries as the centres of knowledge, in this study, the idea of diaspora

network examines the creation and maintenance of stable linkages between researchers in

different countries whilst staying abroad and/or returning to the country of origin. This

conception aligns with Chen and Koyama (2013), in their study of Chinese graduate

students in the USA who emphasize the need to bring new theoretical discourses for

understanding the interconnections between academics across the world. They state that

we can see this interconnectivity in "a new, more flexible and fluid global [landscape]"

(p. 24). It is how researchers in both COPubResNet and COPriResNet are connected to

other Colombian researchers or their former professors and peers in other countries. And

in so doing, their interconnectivity shapes their work within the networks integrating

interdisciplinary, international, intergenerational, and cross-cultural knowledge. At the

same time their work is shaped by the socio-cultural and linguistic norms and histories of

the 'local' context.

    Scholars in these two Colombian research networks participate in several small

IRC's projects, rather than in only one large project as the CAResNet does. Also,

researchers in the Colombian networks receive individual funding according to their particular projects. These projects are the productive effects of the scholars' individual connections with other networks, but the process and research results are academically supported and shared within the network. As mentioned above, resources in the Colombian networks such as artifacts, a lab, and most importantly a space for sharing and discussing knowledge enable productive IRC. These two Colombian networks, running now for more than eight years, bring together scholars from different disciplines whose individual networks are in connection to other national and international researchers in other countries. The small size of the two Colombian research networks in relations to less funding for IRC determine less productive effects compared to the Canadian one.

Practices of IRC knowledge production in both Colombian networks (COPubResNet and COPriResNet) are mainly focused on contextual Hispanic and pre-Hispanic studies in Colombia, represented by several small-scale research projects. On the contrary, practices of knowledge production in the Canadian network were centered by a specific category, Hispanic studies, as a large-scale and longitudinal project. Thus, the kind of interconnections/practices of knowledge production in IRC in each of the research networks bring particular productive effects of these international initiatives even if they all work on Hispanic and pre-Hispanic studies. For instance, the CAResNet examined from different perspectives how the interconnectivity of the Hispanic transatlantic phenomenon produced significant effects and transformations that appear in different ways and in different contexts. Divided into different groups according to kindred disciplines, researchers in this CAResNet examined the same phenomenon. The COPubResNet engaged in diverse projects based on local pre-Hispanic artifacts using

musical instruments, teeth, and many other objects to develop new studies and unexplored ways to analyze these artifacts. The COPriResNet not only developed diverse local projects regarding cultural heritage, but they also engaged in an international discussion about the different approaches to the use and consumption of cultural heritage with experts from different parts of the world. These different examples are important because they show the diverse forms of knowledge production and the different ways that knowledge is produced in these three research networks.

Communities of knowledge within the research networks

Notwithstanding the significant differences among these three research networks, one can observe their commonalities. All of them produced co-publications, created and participated in different events, as well as built trust and established strong academic connections. Also, the interconnectivity of researchers within these networks enhanced by the research interest in Hispanic and pre-Hispanic studies contributed to the creation of communities of knowledge that last for a long period of time as solid and collaborative transnational networks. As Jöns (2009) demonstrates, scholars' academic mobility and co-presence for an extended period of time fosters more collaboration than only international co-authorship. In this way, scholars within the three networks of my study created communities of knowledge, early called by Kuhn (1970) as research communities. These research communities produce particular knowledge according to their disciplinary/interdisciplinary expertise and approaches. For example, the CAResNet uses complexity theory to articulate the different scholars' work in relation to specific research questions. The COPubResNet integrate the work of different researchers under the principle of complex thought, which facilitates the co-existence of different studies

and different perspectives within the network under the same umbrella term, which is cultural heritage in relation to music, medicine, physics, history, and so on. Besides, interviewees in the COPriResNet, although they did not explicitly mention any specific theoretical or methodological approach, they were all familiar with the co-existence of different theoretical and methodological approaches of the diverse scholars' IRC practices within the network. Thus, this network researchers' work focused on cultural heritage, but included different perspectives and ways to understand this topic.

In this way, as each of these networks become a community of knowledge, one can also see how the knowledge that is produced, shared, and mobilized between professors and students constitutes an 'invisible college' (Crane, 1971, 1972) that shapes the practices of all participants within the networks. This aligns with Crane's (1971, 1972) studies in which she mapped communications among a group of collaborators and noticed that these communications shaped scholar's approaches in specific research projects. We can also observe in the findings of my study an 'invisible college' dynamic in each of the three networks. For example, professors in the three research networks mentioned how they engaged in a new mindset to produce new knowledge within the network whilst working together during a long period of time.

Also, we can see students' common understandings about a new way to do research and produce knowledge through their training and work as assistants in the networks. This demonstrates that students' training becomes not only an enabler to the work of the networks, but also a significant effect that provides them an opportunity to learn and develop their research capacity, as well as to be part of a community of knowledge within the research networks. For instance, students in the CAResNet

mentioned the influence of the collaborative work and approaches into their own research projects while working as student assistants. Also, several professors, students, and alumni in this network pointed to their willingness to continue working with other researchers because of their experience participating in this network, which is not very usual in social sciences, arts, and humanities. Then, in the COPubResNet, the monitor of the network expressed the way he developed his own research design in relation to the experience and learning process he had whilst working with this network. Likewise, a graduate student of the COPriResNet mentioned that he linked his own dissertation to the work of the network since he identified a practical connection of his research on tourism and cultural heritage with the broad perspectives taken within the network. The synergy of common research interests between scholars (professors and students) engaged across a significant period of time in each network produced communities of learners that foster knowledge production in IRC. Accordingly, one can observe in these distinct networks long lasting relationships among scholars who maintain academic, transnational relations.

The central leadership and coordination in these three research networks fostered strong communications between scholars and helped to build the sense of community of knowledge among them. This confirms networks theorists' claims regarding the effect of ego-nets (Crossley et al., 2015) in the creation of networks as communities where a central actor facilitates communication and coordination among other actors within the networks. In these particular cases of my study, these actors' centrality facilitates the creation of communities of knowledge. Practices of knowledge production in these networks followed central orientations, principles, and goals to maintain a cohesive work

among scholars. Under agreements, scholars developed specific projects and used resources from the networks that facilitated achieving their research goals.

Knowledge production of the networks in transnational space

We can see in the visualization of the three research networks presented in the findings chapters (5 and 6) the interconnectivity among scholars and other networks in transnational space, as well as with other indirect actors (i.e. staff members in the universities to which each network is tied) who are part of the relational contexts of the networks. I depict the networks as a units/cases of analysis by setting boundaries of the core interconnections among their permanents members. However, from now on I invite the reader to go beyond the physical limitations of the figures and to engage with a broader view of these networks as embedded in a global landscape. This relational condition of the research networks in transnational space helps to understand the transnational effects of IRC upon practices of knowledge production.

In this global landscape diverse contextual realities co-exist and different disciplinary/interdisciplinary discourses circulate through flows and disjunctures shaping knowledge within the three networks. Informed by Foucault's (1988) work, I analyze these discourses as part of not one system, but co-existing systems of thought that influence discursive practices of the networks. In doing so, I use examples to illustrate nuanced practices of IRC knowledge production within the networks. Then, I analyze the flows and disjunctures that enable and constrain the production of knowledge. And finally, I unveil the entangled discourses of these practices of IRC in connection to our globalized world.

The following examples align with Foucault's (1988) claim that there are different kinds of knowledges, rather than only one, rationalist and universal Western view. In this sense, I examine particular practices of the networks and the diverse knowledges and ways of knowing they produce in a world of interconnections. Interestingly enough, scholars in the three research networks have a clear understanding that there are not one, but many possible interpretations of the specific phenomenon under study. These multiple interpretations come with researchers' particular perspectives, academic approaches, and their contextual realities.

For example, one can observe in the CAResNet how scholars engaged with the Hispanic transatlantic phenomenon and milestone in the human history can be interpreted in multiples ways. Scholars in this research network looked at the Hispanic world taking into consideration diverse interpretations of facts not only according to different disciplines (e.g., Anthropology; Architecture; Arts and Humanities; Computer Science and Artificial Intelligence; Cultural Studies and Communication; English and Latin American Studies; Geography; History; Musicology; Sociology; Spanish and Latin American Literature; Technologies; Statistic and Actuarial Science), but also diverse cultural manifestations of the same phenomenon in different countries (Australia, Bolivia, Canada, Germany, Mexico, Spain, the United States), as well as to different points of view from professors and students. In this way, as Foucault argues, there are different systems of thought according to different interpretations of the same phenomenon, which can be shaped according to different facts in different local realities. To illustrate the complexities of the Hispanic phenomenon, these scholars produced new knowledge through multiple disciplinary approaches, objects of study, sources, etc.

Researchers in the COPubResNet acknowledged and used theoretical approaches and methods created in the Western world, but they also emphasize the importance of making their work visible and showing that there are other methods and new knowledge that needs to be heard and valued in other countries. In particular, they focus on studies about archaeological artifacts with original pieces that they recently discovered and analyzed providing new explanations about the way their ancestors lived in the past in the region. For instance, a Colombian scholar who is doing his postdoctoral degree in Mexico and is a member of the COPubResNet network explains the limitations of studying some teeth from excavations in Colombia with traditional Western's methods. This means that there are particular facts and objects that require knowledge from local researchers who bring new understandings of ancestral practices.

Scholars in the COPriResNet claimed to attend to local realities that illustrate rich and vast practices to engage in the production of knowledge, but which do not always respond well to traditional academic approaches and international standards. For instance, this research network participated in an international event with experts from different countries regarding cultural heritage. Scholars in this network compiled various articles from diverse authors in a compendium, which included different approaches discussed in the symposium. As they explained, cultural heritage represents different things and is framed by different policies across countries and regions. Researchers in this network elaborated a manuscript including different views about cultural heritage in one document giving to the reader a wider perspective of the same phenomenon.

Analyzing practices of IRC knowledge production in the three networks, we can see the pluralistic and multiple dimensions of knowledge (Andreotti, 2010). Knowledge

is viewed here from an inclusive, non-linear perspective, which offers a much richer and detailed comparative analysis of the work of the networks in an interconnected world. Also, these practices of IRC knowledge production as transnational interconnections among researchers demonstrate the productive capacity of space in my comparative study. This aligns with Lefebvre's (1991) notion of space as socially produced through material practices, which are practices of IRC knowledge production within the research networks in my study. It is the space of the networks that produces the knowledge and this production of knowledge simultaneously (re)shapes the space of the networks.

In addition, this broader relational and productive space in which these networks are embedded is mobile, dynamic, and in constant transformation (Massey, 2005; Urry, 2000, 2002, 2007) where global flows and disjunctures become the enablers and constraints of IRC knowledge production. This view allows understanding how global dynamics are entangled in local material practices (Sassen, 2009). Thus IRC practices of knowledge production of the three networks in this dissertation are viewed in connection to their relational contexts (the university and country to which each network is tied), and to the wider world.

These three research networks work independently, but one can see below that entwined global/local flows of ideas, knowledge, policies, and resources circulate within each of them, as well as disjunctures that stop the work of the networks with particular effects. Understanding the work of each of these research networks in connection to a much-extended (worldwide) transnational space also allows us to show the uneven terrain in which the networks are situated. In other words, this interconnectivity of the networks

with the global landscape helps to depict the relational scenario where my comparative

analysis focuses.

Flows as enablers

Knowledge is produced through flows in the networks, which are understood here

as enablers of knowledge. Appadurai's (1996) conception of flows as scapes helps to

inform my study in a way that flows of people as ethnoscapes, flows of technology as

technoscapes, flows of ideas ideoscapes, and flows of money as financescapes enable the

production of knowledge within these networks. I use Appadurai's (1996) idea of flows

of people in relation to scholars' connections within each of the three networks. Also,

ethnoscapes align with the notion of diaspora networks as flows of people within the two

Colombian networks. In this way, we saw that the interconnectivity among scholars

within CAResNet, COPubResNet, and COPriResNet contributed to the creation of

communities of knowledge since the affinity of researchers' professional work creates

strong linkages among them transnationally.

In addition, training that was provided to undergraduate and graduate students

within each network also fosters these communities of knowledge as ethnoscapes. In this

sense, the assistantship of students served as an enabler to create knowledge in IRC when

they participated in literature reviews, data collection, data analysis, preparation of

different events and exhibitions, and research reports. Students also contributed with

presentations in symposiums and conferences, as well as manuscripts for publications in

each network. Moreover, they played a significant role managing technology in relation

to web design, upload content, as well as data storage. As mentioned, student's

participation within the networks also contribute significantly to their research development whilst they were part of each network's community of knowledge.

Robust interconnections (virtually and physically) among scholars enabled building mutual trust and establishing long lasting academic relationships of knowledge creation in these research networks. Thus, these communities of knowledge as flows of people or ethnoscapes were established because of scholars' (professors and students) high level of expertise, willingness to engage in IRC, determination, commitment, time dedication, and hard work, which represent some of the most important enablers of knowledge production in these research networks. Also, the capability of physical and/or virtual mobility of scholars due to flows in information and communications technology as technoscapes allowed them to stay interconnected within the networks. I emphasized the significant capability of physical and virtual mobility of scholars in the CAResNet, which makes an important difference with the Colombian ones.

The opportunity and willingness of scholars to interact and participate with each other from different backgrounds allowed diverse flows of ideas or ideoscapes within these networks. In this sense, researchers' multiple and diverse background from different disciplines and countries provided interdisciplinary, international, intergenerational, and cross-cultural flows of ideas as ideoscapes that enabled inclusive and pluridimensional ways to share and produce new knowledge in IRC. As Andreotti (2010) argues, engaging with epistemological pluralism helps to understand different kinds of knowledges and ways of knowing. In so doing, scholars in the three research networks engaged with pluridimensional discourse of ideoscapes that enabled a multiple and broader perspective to produce knowledge in IRC. Hence, within the three research

networks, an open perspective and inclusiveness to different kinds of knowledges from different disciplines, contexts, generations, and cultures characterized their work style. In so doing, scholars engaged with different and new methodological and theoretical approaches, which became significant enablers to the work of the three networks.

Focusing on Hispanic and pre-Hispanic studies, not only Colombian researchers but also most scholars in the CAResNet had Spanish as a language of communication in addition to English. This bilingualism served them as enabler to understand contextual and cultural particularities of their topic under study. It also aligns with epistemological pluralism, which embraces not only multiple academic and disciplinary views, but also cultural and linguistic differences. Scholars in these research networks approach the topic of their research projects, Hispanic and pre-Hispanic studies, being aware of the significant implications of the cultural and linguistic characteristics.

On the other hand, I examined internationalization policies in higher education of the universities and countries (Canada and Colombia) to which these networks are tied as part of my documentary research of the relational contexts of the networks. In so doing, I identified that these policies become, to some extent, enablers of knowledge production in IRC. Appadurai (1996) associates policies with ideoscapes since he argues that government and institutional mandates embody particular ideas; and these ideas are political. This is a very controversial topic, which I will return later regarding disjunctures as constraints, and particularly, in relation to the neoliberal discourse of IRC knowledge production. For now, it is important to emphasize that there are flows of policies regarding the internationalization of higher education that are part of the three universities' strategic plans, national plans, and international organization's agendas that

rules the CAResNet and the two COResNets. These policies of internationalization of higher education, and specifically of IRC, constitute ideoscapes as flows that promote transnational research practices, define strategies, and regulate hiring staff at the universities to motivate and support research projects of IRC. Also, these flows of policies of internationalization of higher education as ideoscapes define funding that is aligned with research grants and scholarships to provide incentives to professors, graduate and postdoctoral students, who engage in IRC. These grants enable students' research training in masters and doctorate programs in connection to their participation in the major research project in the CAResNet. On the other hand, students in undergraduate and graduate programs who participated in the COPubResNet and COPriResNet had also small scholarships to be trained and work in the networks, although very limited compared to students in the CAResNet.

For instance, in the Canadian relational context, although internationalization policies are not centralized at the national level, knowledge production in IRC is an important objective in the federal international education strategy (DFATD, 2014) that permeates all universities in Canada. Back to 2007, the CAResNet obtained the SSHRC major research grant, which is a clear example of this policy flows as ideoscapes that enable the massive research project of this network during seven years. This major grant entails a significant funding that enabled multiple scholars (professors and students), from different disciplines and countries to work in the CAResNet. Besides, the internationalization strategy (Canadian University, 2014) at the university to which this Canadian network is tied also linked internal research grants and scholarships to the major project. Finally, the university has an international office that not only formulates

the internalization strategy, but also monitors and supports processes of knowledge

production in IRC. Hence, the ensemble of these policies of internationalization of higher

education from the federal to the institutional level represents ideoscapes that enable

practices of knowledge production in IRC within the CAResNet.

In the Colombian relational context, internationalization policies in higher

education are centralized at the national level including knowledge production in IRC as

one of its main objectives (CCYK, 2015; COLCIENCIAS, 2015). These policies again

constitute flows as enablers of knowledge production in IRC within the two Colombian

networks, although they also represent a contested terrain that I discuss later in this

chapter. In this way, COLCIENCIAS, as the organization within the Ministry of

Education that formulates and coordinates IRC's policies, assigns funding, although

limited to these transnational initiatives. In addition, the Ministry of Culture formulates

policies and allocates, although limited, funding to projects of IRC in relation to cultural

heritage. Both the public and private universities to which these networks are linked have

internationalization policies, which foster IRC. While limited in amount, these

universities include financial support in their strategic plan and budget. They also

encourage researchers to apply for grants to international organizations. There are

international offices in each of these Colombian universities that monitor and support

processes of knowledge production in IRC. As in the CAResNet, flows of policies of

internationalization of higher education constitute enablers to knowledge creation in the

two Colombian networks. Moreover, the administrative staff at the three universities to

which these networks are tied provided support with paper work to prepare applications

for national and international grants, as well as establishing partnerships and signing

agreements when needed. This demonstrates the effects of policy flows as ideoscapes that permeate the work of the Colombian networks as enablers of IRC knowledge production. These ideoscapes of the internationalization of higher education flow transnationally and are entwined with the neoliberal discourse that permeates practices of IRC knowledge production in the three research networks of my study.

In addition, flows of financial resources as financescapes (Appadurai, 1996) enable scholars to come up with IRC knowledge creation in these three networks. We can identify, in the findings of this study, knowledge enablers inside each research network, as well as enablers provided from their relational contexts. Enablers from their relational contexts constitute financial and in-kind support from their universities, as well as national and international support. Sonnenwald's (2007) research particularly pointed to the importance of the financial support in the establishment and development of IRC. In-kind support is a valuable way to maintain the work of the networks, but in particular in the Colombian ones, due to the limited funding provided to this transnational initiative. Sometimes, in these two Colombian networks financescapes as flows of in-kind resources are the only enablers to produce knowledge in IRC. It is worth noting that the application and allocation of grants to the CAResNet is fast and substantial support to the network. Particularly, having a major research federal grant (SSHRC) that last seven years contributed to the work of the Canadian network as enabler of IRC knowledge production in a very important and massive way. These flows of financial resources as financescapes in the CAResNet set a significant difference with the financial resources of the two Colombian networks. Hence, these financescapes as flows of financial resources show

their effects on the three research networks, although in different proportion regarding the CAResNet and the two COResNets.

The availability of specific research resources as financescapes that flow within the networks provided physical space and support in the acquisition and maintenance of equipment. For example, a lab in the CAResNet, a lab and use of artifacts from the museum in the COPubResNet, and a bulletin through a website in the COPriResNet. These flows of resources became very useful enablers to the creation and mobilization of new knowledge within each of the networks, as well as to an extended national and transnational community.

Disjunctures as constraints

On the other hand, disjunctures (Appadurai, 1996) constitute blockages or barriers that prevent knowledge from being produced (or lead to the production of certain kind of knowledge), which are sometimes difficult to overcome. Western knowledge and the rationalist, modern paradigm, as well as certain policies, political and economic interests that are part of the neoliberal discourse have constrained IRC knowledge production in these research networks. In particular, I engage with the neoliberal discourse as part of the analysis of the underpinning discourses of IRC knowledge production in the next section of this chapter. I point to controversial issues as disjunctures produced from the neoliberal discourse embedded in internationalization policies of higher education, focusing on policies of IRC, and its relation to what knowledge is valued, funding, scholars' increased workload, scholarly publication standards, and English as a language for scholarly publication. Comparison allows us to see that what becomes a constraint to

the Colombian research networks is not always seen in the same way or to the same extent in the Canadian research network.

Notwithstanding the contribution of internationalization policies in higher education to knowledge production in IRC at universities and countries, both in the Canadian and Colombian relational contexts, there are important disjunctures to note. For instance, these policies privilege certain types of research, such as applied sciences over pure and the sciences over the humanities. Also, knowledge that is understood as peripheral knowledge (usually from countries that are not European or North American countries –Canada and the United States) becomes questionable and it may not be considered for publication in high ranked journals (e.g. Q1 and Q2). Transfer of knowledge, and specifically, transfer of Western knowledge is a common and more accepted best practice, rather than value other kinds of knowledges in IRC. Both in the COPubResNet and the COPriResNet we can observe a blockage that constrains the production of new knowledge when researchers use non-Western ways of knowing. For example, a professor of the COPriResNet explained his international collaboration with European researchers was limited to collect and report data, but he did not have the opportunity to participate in the analysis, neither engage in theoretical discussions. This Colombian PhD scholar explained that meetings with these European researchers focused on sharing results. Another example is COPubResNet researcher's application to publishing his article in a US journal, which was denied because it comprised a new way to examining archaeological artifacts (bones) rather than using a traditional (i.e. Western) method. In the CAResNet, participants mentioned that engaging in an IRC massive

project in the social sciences, arts, and humanities is not common in Canada, nor approaching a research in Hispanic and pre-Hispanic studies.

Participants from the three research networks emphasized that social sciences, arts, and humanities research is provided with less funding than natural sciences and engineering research in both the Canadian and Colombian contexts. Salazar's (2008) study aligns with this participants' claim, which shows a high concentration of GDP to research in the industry sector, in both Canada and Colombia. Thus, funding to IRC knowledge production is more focused on particular forms of economic growth in both Canadian and Colombian relational contexts, although there are significant difference between the CAResNet and two Colombian networks.

In addition, there tends to be more funding available for research projects in developed countries like Canada compared to a country such as Colombia (Salazar, 2008). This disjuncture regarding funding does not ensure substantial national and/or international funding for IRC knowledge production, which affect substantially the work of the two Colombian networks in my study. Colombia, as an emerging country, does not possess the same amount of funding for research and IRC that countries such as Canada have (Salazar, 2008). In both Colombian networks, participants expressed that when applying for international grants, the amount of money is limited and projects cannot last more than one or two years. Receiving scarcer funding and for a very limited period of time (two or three years), in both Colombian networks their production of knowledge has less effect and visibility in other academic international contexts. In the case of researchers in the COPriResNet, as they are connected to a private university, they do not have sabbaticals and research has to be done during the mid-summer term, which also

constrains the coordination of their research work with other scholars internationally. Although the CAResNet obtained a major grant (which is not usual in Canada) to support their research project, it lasted only for a limited period of time (seven years). During this time, scholars in this network mobilized knowledge and published their work to ensure its circulation worldwide.

Scholars in the three research networks mentioned that participating in IRC increased their academic responsibilities and created major tensions. For instance, interviewees in the CAResNet talked about the additional workload that they assumed whilst participating in IRC in addition to their responsibilities of teaching and other faculty commitments. Also, participants in the Colombian networks expressed that lack of support to engage in IRC is a significant constraint to engaging and developing research projects. Since IRC requires travel to meet with other researchers and to attend conferences and other events, scholars in these Colombian research networks have to use their own resources and additional time, which is a significant limitation for practices and activities of IRC knowledge production.

A controversial issue within the Colombian research networks concerns the dominance of English as the most common language for scholarly publications worldwide. Spanish in both the public and private universities was the main language of instruction. Although most researchers in these Colombian research networks have knowledge of English, not all of them are English speakers. This was particularly visible in the COPubResNet, since English was not the second language of all scholars. There are also other second languages (i.e. French, German, Italian, Portuguese, Russian, etc.) that these researchers spoke. In the COPriResNet, English is the main second language

and most researchers possessed high level of competence. There is a proficiency test requirement as part of this private university's undergraduate and graduate programs; several professors have studied in Anglophone countries. Although this English proficiency is an asset in the COPriResNet, applying for international grants to support IRC continue to be an issue. In the COPubResNet, this disjuncture affects in a more notorious way to developing research and publishing in international high quality journals. The enforced and internationalized policies of higher education to use English as a lingua franca (Jenkins, 2013) for publications diminish participation for non-native English speakers. In the CAResNet, scholars in this network were compelled to publish in English although many of their articles centred on facts gathered in regions where Spanish is the mother tongue.

In this study I show that knowledge production in IRC comprises nuanced practices of sharing, co-constructing, creating, and producing knowledge across transnational space. As we saw, the work of these three networks is entangled in flows and disjunctures as enablers and constraints of IRC knowledge production. Thus, this complex scenario of global/local multiple flows and disjunctures demonstrates that knowledge production in IRC is never a neutral process. It involves power/knowledge relations entwined in disciplinary/interdisciplinary discourses (Foucault, 1980, 1996) that underpin the work of the research networks.

Underpinning discourses of knowledge production in IRC

To illuminate the discourses influencing IRC knowledge production in these research networks, I draw upon Foucauldian discourse analysis. In this dissertation discourses are bodies of knowledge and disciplinary/interdisciplinary discursive practices

of IRC knowledge production. Informed by Foucault (1980), I examine discourses that underpin the production of knowledge through mechanisms of power/knowledge relations as flows and disjunctures that circulate within the networks in transnational space. As mentioned in Chapter 3 power is neither positive nor negative: it circulates in a net of interconnections, and functions in the form of a chain in producing knowledge (Foucault, 1980). These mechanisms of power/knowledge relations are entangled in flows of ideas, policies, and resources that affect in different ways the work of the networks, but also provoke disjunctures that constrain practices of knowledge production in transnational space. In this way, I analyze the underpinning discourses and the way mechanisms of power/knowledge relations operate to enable or constrain IRC knowledge production in these networks. Thus, my analysis focuses on identifying assemble of ideas and mechanisms of power/knowledge relations that constitute the neoliberal discourse and pluridimensional discourse.

Neoliberal discourse

In the contested terrain of globalization and the internationalization of higher education, knowledge production in IRC is becoming a topic that is gaining much attention from universities, as well as from government and policy makers (King, Marginson & Naidoo, 2011). As mentioned, there are flows of policies of internationalization of higher education that enable IRC knowledge production, but the neoliberal reforms embedded in certain policies become disjunctures that inhibit the work of the networks in my study. The latter, involve the kinds of knowledges and ways of knowing that are valued and funded, as well as the scholars' increased workload, standards of scholarly publication, and English as a language for publishing. These kinds

of policies align with the hegemonic discourse of neoliberalism that now permeates

higher education systems and the transnational practices that researchers engage in within

those institutions (Rizvi, 2006). As Taylor (2002) states, this is a dominant neoliberal

social imaginary that has changed the notion of knowledge from being a public good in

higher education to knowledge as capital. Within this neoliberal discourse knowledge

production in IRC is a useful way for gaining prestige through the competitiveness of

universities worldwide (Beaver, 2001; Bukvova, 2010; Isabelle & Heslop, 2011).

I examine here three major ideas that align with the neoliberal discourse. The first

idea focuses on the universal and valid knowledge already mentioned in my theoretical

framework as part of the rationalist, modern paradigm (Kuhn, 1970). This idea of

universal and valid knowledge has underpinned IRC knowledge production in the

twentieth century privileging knowledge in the hard/applied sciences. It has led to the

widespread use of Western models to collect findings across national borders with the

purpose of testing theories and their validity (Kuhn & Weidemman, 2010). This

rationalist view encroaches practices of IRC knowledge production within each of the

three research networks in my study although in different ways.

The second idea points to the notion of high-quality research and the standards for

publishing in scholarly journals from Eurocentric and Anglo-American models (Jöns,

2007, 2008). The idea of high-quality research and the creation of indicators for standards

to measure and value IRC knowledge production worldwide responds to an exclusive,

rationalist view of knowledge assuming that one model fits all. It relates to large-scale

studies and reports of results under a universal view and the enforced use of English as a

lingua franca for publications (Jenkins, 2013). This rationalist perspective has

underrepresented contributions of IRC knowledge production not only from diverse cultural contexts and languages, but also from disciplines in the social sciences, arts, and humanities. Standardization promotes competiveness of universities and scholars in diverse disciplines under uneven conditions that exclude other knowledges and ways of knowing. This universal frame is simplistic and reductionist, and again, promotes hierarchical positions of knowledge by setting journal rankings in scales that do not value multiple forms of knowledge in our diverse world.

The third idea refers to the political and economic interests between countries and/or institutions that align with a neoliberal understanding of IRC knowledge production. These policies and economic interests influence the promotion of certain kinds of IRC knowledge production, and in so doing, the allocation of research funding. As knowledge becomes capital to be marketable and traded, in the knowledge economy, knowledge production in IRC is exchangeable in an instrumentalist way (Stier, 2011). To this extent, it does not only contribute to maximize profit, ensure economic growth, and sustainable development, but also to transmit desirable ideologies of governments, transnational corporations, and other interests groups (Kuhn & Okamoto, 2013; Kuhn & Weidemman, 2010).

The ensemble of these ideas founded on universal, Western knowledge, the creation of global standards including English as a lingua franca for scholarly publications, as well as the privileging of market-relevant knowledge production reinforces the dominant scientific discourse (Foucault, 1980); and in so doing, it propels the global hegemonic neoliberal discourse. In this way, knowledge becomes capital in direct connection to countries' economic growth (Rizvi & Lingard, 2010). This synergy

between scientific and economic linear perspectives simplifies and reduces IRC knowledge production to a useful mechanism in transnational policy making. Hence, it comprises the assimilation of capitalism within the "Western intellectual knowledge monopoly" (Kuhn & Okamoto, 2013, p. 10); and in this way, the confluence of the scientific and economic perspectives foster the hegemonic discourse of neoliberalism through policy flows and disjunctures. Here, the convergence of power/knowledge relations that science and policy-making embody is evident.

To this extent, in the neoliberal discourse social sciences, arts, and humanities IRC knowledge production is framed in an instrumentalist way, where knowledge is marketable and used for economic purposes. Also, it has been said that research in the social sciences, arts, and humanities is lagging behind developments in the natural sciences (Kuhn & Weidemman, 2010) worldwide. Since social sciences, arts, and humanities' research often entails intrinsic contextualized analyses, their approaches and contributions do not translate easily to the same universal and measurable parameters as the natural sciences; specifically; the applied sciences. Moreover, IRC knowledge production in these areas does not respond to the economic purposes framed by neoliberal discourse. Consequently, social sciences, arts, and humanities' research is not placed in the same status and has become less funded than the natural sciences, both in developed and developing countries (de Wit, Jaramillo, Gacel-Ávila & Knight, 2005; Jones & Weinrib, 2014). Hence, these power/knowledge relations that support the hegemonic discourse of neoliberalism drive misrepresentations of research in the social sciences, arts, and humanities and blurs other alternative knowledges produced in IRC and ways of looking in our multiple and complex globalized world.

This disciplinary/interdisciplinary ensemble of ideas that constitute the neoliberal discourse have steadily shaped higher education systems worldwide in the last three decades (Pusser, Kempner, Marginson & Ordorika, 2012) bringing tensions to academics and researchers alike. Scholars in the Canadian and two Colombian research networks of my study faced these tensions as disjunctures of IRC knowledge production in different ways. I mentioned several examples of constraints as disjunctures for IRC knowledge production in my findings according to participant's interviews. For instance, a professor in the COPriResNet explained that in participating in a multisite IRC project with a European country, his work as a researcher was limited to collecting data in Colombia. This scholar's experience shows the one-way, hierarchical academic relationship, whilst participating in the multisite project. Thus, the idea of universal, Western knowledge embedded in the neoliberal discourse has contributed to establishing a hierarchy of "spaces of knowledge production" (Jöns, 2007, p. 97) as the allocation of "centers of knowledge production and dissemination" (Jöns, 2008, p.3) in developed countries, as a top down relationship to "the periphery", in developing ones promoting colonial power/knowledge relations (Connell, 2007). In this way, 'peripheries' produce data and the 'centres' build theories. One participant in the COPubResNet pointed out that IRC policies in Colombia do not respond to this country's research realities. He argued that national political interests in consonance with large international organizations usually impose these IRC policies of knowledge production. I also noticed that participants in the CAResNet emphasized the increased academic workload, and the push for academics to be engaged in IRC. Although scholars in the CAResNet obtained a significant grant to work during seven years, obtaining this grant is not usual for research in the social

sciences, arts, and humanities. Using Foucault's poststructuralist critical perspective I

tease out the underlying effects of the neoliberal discourse entangled in IRC practices of

knowledge production within the three research networks.

It is worth noting the uneven terrain in which these research networks are situated

since neoliberal reforms embedded in the internationalization of higher education

privilege Western knowledge and English language for publications, favour scholars who

focus on research in the hard/applied sciences, as well as increase scholars' workload,

and push them to publish in highly ranked scholarly journals for competition amongst

universities worldwide. This pressure is felt in different ways by the research networks,

in this study.

For the Canadian research network, the pressures associated with the neoliberal

discourse mean that scholars are compelled to produce particular forms of knowledge,

publish in English, and in highly ranked journals. Knowledge produced in the social

sciences, arts, and humanities is not valued in the same way as hard sciences. Although

scholars in the CAResNet gathered significant data regarding Hispanic studies in settings

where Spanish was the mother tongue, they had to publish their research reports in

English. Canadian scholars emphasized the increased academic workload when they were

engaged in IRC, which represents additional pressures to be competitive academically.

For the Colombian research networks the pressures associated with neoliberal discourse

has the following effects: Researchers have limited opportunities to engage with an

international academic community since knowledge that is from the 'periphery' is often

questionable knowledge. Thus, knowledge produced otherwise is not necessarily valued,

which constrains the opportunity to be heard and visible in other international academic

settings. Although these researchers speak Spanish, they are required to publish in highly ranked journals and in English. The neoliberal discourse pushes Colombian researchers to be engaged in a fast paced academic environment with limited funding and resources. Thus, knowledge otherwise, as well as Spanish language are not included in the neoliberal discourse, which became problematic in relation to the rhetorical demands for internationalization of higher education for those outside of the English speaking world. Hence, the neoliberal discourse shapes pervasively the work of the networks, albeit in different ways.

We can observe how global dynamics are entangled in local material practices (Sassen, 2009) where global/local flows and disjunctures as both enablers and constraints of IRC knowledge production produce different effects in the work of the networks. However, to examine how IRC knowledge is produced within the networks, I need to turn to the ideas of pluridimensional discourse, which bring a broader perspective of these transnational practices of IRC knowledge production in my study.

Pluridimensional discourse

I have mentioned how scholars' interconnections as practices of knowledge production in IRC created a relational and socially produced space that is interdisciplinary, international, intergenerational, cross-cultural, and multi-linguistic. These perspectives relate to four main ideas that I analyze in this section as part of the pluridimensional discourse of IRC knowledge production. The first idea involves the awareness of different kinds of knowledges and ways of knowing in IRC. This inclusive and non-linear approach of different knowledges and ways of knowing refers to the epistemological pluralism (Andreotti, 2010) that researchers engage with in these

networks. In doing so, tracing the nuanced practices of IRC knowledge production, in the three distinct networks, we can observe how researchers in my study engage with multiple logics to conceive knowledge otherwise (Escobar, 2010). This epistemological pluralism helps to question the notion of validity of knowledge (Foucault, 1980; Kuhn, 1970; Kuhn & Okamoto, 2013), and again, comprises the analysis of not one system, but systems of thought (Foucault, 1980). In this way different knowledges and ways of knowledge coexist and perhaps become complementary (Santos, 2014) in practices of IRC knowledge production within the networks.

The second idea that is part of the pluridimensional discourse refers to the way researchers in the three research networks transgressed disciplinary boundaries to expand scholars' worldview. It aligns with the approach of a number of scholars (i.e., Appadurai, 2009; Connell, 2007; Kenway & Fahey, 2009; Massey, 2009; Ong, 2009; Rizvi, 2009; Sassen, 2009) who advocate for doing such research. For instance, the CAResNet involved scholars from the social sciences, arts and humanities, but also from technology science. The coordinator of the network explained that they integrated different disciplines and researchers' approaches under Complexity Theory as a way to articulate the complexity on the phenomenon under study. Also, interviewees in the COPubResNet referred to Complex Thought's approach to integrate the work of different scholars from different disciplines in the network. Although researchers in the COPriResNet did not explicitly mentioned those approaches, they talked about their awareness of including scholars from different disciplines and approaches in the social sciences, arts, and humanities in the work of the network.

The third idea refers to the intergenerational relationship among professors and students, which allowed mutually enriched practices of all scholars. This entails a two-way knowledge sharing where both professors and students from different academic generations engage in IRC knowledge production within the three research networks. For example, professors provided supervision to students' thesis and dissertations, guided students' research assistantship, and offered them the opportunities to be engaged and create knowledge within the research networks. In this way, students not only participated in supporting the work of the networks, but also brought their own ideas to the networks, which provide them a significant experience to flourish as scholars. This aligns with Crane's (1972) notion of 'invisible college' as a less formal and more organic transnational community of knowledge where scholars (professors and students) share, learn from each other, and create new knowledge in IRC.

The fourth idea points to the fact that involving international and cross-cultural dimensions of research within the networks shifts our understanding of a static, bounded view of contextual realities to a more interconnected and interdependent notion of the global and the local (Massey, 2005, 2009; Rizvi, 2009; Sassen, 2009). Rizvi (2009) particularly talks about the need of becoming aware of our global interconnectivity and interdependence as researchers, emphasizing, at the same time, that locality matters. Cross-cultural experiences, as part of this transnational interconnectivity among researchers, foster a new mindset and interpretation of cultural differences. Moreover, acknowledging the existence of different languages and cultures is essential in our understanding of the complexity of our world. In this particular study, the three research networks comprised scholars from different countries focusing on Hispanic and pre-

Hispanic studies. It allowed participants in each of the networks to collaborate and adapt their style of work, be open minded to experience new kinds of relationships among scholars, and learn from other experiences and cultures. Hence, from this international, cross-cultural perspective, knowledge production in IRC was based on the coexistence of different voices, languages, and cultures in the interpretive work and meaning making of scholars across borders (Wasser & Bresler, 1996). In particular, these research networks engaged with multilingual experiences since most researchers from different countries speak at least two languages (i.e. English and Spanish, Spanish and Russian; Spanish and Italian; English and German).

This group of ideas (Interdisciplinary, international, intergenerational, multilingual and cross-cultural) affords the pluridimensional discourse that allows and supports multiple perspectives of scholars as is evident in the three research networks, but in different uneven ways. This pluridimensional discourse frees the research imagination and surpasses the reproduction of a way of thinking, into a more autonomous and creative one, by "giving thought winds" (Kenway & Fahey, 2009, p. 21). In other words, engaging with pluridimensional discourse allows researchers to explore new ideas and practices when producing knowledge in IRC. Studying the practices of IRC knowledge production in transnational space helps us to see how boundaries across disciplines, countries, generations, cultures and languages are transgressed.

What I have shown here is that IRC knowledge production embodies contrasting discourses (neoliberal discourse and pluridimensional discourse) that push and pull in uneven ways across the three research networks. We can observe the multilayered mechanisms entangled in practices of IRC knowledge production in relation to these

networks relational global/local landscape, as well as the multiple perspectives researchers embrace within these networks to produce knowledge otherwise.

Foucault's idea about 'governmentality' (Foucault, 1991) helps me to demonstrate how power/knowledge relations operate in IRC knowledge production within these networks. Governmentality involves the rules and mechanisms that regulate discursive practices. There is a self-regulated way to produce knowledge within these networks. Researchers possess a significant autonomy within the research networks regarding the kind of knowledge that is produced in IRC and the ways of knowing they engage in. These researchers have their own values, beliefs, ways of thinking and doing research, which are echoed in pluridimensional discourse that circulate within the networks. Scholars in these networks maintain this autonomy whilst meeting the current demands of being productive and dealing with the neoliberal conditions of internationalization processes in higher education. As we have seen in my findings, Foucault's idea of productivity is represented in processes and practices, which involve tangible and intangible productive effects of IRC in both the Canadian and the two Colombian networks. These productive effects also create communities of knowledge within the networks. Scholars in these networks had to apply for grants, which allow them to use resources that make possible their collaborative work. Elaborating research reports are also IRC productive effects that researchers achieve in these networks in tandem with their responsibilities as scholars in Canada and Colombia. Beyond the neoliberal discourse, pluridimensional discourse shifts our view of knowledge production in IRC under a rationalist, instrumentalist perspective to a pluralist (Foucault, 1991) one. This pluridimensional discourse is both produced by and shapes IRC practices of knowledge

production within the networks, which are comprised to a large extent by what Foucault calls subjugated knowledges. For instance, scholars in the CAResNet approached a massive research project in the social sciences, arts, and humanities, funded under a special federal grant (SSHRC), which is not usual to obtain in Canada; scholars in this network dealt with multiple academic responsibilities and increased workload to achieve the goals of the project; they also published an enormous amount of articles in highly ranked scholarly journals and books in English, as well as worked on exhibitions and conferences. The COPubResNet developed several small research projects in the social sciences, arts, and humanities with scarce funding and resources; researchers in these network usually paid their own expenses to attend international conferences and meet with other scholars; academics in this network struggled publishing in international scholarly ranked journals since English is the language for publication and their knowledge is questionable. The COPriResNet also developed several small research projects in the social sciences, arts, and humanities under limited funding and resources; professors in this research network do not have sabbaticals, nor allocated academic time for research, which constraints their opportunities to engage in IRC; a scholar's participation in IRC with an international organization that funded this initiative was restricted to provide data, but not to be engaged in any theoretical and/or methodological discussion. Foucault's critical perspective provided me with the tools to tease out the practices, events, and ideas that constitute discourses and reveal the entangled power/knowledge relations in IRC in these networks. Discursive practices of IRC knowledge production in the three research networks of my study are multiple and

emerge from global/local interconnections as research practices amongst scholars, flows, and disjunctures in transnational space.

Summary

In this chapter, I analyzed and compared the three research networks highlighting their distinct qualities, as well as their commonalities as constituted communities of knowledges. Analyzing the underpinning discourses of IRC knowledge production (the neoliberal discourse and pluridimensional discourse) helped to identify global/local power/knowledge relations that influence the work of the networks. We saw that the way IRC knowledge is produced in these networks involved a net of multiple interconnections that surpass the boundaries of the three cases in this study. This is where the notion of relational, dynamic, and socially produced space is represented in my study. In this way, global/local flows and disjunctures as enablers and constraints intersect and affect the practices of IRC knowledge production in the networks through multiple disciplinary/interdisciplinary discourses. In particular, I emphasize the neoliberal discourse entangled in internationalization policies of higher education, which create tensions for scholars in these networks, but in different ways. However, engaging with a broader perspective from my post-foundational spatial theoretical framework, one can analyze scholars' interconnections and their rich experience of IRC knowledge production. This broader perspective helps to unveil the pluridimensional discourse that embrace multiple and different knowledges and ways of knowing. As Foucault (1980) states discourses are made up power/knowledge relations. Yet power is not something positive or negative, it circulates in a form of a chain in a net of interconnections where individuals and groups are vehicles. We saw the participation of external actors of the

networks as staff members who work at the universities to which these networks are tied. These actors not only support the work of the networks, but also communicate norms and rules that are part to the neoliberal reforms in the higher education system in both Canada and Colombia. In this sense, these norms embody power/knowledge relations that push scholars to meet the current demands of neoliberal discourse. On the other hand, we saw researchers self-regulated ways to produce knowledge otherwise whilst embracing different kinds of knowledges and ways on knowing. These power/knowledge relations are also located within scholar's high level of knowledge and expertise, commitment, and willingness to collaborate with other researchers from diverse disciplines, generations, countries, and cultures. These power/knowledge relations fostered a *sui generis* and creative mindset to produce particular forms of knowledge in IRC that transgresses the dominant neoliberal discourse that is so influential in higher education today. In this sense, scholars in each of the networks created communities of knowledge and maintained long-lasting relationships where pluridimensional discourse of IRC knowledge production circulate. Hence, we can observe contrasting mechanisms of power/knowledge relations that operate through these scholars' interconnections as IRC practices of knowledge production, but also in connection to their relational contexts, and to our globalized world.

Chapter 8: IRC Knowledge Production Otherwise

This multiple-case study explores and compares the nuanced practices of IRC knowledge production within and across three distinct research networks, which are linked to universities in two geographical sites, Canada and Colombia. This study goes beyond institutional or country analysis to investigate academics' work through research networks that are entangled in global/local interconnections, flows, and disjunctures (Appadurai, 1996; Castells, 1996) in transnational space. The main question guiding this study was: How is knowledge produced within IRC in and across three Canadian and Colombian research networks? The specific research questions were: Who are the actors involved in IRC in their respective research networks? How are they engaged in IRC? What influences the processes of knowledge production in IRC? What are the enablers and constraints? What are the contexts (e.g. Socio-politic, economic, scientific, cultural)? And what are the effects of IRC?

To understand how knowledge is produced in IRC within three distinct research networks, I drew upon a post-foundational spatial theoretical framework to inform my analysis of these practices. Post-foundational approaches in my research involve theoretical perspectives from postmodernism, postcolonialism, and poststructuralism (Ninnes & Mehta, 2004). These approaches embody epistemological pluralism (Andreotti, 2010) to overcome misconceptions and misunderstandings of different knowledges and ways of knowing in our multiple and heterogeneous world. This theoretical framework comprises a reflective, critical, and pluralistic perspective that opens up opportunities to explore fresh venues in qualitative inquiry that I engaged in my

research. Moreover, post-foundational approaches allowed me to break down fixed

notions of space/place in country or intuitional contexts to investigate researchers' work

relationally in cross-border networks. The notion of space in this dissertation is relational,

mobile, and socially produced. This relational and socially produced approach to

understand space/place involves a poststructural worldview inspired by theorists of the

'spatial turn' (e.g. Lefebvre, 1991; Massey, 2005; Soja, 1989). In this dissertation, space

is considered as being produced through interconnections as practices of knowledge

production in IRC, which constitute research networks. These practices are underpinned

by disciplinary/interdisciplinary discourses (Foucault, 1988, 1996) that circulate through

flows and disjunctures within the networks.

The methodological framework and methods of this study involve qualitative

approaches and an interpretivist/constructivist worldview. The two qualitative

methodological approaches employed in data gathering and interpretation in this research

were social network analysis (SNA) and Foucauldian discourse analysis. SNA facilitated

to depict the configuration of the three research networks identifying the actors of the

research networks, their interconnections, and how they are engaged in IRC. Foucauldian

discourse analysis helped to reveal the power/knowledge relations that underpinned the

discourses (neoliberal discourse and pluridimensional discourse) of knowledge

production in IRC of the three research networks in my study. Data gathering in each

research network included semi-structured interviews, and policy and research

documents. To engage with the analysis of my findings, data gathered were divided in

themes according to the research questions. The discussion revealed both the

distinctiveness of the three research networks and their commonalities as communities of

knowledge. Also, this discussion disclosed the ways in which both then neoliberal and pluridimensional discourse influenced IRC practices of knowledge production in the three research networks in my study.

Advances in ICT have sped up the interconnectivity amongst academics across the globe bringing more opportunities to be engaged in IRC. Universities and governments urge academics to be involved in these international initiatives as part of the internationalization processes of higher education. The institutional push of producing knowledge in IRC pursues elevating universities' status and positioning them in the high level of the global ranking system (Larsen, 2016; Mohrman, Ma & Baker, 2008). Therefore, knowledge production in IRC is never a neutral process. It is a complex phenomenon where power/knowledge relations form disciplinary/interdisciplinary discourses that circulate through the work of the research networks.

Analyzing and comparing practices of IRC knowledge production in three research networks in my study, I illustrated not only the productive effects of IRC and richness of these transnational initiatives, but also I disclosed the underpinning discourses that circulate through the networks. These underpinning discourses made up of power/knowledge relations reveal the multiple flows of ideas, policies, academics, and resources as well as disjunctures as enablers and constraints of IRC knowledge production. I analyzed, on the one hand, the effect of the neoliberal discourse entwined in policies of the internationalization of higher education; and on the other hand, the existent pluridimensional discourse that provide scholars with opportunities, within the networks, embracing IRC knowledge production in multiple ways. Since these networks are entangled in interconnections, global/local flows, and disjunctures, we can see in my

study the uneven terrain in which they are situated and the complex effects of neoliberal discourse. The demand to co-publishing in highly ranked journals, the privilege of Western knowledge, the increase scholars' workload, and the use of English as a lingua franca push and produce tensions to scholars in the three networks, although in different ways. Beyond the effects of the neoliberal discourse, we can also see the productive effects of the pluridimensional discourse within these networks, which include interdisciplinary, international, intergenerational, and cross-cultural ideas that shape IRC privileging knowledge production otherwise. Pluridimensional discourse brings to the networks different voices and approaches to sharing, discussing, and co-constructing knowledge among researchers. This pluridimensional discourse responds to an epistemological and ontological pluralism that I engage with in my dissertation to unfold the co-existence of diverse knowledges and ways of knowledge and power/knowledge relations in our interconnected and globalized world.

In this study we have seen that neoliberal discourse shapes both the work of the Canadian and the two Colombian networks, although in different ways. Pluridimensional discourse embraces different kinds of knowledge and ways of knowing, which produce and shape nuanced practices of knowledge production in IRC within the three research networks in my study. From this pluralist perspective, knowledge otherwise emerges in the three research networks of my study.

Strengths and limitations of the study

This comparative and exploratory multiple case study comprises a fresh venue in qualitative research to understand how IRC knowledge is produced in transnational space. Engaging with a post-foundational spatial worldview allowed me to engage a

comparative network analysis that brings diverse experiences of scholars from different geographical sites. This comparison helped to unveil not only the distinctiveness of three research networks, but also their commonalities as communities of knowledge, as well as the underpinning discourses (the neoliberal discourse and pluridimensional discourse) that shape and produce IRC practices of knowledge production of these networks in our interconnected world. Moreover, this comparison facilitated to disclose power/knowledge relations entangled in disciplinary/interdisciplinary discourses within the networks.

Notwithstanding the qualities and deep analysis of this study, including three research networks as units of analysis only provide limited data that cannot be generalized. Also, to protect participants' personal information, this study does not include publications, research reports, students' thesis, conference programs, and exhibition brochures, which are very illustrative of tangible knowledge production in IRC of the research networks. Nor does this study include particular policy documents to protect the anonymity of the research networks and universities to which these networks are tied.

Further areas of study

I hope my dissertation brings significant insights about the complex and nuanced practices of IRC knowledge production that I have depicted through three research networks linked to universities in two geographical sites, Canada and Colombia. With this exploratory comparative, and international multiple case study, I am addressing only one piece of the big puzzle of multiple examples and practices of IRC knowledge production in our interconnected world. There is a need to continue exploring these practices in a way that makes visible their richness and intricate processes in which

scholars are involved. There is still a gap to understand how IRC knowledge is produced otherwise in diverse contextual realities. There is a need to revisit policies of internationalization of higher education regarding parameters of IRC knowledge production, language, and criteria for publishing, which permeate rampantly the work of scholars everywhere. There is an urgent reflection from the government and institutional settings worldwide to shift the current response to internationalization policies in higher education and to reshape the way they are enforced.

The researcher as inbetweener: My own journey

In the introduction to this dissertation, I discussed what I called my 'inbetweener' or 'alongsider' status in relation to my research. This doctoral journey has provided me with the opportunity to work and conduct research in the two settings of my study; and therefore; made me more open-minded and aware of cultural differences. It also helped me to recognize that I brought to my own study my own ways of knowing and thinking about transnational knowledge production in IRC, which did not always align with those of my participants. Experiencing this kind of mobility and fluidity as a scholar while traveling to collect my data in both geographical sites, Canada and Colombia, enhanced my imagination as a researcher, and helped me to transgress comparative traditional models to analyze my findings. I situated my study in transnational space to embrace a multiple and global landscape made up interconnections where difference in our world is evident and unavoidable. This positionality contributed to acknowledge the co-existence of different knowledges and ways of knowing that challenged my research's perspectives and made me more aware of the beauty of our pluridimensional reality. Collecting and analyzing my findings have made me grow not only as a scholar, but also as a sensitive

and thoughtful researcher working to understand and make sense of the complex and sometimes unexpected findings in this study. The self-reflection that I have engaged in throughout this process has truly helped me to better understand how knowledge is produced through relational connections, the importance of trust in developing research relationships, and my own role as a translational scholar engaged in knowledge production in today's globalized world.

References

Adams, J, Gurney, K., & Marshall, S. (2007). *Patterns of international collaboration for the UK and leading partners*. A report commissioned by the UK Office of Science and Innovation.

Andrade, H. B., de Los Reyes Lopez, E., & Martín, T. B. (2009). Dimensions of scientific collaboration and its contribution to the academic research groups' scientific quality. *Research Evaluation*, *18*(4), 301-311. doi: 10.3152/095820209X451041

Andreotti, V. (2010). Global education in the '21st century': Two different perspectives on the 'post-'of postmodernism. *International Journal of Development Education and Global Learning, 2*(2), 5-22.

Andreotti, V., & Souza, L. (2008). Global learning in the knowledge society: Four tools for discussion. *Journal of International Educational Research and Development Education, 31*, 7-12.

Appadurai, A. (1990). Disjuncture and difference in the global cultural economy. *Public Culture, 2*(2), 1-23.

Appadurai, A. (1996). *Modernity at large: Cultural dimensions of globalization*. Minneapolis: University of Minnesota Press.

Appadurai, A. (2000). Grassroots globalization and the research imagination. *Public Culture, 12*(1), 1-19.

ASCUN (Asociación Colombiana de Universidades [Colombian Association of Universities]) (2010). Estudios de base sobre la ley 30 de 1992. In *Pensamiento*

universitario (No. 20). Retrieved from:

http://www.urosario.edu.co/Subsitio/Foros-de-Reforma-a-la-Educacion-

Superior/Documentos/ASCUN-EstudiosdebasesobreLey30de1992.pdf

Axelrod, P., Trilokekar, R. D., Shanahan, T., & Wellen, R. (2011). People, processes, and

policy-making in Canadian post-secondary education, 1990–2000. *Higher*

Education Policy, *24*(2), 143-166.

Baldacchino, G. (2006). The brain rotation and brain diffusion strategies of small

islanders: considering 'movement'in lieu of 'place'. *Globalisation, Societies and*

Education, *4*(1), 143-154.

Ball, S. J. (2008). New philanthropy, new networks and new governance in education.

Political Studies, 56(4), 747-765. doi: 10.1111/j.1467-9248.2008.00722.x

Ball, S. J. (2012). *Global education Inc. New policy networks and the neo-liberal*

imaginary. London: Routledge.

Bartlett, L., Bermeo, M. J., Boniface, T., Mogusu, E., Ngarina, D., Rugambwa, A., ...

Webb, T. (2013). International Collaboration: Processes, benefits, tensions, and

conclusions. In F. Vavrus & L. Bartlett (Eds.), *Teaching in Tension: International*

pedagogies, national policies, and teachers' practices in Tanzania (pp. 169-193).

Rotterdam; Boston: Sense Publishers.

Beaver, D. (2001). Reflections on scientific collaboration (and its study): Past, present,

and future. *Scientometrics, 52*(3), 365-377.

Beaver, D., & Rosen, R. (1978). Studies in scientific collaboration-Part I. The

professional Origins of Scientific Co-Authorship. *Scientometrics*, *1*(1), 65-84.

Beck, K. (2012). Globalization/s: Reproduction and resistance in the internationalization of higher education. *Canadian Journal of Education, 35*(3), 133-148.

Beech, J., & Larsen, M. A. (2014). Replacing old spatial empires of the mind: Rethinking space and place through network spatiality. *European Education*, *46*(1), 75-94.

Bennett, M. J. (2004). Becoming interculturally competent. *Toward multiculturalism: A reader in multicultural education*, *2*, 62-77.

Bhabha, H. K. (1990). The Third Space: Interviews with Homi Bhabha. In J. Rutherford (Ed.), *Identity: Community, Culture, Difference* (pp. 207-221). London: Lawrense & Wishart.

Bhabha, H. K. (1994). *The location of culture*. New York, U.S.: Routledge.

Borgatti, S. & Halgin, D. (2011). On network theory. *Organization Science, 22*(5), 1168-1181.

Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *Science*, *323*(5916), 892-895.

Bresler, L. (2002). The interpretive zone in international qualitative research. *Counterpoints, 180*, 39-81.

Bukvova, H. (2010). Studying research collaboration: A literature review. *Sprouts: Working papers in information systems, 10*(3), 1-17.

Castells, M. & Cardoso, G. (Eds.) (2005). *The network society: From knowledge to policy*. Washington, DC: Johns Hopkins Center for Transatlantic Relations.

Castells, M. (1996). The net and the self: Working notes for a critical theory of the informational society. *Critique of Anthropology, 16*(1), 9-38.

Castells, M. (2000). Materials for an exploratory theory of the network society. *The British journal of sociology*, *51*(1), 5-24.

Castells, M. (2010). *The rise of the network society*. The information age: Economy, society and Culture Vol. 1. Massachusetts: Blackwell Publishers Ltd.

CBIE (Canadian Bureau for International Education) (August 2, 2013). House of Commons Standing Commission on Finance: Pre-Budget Consultations 2013 Submission from the Canadian Bureau for International Education. Retrieved online from: http://cbie.ca/wp-content/uploads/2016/04/CBIE_Pre-BudgetConsultations2013_EN.pdf

CCYK (Colombia Challenge Your Knowledge) (2015). Internacionalización de la investigación. In *Guías para la internacionalización de la educación superior*. Retrieved online from: https://issuu.com/hans268/docs/3.inter._investigacion

Chen, Q., & Koyama, J. P. (2013). Reconceptualising diasporic intellectual networks: Mobile scholars in transnational space. *Globalisation, Societies and Education*, *11*(1), 23-38.

CMEC (Council of Ministers of Education, Canada) (June 2011). *Bringing education in Canada to the world, bringing the world to Canada: An international education marketing action plan for provinces and territories*. Retrieved online from: http://www.cmec.ca/Publications/Lists/Publications/Attachments/264/COF_Bringing_Ed_to_Canada_Eng_final.pdf

COLCIENCIAS (Colombian Institute for the Development of Science and Technology). (2015). *About Colciencias.* Retrieved online from: http://www.colciencias.gov.co/sobre_colciencias

Connell, R. W. (2007). *Southern Theory: Social science and the global dynamics of knowledge*. New Jersey: Wiley-Blackwell

Crane, D. (1971). Transnational Relations and World Politics. *International Organization, 25*(3), 585-601.

Crane, D. (1972). *Invisible colleges. Diffusion of knowledge in scientific communities*. Chicago, IL: The University of Chicago Press.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Los Angeles, CA: Sage publications.

Crossley, M., & Tikly, L. (2004). Postcolonial perspectives and comparative and international research in education: A critical introduction. *Comparative Education, 40*(2), 147-156.

Crossley, M., Arthur, L., & McNess, E. (Eds.) (2016). *Revising insider-outsider research in comparative and international education.* Oxford: Symposium Books Ltd.

Crossley, N., Bellotti, E., Edwards, G., Everett, M. G., Koskinen, J., & Tranmer, M. (2015). *Social network analysis for ego-nets*. Los Angeles; London; New Delhi; Singapore; Washington, DC; Boston: Sage.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research processes*. Sidney, Au: Allen & Unwin.

Dale, R. (2000). Globalization and education: Demonstrating a "common world educational culture" or locating a "globally structured educational agenda"? *Educational Theory*, *50*(4), 427-448.

Dale, R. (2005). Globalisation, knowledge economy and comparative education. *Comparative education*, *41*(2), 117-149.

Davidson Frame, J., & Carpenter, M. P. (1979). International research collaboration. *Social studies of Science*, *9*(4), 481-497. doi: 10.1177/030631277900900405

De Solla Price, D. J. (1963). *Little science, big science*. New York, U.S.: Columbia University Press.

De Solla Price, D. J., & Beaver, D. (1966). Collaboration in an invisible college. *American Psychologist, 21*(11), 1011-18.

de Wit, H., Jaramillo, I. C., Gacel-Ávila, J., & Knight, J. (2005). Higher Education in Latin America: The International Dimension. *World Bank Publications*.

Denzin, N. K, & Lincoln, Y. S. (Eds.) (2005). *The Sage handbook of qualitative research* (3rd Ed.). Thousand Oaks; London; New Delhi: Sage Publications, Inc.

DFATD (Department of Foreign Affairs, Trade and Development Canada) (2014). *Canada's International Education Strategy: Harnessing our knowledge advantage to drive innovation and prosperity, 2014*. Retrieved online from: http://international.gc.ca/global-markets-marches-mondiaux/assets/pdfs/overview-apercu-eng.pdf

Dussel, E. (2006). Globalization, organization and the ethics of liberation. *Organization, 13*(4), 489-508. doi: 10.1177/1350508406065852

Dyer, C. (2016). Foreword. In M. Crossley, L. Arthur & E. McNess (Eds.), *Revising insider-outsider research in comparative and international education* (pp. 9-10). Oxford: Symposium Books Ltd.

Edwards, G. (2010). *Mixed Methods Approaches to Social Networks Analysis*. ESRC National Centre for Research Methods, Review Paper, NCRM/015. Retrieved

online from:

http://eprints.ncrm.ac.uk/842/1/Social_Network_analysis_Edwards.pdf

Escobar, A. (2004). Beyond the third word: Imperial globality, global coloniality and anti-globalisation social movements. *Third World Quarterly, 25*(1), 207-230.

Fahey, J., & Kenway, J. (2010a). International academic mobility: Problematic and possible paradigms. *Discourse: Studies in the Cultural Politics of Education, 31*(5), 563-575.

Fahey, J., & Kenway, J. (2010b). Moving ideas and mobile researchers: Australia in the global contexts. *The Australian Educational Researcher, 3*(4), 103-114.

Fahey, J., & Kenway, J. (2010c). Thinking in 'worldly' way: Mobility knowledge, power and geography. *Discourse: Studies in the Cultural Politics of Education, 31*(5), 627-640.

Finkelstein, M. J., Walker, E., & Chen, R. (2009, September). The Internationalization of the American Faculty: where are we, what drives or deters us? (the changing academic profession over 1992-2007: international, comparative, and quantitative perspectives: Report of the International Conference on the Changing Academic Profession Project, 2009: Country Reports on Internationalization: USA). In *Report of the Hiroshima International Seminar on Higher Education* (Vol. 13, pp. 113-144).

Fisher, D., Rubenson, K., Bernatchez, J., Clift, R., Jones, G., Lee, J., ... Trottier, C. (2006). *Canadian federal policy and postsecondary education*. Vancouver, BC: Centre for Policy Studies in Higher Education and Training, Faculty of Education, University of British Columbia.

Foucault, M. (1971). Orders of discourse. *Social Science Information*, *10*(2), 7-30.

Foucault, M. (1972). *The archaeology of knowledge: And the discourse on language*.
New York: Random House, Inc.

Foucault, M. (1978). *The history of sexuality. Volume 1: An introduction*. New York:
Random House.

Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings 1972–*
1977. London: The Harvester Press Limited.

Foucault, M. (1986). Of other spaces. *Diacritics, 16*(1), 22-27.

Foucault, M. (1988). *Politics, philosophy, culture: Interviews and other writings, 1977-*
1984. London: Routledge.

Foucault, M. (1991). *The Foucault effect: Studies in governmentality: With two lectures*
by and an interview with Michel Foucault. Chicago, IL: The University of
Chicago Press.

Foucault, M. (1996*). What is enlightenment?: Eighteenth-century answers and twentieth-*
century questions. Berkeley: University of California Press.

Fuhse, J., & Mützel, S. (2011). Tackling connections, structure, and meaning in
networks: quantitative and qualitative methods in sociological network research.
Qual Quant, 45(5), 1067-1089. doi: 10.1007/s11135-011-9492-3

Gandhi, L. (1998). *Postcolonial theory: A critical introduction*. New York, NY:
Columbia University Press.

Gazni, A., Sugimoto, C. R., & Didegah, F. (2012). Mapping world scientific
collaboration: Authors, institutions, and countries. *Journal of the American*

Society for Information Science and Technology, 63(2), 323-335. doi: 10.1002/asi.21688

Gilbert, J. (2005). *Catching the knowledge wave?: The knowledge society and the future of education*. Wellington: Nzcer Press.

Goddard, T., Cranston, N., & Billot, J. (2006). Making it work: Identifying the challenges of collaborative international research. *International Electronic Journal for Leadership in Learning, 10*(1), 1-5.

Gran, G. (1986). Beyond African famines: whose knowledge matters? *Alternatives*, *11*(2), 275-296.

Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological theory, 1*, 201-233.

Hall, S. (1996). When was 'the post-colonial'? Thinking at the limit. In I. Chambers & L. Curti (Eds.), *The post-colonial question: Common skies, divided horizons* (pp. 242-260). New York, NY: Routledge.

Harvey, D. (1989). *The urban experience*. Baltimore: Johns Hopkins University Press.

Harvey, D. (2006). Space as a keyword. In N. Castree & D. Gregory (Eds.), *David Harvey a critical reader* (pp. 270-294). Malden; Oxford; Victoria: Blackwell Publishing.

Hicks, D., & Katz, S. (1996). Science policy for a highly collaborative science system. *Science and Public Policy, 23*(1), 39-44.

Hollstein, B. (2011). Qualitative approaches. In J. Scott & P. J. Carrington (Eds.), *The Sage handbook of social network analysis* (pp. 404-416). California: Sage Publications, Inc.

Isabelle, D., & Heslop, L. (2011). Managing for success in international scientific

collaborations: Views from Canadian government senior science managers.

Science and Public Policy, 38(5), 349-364. doi:

10.3152/030234211X12960315267534

Jacob, M., & Meek, V. L. (2013). Scientific mobility and international research networks:

trends and policy tools for promoting research excellence and capacity building.

Studies in Higher Education, *38*(3), 331-344.

Jenkins, J. (2014). *English as a lingua franca in the international university: The politics

of academic English language policy*. New York: Routledge.

Jones, G. A., & Weinrib, J. (2011). Globalization and higher education in Canada. In R.

King, S. Marginson & R. Naidoo (Eds.), *Handbook on globalization and higher

education* (pp. 222-240). Cheltenham: Edward Elgar Publishing.

Jones, G. A. (2009). Sectors, institutional types and the challenges of shifting categories:

A Canadian commentary. *Higher Education Quarterly*, *63*(4), 371-383.

Jones, G. A. (2014). An introduction to higher education in Canada. *Higher education

across nations*, *1*, 1-38.

Jones, G. A., & Oleksiyenko, A. (2011). The internationalization of Canadian university

research: A global higher education matrix analysis of multi-level governance.

Higher Education, *61*(1), 41-57.

Jöns, H. (2007). Transnational mobility and the spaces of knowledge production: A

comparison of global patterns, motivations and collaborations in different

academic fields. *Social Geography, 2*(2), 97-114. doi: 10.5194/sg-2-97-2007

Jöns, H. (2009). 'Brain circulation' and transnational knowledge networks: Studying long-term effects of academic mobility to Germany, 1954-2000. *Global Networks a Journal of Transnational Affairs, 9*(3), 315-338. doi: 10.1111/j.1471-0374.2009.00256.x

Jonsen, K., Butler, C. L., Mäkelä, K., Piekkari, R., Drogendijk, R., Lauring, J., ... Zander, L. (2013). Processes of international collaboration in management research: A reflexive, autoethnographic approach. *Journal of Management Inquiry*, *22*(4), 394-413.

Katz, J. S., & Martin, B. R. (1997). What is research collaboration? *Research Policy, 26*(1), 1-18.

Kenway, J., & Fahey, J. (2006). The research imagination in a world on the move. *Globalisation*, *Societies and Education*, *4*(2), 261-274.

Kenway, J., & Fahey, J. (Eds.) (2009). *Globalizing the research imagination*. New York: Routledge.

Kim, T. (2009). Transnational academic mobility, internationalization and interculturality in higher education. *Intercultural Education*, *20*(5), 395-405.

King, R., Marginson, S., & Naidoo, R. (Eds.) (2011). *Handbook on globalization and higher education*. Cheltenham: Edward Elgar Publishing.

Kuhn, M., & Okamoto, K. (Eds.) (2013). *Spatial social thought: Local knowledge in global science encounters*. Stuttgart, DE: ibidem-Verlag.

Kuhn, M., & Weidemman, D. (Eds.) (2010). *Internationalization of the social sciences: Asia – Latin America – Middle East – Africa – Eurasia*. Bielefeld: transcript Verlag.

Kuhn, T. S. (1970). *The structure of scientific revolutions*. (Fourth Ed). Chicago, IL: The University of Chicago Press.

Kuznetsov, Y. (Ed.) (2006). *Diaspora networks and the international migration of skills: how countries can draw on their talent abroad*. Washington, DC: World Bank Institute.

Landry, R., Traore, N., & Godin, B. (1996). An econometric analysis of the effect of collaboration on academic research productivity. *Higher Education, 32*(3), 283-301. doi:10.1007/BF00138868

Larsen, M. (2016). *Internationalization of higher education: An analysis through spatial, network, and mobilities theories*. New York: Palgrave Macmillan.

Larsen, M. A., & Beech, J. (2014). Spatial theorizing in comparative and international education research. *Comparative Education Review*, *58*(2), 191-214.

Lasthiotakis, H., Sigurdson, K., & Sá, C. M. (2013). Pursuing scientific excellence globally: Internationalising research as a policy target. *Journal of Higher Education Policy and Management*, *35*(6), 612-625.

Lefebvre, H. (1976). Reflections on the politics of space. *Antipode, 8*(2), 30-37.

Lefebvre, H. (1991). *The production of space*. Oxford: Blackwell Publishing.

Leung, M. W. (2013). 'Read ten thousand books, walk ten thousand miles': Geographical mobility and capital accumulation among Chinese scholars. *Transactions of the Institute of British Geographers*, *38*(2), 311-32.

Leydesdorff, L., & Wagner, C. (2008). International collaboration in science and the formation of a core group. *Journal of Informetrics, 2*(4), 317-325.

Lyotard, J. F. (1984). *The postmodern condition: A report on knowledge* (Vol. 10). Minneapolis: University of Minnesota Press.

Marmolejo-Leyva, R., Perez-Angon, M. A., & Rusell, J. M. (2015). Mobility and international collaboration: Case of the Mexican Scientific Diaspora. *PLoS One, 10*(6), e0126720.

Massey, D. (2005). *For space*. London: SAGE.

Massey, D., Research Group, H. G., Bond, S., & Featherstone, D. (2009). The possibilities of a politics of place beyond place? A conversation with Doreen Massey. *Scottish Geographical Journal*, *125*(3-4), 401-420.

Mauthner, N., & Doucet, A. (2008). Knowledge once divided can be hard to put together again: An epistemological critique of collaborative and team-based research practices. *Sociology, 42*(5), 971-985. doi: 10.1177/0038038508094574

Mejía Ardila, O. C. (2015). *Internacionalización de la educación superior en Colombia* [Internationalization of higher education in Colombia]. Doctoral dissertation. National University of Colombia.

Melin, G. (2000). Pragmatism and self-organization: Research collaboration on the individual level. *Research Policy, 29*(1), 31-40.

Meyer, J. B. (2001). Network approach versus brain drain: lessons from the diaspora. *International Migration*, *39*(5), 91-110.

Meyer, J. B., & Brown, M. (1999). *Scientific diasporas: A new approach to the brain drain*. Management of Social Transformations (MOST) Programme.

Meyer, J. B., & Wattiaux, J. P. (2006). Diaspora knowledge networks: Vanishing doubts and increasing evidence. *International Journal on Multicultural Societies*, *8*(1), 4-24.

Meyer, J. B., Charum, J., Bernal, D., Gaillard, J., Granés, J., Leon, J., ... Stella Parrado, L. (1997). Turning brain drain into brain gain: the Colombian experience of the diaspora option. *Science, Technology and Society*, *2*(2), 285-315.

Meyer, J.-B., Charum, J., Granés, J., & Chatelyn, J. (1995). Is it opened or closed?: Colombian Science on the move. *Scientometrics, 34*(1), 73-86.

Mohrman, K., Ma, W., & Baker, D. (2008). The research university in transition: The emerging global model. *Higher Education Policy, 21*(1), 5-27.

Morrison, P. S., Dobbie, G., & McDonald, F. J. (2003). Research collaboration among university scientists. *Higher Education Research & Development, 22*(3), 275-296.

Narvaez-Berthelemot, N., Frigoletto, L. P., & Miquel, J. F. (1992). International scientific collaboration in Latin America. *Scientometrics, 24*(3), 373-392. doi:10.1007/BF02051036

Ninnes, P., & Mehta, S. (Eds.) (2004). *Re-imagining comparative education: Postfoundational ideas and applications for critical times*. New York: Routledge.

Obamba, M. (2013). Transnational partnerships: New calculus and politics in Africa's development. *Compare, 43*(1), 124-145. doi: 10.1080/03057925.2013.746576

OCyT (Observatorio Colombiano de Ciencia y Tecnología [Colombian Observatory of Science and Technology]) (2014). *Reflexiones para la política de internacionalización de la educación superior en Colombia.* Retrieved online from: http://reflexionespdf.ocyt.org.co/Reflexiones.pdf

Olssen, M. (2009). Neoliberalism, education, and the rise of the global common good. In

    M. Simons, M. Olseen & M. Peters (Eds.), *Re-reading education policies: A*

    handbook for studying the policy agenda of the 21ˢᵗ century (pp. 433-457).

    Rotterdam: Sense Publishers.

Ong, A. (2009). On being human and ethical living. In J. Kenway & J. Fahey (Eds.),

    Globalizing the research imagination (pp. 87-100). New York: Routledge.

Ordóñez-Matamoros, H. G. (2008). International research collaboration, research team

    performance, and scientific and technological capabilities in Colombia: A bottom-

    up perspective. Doctoral dissertation. Georgia State University. Retrieved online

    from: http://digitalarchive.gsu.edu/pmap_diss/18/

Ordóñez-Matamoros, H. G., Cozzens, S. E., & Garcia, M. (2010). International co-

    authorship and research team performance in Colombia. *Review of Policy*

    Research, 27(4), 415- 431. doi: 10.1111/j.1541-1338.2010.00449.x

Patton, M. (2002). *Qualitative research and evaluation methods* (3ʳᵈ Ed.). California:

    Sage Publications, Inc.

Pinheiro, C. (2011). *Social network analysis in telecommunications*. Hoboken, N.J: John

    Wiley and Sons.

Pusser, B., Kempner, K., Marginson, S., & Ordorika, I. (2012). *Universities and the*

    public sphere: Knowledge creation and state building in the era of globalization.

    New York: Routledge Taylor & Francis Group.

Quan-Haase, A., Suarez, J. L., & Brown, D. M. (2014). Collaborating, connecting, and

    clustering in the humanities: A case study of networked scholarship in an

interdisciplinary, dispersed team. *American Behavioral Scientist, 59*(5), 565-581. doi: 10.1177/0002764214556806

Rizvi, F. (2005). Rethinking "brain drain" in the era of globalisation. *Asia Pacific Journal of Education*, *25*(2), 175-192.

Rizvi, F. (2009). Mobile minds. In J. Kenway & J. Fahey (Eds.), *Globalizing the research imagination* (pp. 101-114). New York: Routledge.

Rizvi, F., & Lingard, B. (2009). *Globalizing education policy*. New York: Routledge.

Rizvi, F., Lingard, B., & Lavia, J. (2006). Postcolonialism and education: Negotiating a contested terrain. *Pedagogy, Culture & Society 14*(3), 249-262.

Roa-Atkinson, A., & Velho, L. (2005). Interactions in knowledge production: A comparative case study of immunology research groups in Colombia and Brazil. *Emerald Group Publishing Limited, 57*(3), 200-216. doi: 10.1108/00012530510599172

Robertson, S. (2010). Spatializing the sociology of education. Stand-points, entry-points, vantage-points. In M. Apple, S. Ball & L. Gandin (Eds.), *The Routledge International Handbook of Sociology of Education* (pp. 15-26). London: Routledge.

Robertson, S. L. (2006). Absences and imaginings: the production of knowledge on globalisation and education. *Globalisation, Societies and Education*, *4*(2), 303-318.

Roldán, V. E., & Schupp, T. (2006). Network analysis in comparative social sciences. *Comparative Education, 42*(3), 405-429.

Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 769-802). Thousand Oaks; London; New Delhi: Sage Publications, Inc.

Said, E. W. (1978). *Orientalism*. New York, U.S.: Random House Inc.

Santos, B. de Sousa (2014) *Epistemologies of the South. Justice against epistemicide*. New York, U.S.: Routledge.

Sassen, S. (2009). Digging in the shadows. In J. Kenway & J. Fahey (Eds.), *Globalizing the research imagination* (pp. 115–133). London, UK: Routledge.

Schwandt, T. A. (2000). Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics, and social constructionism. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 189-214). Thousand Oaks; London; New Delhi: Sage Publications, Inc.

Scott, D., & Morrison, M. (2006). *Key ideas in educational research*. New York: Continuum International Publishing Group.

Scott, D., & Usher, R. (Eds.) (1996). *Understanding educational research*. New York: Routledge.

Scott, J., & Carrington, P. J. (Eds.) (2011). *The Sage handbook of social network analysis.* London; Thousand Oaks; New Delhi; Singapore: Sage Publications Inc.

Scott, J. (2012). *What is social network analysis?* London: Bloomsbury Academic.

Shin, J. C., Lee, S. J., & Kim, Y. (2013). Research collaboration across higher education systems: maturity, language use, and regional differences. *Studies in Higher Education, 38*(3), 425-440. doi: 10.1080/03075079.2013.774585

Smith, D., & Katz, J. (2000). *Collaborative approaches to research.* HEFCE Fundamental Review of Research Policy and Funding, Final Report. Higher Education Policy Unit (HEPU), University of Leeds, and Science Policy Research Unit (SPRU), University of Sussex.

Smith, D. (2001). Collaborative research: Policy and the management of knowledge creation in UK universities. *Higher Education Quarterly, 55*(2), 131-157. doi: 10.1111/1468-2273.00179

Smith, M. (1958). The trend toward multiple authorship in psychology. *American Psychologist, 13*(10), 596–599.

Soja, E. W. (1989). *Postmodern geographies: The reassertion of space in critical social theory*. London: Verso.

Soja, E. W. (1996). *Thirdspace: Journey to Los Angeles and other real-and-imagined places*. Oxford: Blackwell.

Soja, E. W. (2009). Taking space personally. In B. Warf & S. Arias (Eds.), *The Spatial Turn: Interdisciplinary Perspectives* (pp. 11-35). London: Routledge.

Sonnenwald, D. H. (2007). Scientific collaboration. *Annual review of information science and technology*, *41*(1), 643-681.

Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3th Ed., pp. 443-466). Thousand Oaks; London; New Delhi: Sage Publications, Inc.

Stake, R. E. (2010). *Qualitative research: Studying how things work*. London: The Guilford Press.

Stier, J. (2004). Taking a critical stance toward internationalization ideologies in higher education: idealism, instrumentalism and educationalism. *Globalisation, Societies and Education, 2*(1), 1-28.

Taylor, C. (2002). Modern social imaginaries. *Public culture*, *14*(1), 91-124.

Tejada, G., Kwankam, F., & Pecoraro, M. (2007). Highly skilled migration from developing countries: qualitative overview of South African and Colombian scientific diasporas in Switzerland. Background paper for the First Workshop. May 4, 2007. Retrieved online from http://www.ruig-gian.org/ressources/Tejada%20Background%20Paper%20Workshop%20040507.pdf

Tejada, G. (2012). Mobility, knowledge and cooperation: Scientific diaspora as agents of development. *Migration and Development, 10*(18), 59-92.

The Royal Society (2011). *Knowledge, networks, and nations: Global scientific collaboration in the 21st century*. The Royal Society Policy document 03/11. London: Author.

Trilokekar, R. D. (2009). The Department of Foreign Affairs and International Trade (DFAIT): Providing leadership in the internationalization of Canadian higher education. In R. D. Trilokekar, G. A. Jones & A. Shubert (Eds.), *Canada's universities go global* (pp. 98-118). Toronto, ON: James Lorimer.

UNESCO Institute for Statistics (UIS) (2005). What do bibliometric indicators tell us about world scientific output? *UIS Bulletin on Science and Technology Statistics, 2*, 1-6.

Urry, J. (2000). Mobile Sociology. *British Journal of Sociology, 51*(1), 185-203.

Urry, J. (2002). Globalizing the academy. In K. Robins & F. Webster (Eds.), *The virtual university?: Knowledge, markets, and management* (pp. 20-30). New York: Oxford University Press.

Urry, J. (2007). *Mobilities*. Cambridge: Polity Press.

Viczko, M., & Tascón, C. I. (2016). Performing internationalization of higher education in Canadian national policy. *The Canadian Journal of Higher Education*, *46*(2), 1-18.

Wagner, C., & Leydesdorff, L. (2005). Network structure, self-organization, and the growth of international collaboration in science. *Research Policy, 34*(10), 1608-1618. doi: 10.1016/j.respol.2005.08.002

Wagner, C. S. (2004). International collaboration in science: A new dynamic for knowledge creation. Doctoral dissertation. University of Amsterdam. Retrieved online from: https://pure.uva.nl/ws/files/4032571/51272_Thesis.pdf

Wagner, C. S., Brahmakulam, I., Jackson, B., Wong, A., & Yoda, T. (2001). *Science and technology collaboration: Building capability in developing countries*. No. RAND/MR-1357.0-WB. Santa Monica, CA: Rand Corp.

Warf, B., & Arias, S. (Eds.) (2008). *The spatial turn: Interdisciplinary perspectives*. London: Routledge.

Wasser, J. D., & Bresler, L. (1996). Working in the interpretive zone: Conceptualizing collaboration in qualitative research teams. *Educational Researcher, 25*(5), 5-15. doi: 10.3102/0013189X025005005

Weiler, H. (2006). Challenging the orthodoxies of knowledge: Epistemological, structural, and political implications for higher education. Paper presentation,

Colloquium on Research and Higher Education Policy of the UNESCO Forum on

Higher Education: *Knowledge, power and dissent: critical perspectives on Higher*

Education and research. Paris: UNESCO Publishing. Retrieved online from

https://web.stanford.edu/~weiler/Unesco_Paper_124.pdf

Weiler, H. N. (2009). Whose knowledge matters? Development and the politics of

knowledge. In T. Hanf, H. N. Weiler & H. Dickow (Eds.), *Entwicklung als Beruf*

(pp. 485-496). Nomos Verlagsgesellschaft mbH & Co. KG. doi:

10.5771/9783845219424-485

Weiler, H. N. (2011). Knowledge and Power. *Journal of Educational Planning and*

Administration, *25*(3), 205-221.

White, H. D. (2011). Scientific and scholarly networks. In J. Scott & P. J. Carrington

(Eds.), *The Sage handbook of social network analysis* (pp. 271-285)*.* London;

Thousand Oaks; New Delhi; Singapore: Sage Publications Inc.

Yin, R. (2014). *Case study research. Design and methods* (5th Ed.). Los Angeles, CA:

Sage Publications, Inc.

Zelnio, R. (2013). *A complexity approach to evaluating national scientific systems*

through international scientific collaborations. Doctoral dissertation. George

Mason University. Retrieved online from

http://digilib.gmu.edu/jspui/bitstream/handle/1920/8272/Zelnio_gmu_0883E_102

67.pdf?sequence=1

Zingerli, C. (2010). A Sociology of international research partnership for sustainable

development. *European Journal of Development Research, 22*(2), 217-233.

Zittoun, T., Baucal, A., Cornish, F., & Gillespie, A. (2007). Collaborative research, knowledge and emergence. *Integrative Psychological and Behavioral Science*, *41*(2), 208-217.

Appendices

Appendix A.   Ethics Approval

Western Research

Research Ethics

Western University Health Science Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Marianne Larsen
Department & Institution: Education\Faculty of Education,Western University

NMREB File Number: ▮▮▮▮
Study Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks
Sponsor:

NMREB Initial Approval Date: October 16, 2014
NMREB Expiry Date: August 31, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Letter of Information & Consent	Spanish Letter of Info & Consent - Attachment 7	
Recruitment Items	Spanish Recruitment Email-Attachment 5	
Recruitment Items	English Recruitment E-mail-Attachment 4	
Instruments	Spanish Questionnaires-Attachment 2	
Instruments	English Questionnaires-Attachment 1	
Revised Western University Protocol	Protocol clean copy	2014/09/25

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the HSREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of HSREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

▮▮▮▮▮▮▮▮▮▮▮▮▮▮

REB Chair, or Board Member designee

Ethics Officer to Contact for Further Information

___ Erika Basile	___Grace Kelly	___Mina Mekhail	___Vikki Tran
ebasile@uwo.ca	grace.kelly@uwo.ca	mmekhail@uwo.ca	vikki.tran@uwo.ca

This is an official document. Please retain the original in your files.

Western **Research**

Western University Non-Medical Research Ethics Board
NMREB Annual Continuing Ethics Approval Notice

Date: October 01, 2015
Principal Investigator: Dr. Marianne Larsen
Department & Institution: Education\Faculty of Education,Western University

NMREB File Number: ███
Study Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks
Sponsor:

NMREB Renewal Due Date & NMREB Expiry Date:
Renewal Due -2016/09/30
Expiry Date -2016/10/16

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed the Continuing Ethics Review (CER) form and is re-issuing approval for the above noted study.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), Part 4 of the Natural Health Product Regulations, the Ontario Freedom of Information and Protection of Privacy Act (FIPPA, 1990), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Office ███████████ on, NMREB Chair

Ethics Officer to Contact for Further Information

___ Erika Basile	✓ Grace Kelly	___Mina Mekhail	___Vikki Tran
ebasile@uwo.ca	grace.kelly@uwo.ca	mmekhail@uwo.ca	vikki.tran@uwo.ca

This is an official document. Please retain the original in your files.

Appendix B.   Letters of Information and Consent Form English Version

Appendix B. 1   Faculty and Staff Letter and Consent Form

Western Education

Project Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks

Principal Investigator: Dr. Marianne A. Larsen, Associate Professor, Faculty of Education, Western University – Canada

Letter of Information

You are being invited to participate in a research study about knowledge production in international research collaboration because you have experience as a member of a research network.

The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

The purpose of this study is to better understand how knowledge is produced within international research collaboration (IRC) in and across three Canadian and Colombian research networks. This study will also bring new insights to other researchers interested in the internationalization of higher education, specifically in IRC.

The specific objectives of this study identify the actors involved in the three research networks under study, to understand how they are engaged in IRC, what influences processes of knowledge production, and the challenges, benefits and effects of IRC from the perspectives of those involved in the research networks.

Participants in this study must belong to one of the three research networks I am studying. The selection of participants is according to their membership in the research network and their willingness to participate in individual interviews. Participants need to have been active members of the research network for at least two years, as they will have the knowledge and experience about the research network to participate in my study.

If you agree to participate, you will be asked to answer questions in an individual audio-recorded interview. It is anticipated that the entire task will take approximately one hour.

The interviews will take place at a location that is convenient for you or by Skype. There will be an estimated total of twenty participants.

There are no known or anticipated risks or discomforts associated with participating in this study. Inconveniences are minor and include the time to arrange and participate in the interview.

Participants will benefit by having the opportunity to reflect on their practices within their research network and lead to better understanding of knowledge production in IRC. This study contributes to addressing a gap in the literature about this topic and will also be of benefit to others involved in IRC to help them understand the different ways that knowledge is produced in a research network. Upon completion of the study, the members of the three research networks will be provided with an electronic copy of the PhD thesis.

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your future academic status/employment.

All data collected will remain confidential and accessible only to the investigators of this study. If the results are published, your name will not be used.

If you require any further information regarding this research project or your participation in the study you may contact Dr. Marianne Larsen, Associate Professor, Western University at ████████████ and, Clara Isabel Tascón, PhD Candidate, Western University at ████████████

If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please provide your name and contact number on a piece of paper separate from the Consent Form.

This letter is yours to keep for future reference.

Consent Form

Project Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks

Study Investigator's Name: Clara I. Tascón
     Marianne A. Larsen

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print):

_____

Participant's Signature:

_____

Date:

_____

Person Obtaining Informed Consent (please print):

_____

Signature:

_____

Date:

_____

Appendix B. 2   Student Letter and Consent Form

Western Education

Project Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks

Principal Investigator: Dr. Marianne A. Larsen, Associate Professor, Faculty of Education, Western University – Canada

Letter of Information

You are being invited to participate in a research study about knowledge production in international research collaboration because you have experience as a member of a research network.

The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

The purpose of this study is to better understand how knowledge is produced within international research collaboration (IRC) in and across three Canadian and Colombian research networks. This study will also bring new insights to other researchers interested in the internationalization of higher education, specifically in IRC.

The specific objectives of this study identify the actors involved in the three research networks under study, to understand how they are engaged in IRC, what influences processes of knowledge production, and the challenges, benefits and effects of IRC from the perspectives of those involved in the research networks.

Participants in this study must belong to one of the three research networks I am studying. The selection of participants is according to their membership in the research network and their willingness to participate in individual interviews. Participants need to have been active members of the research network for at least two years, as they will have the knowledge and experience about the research network to participate in my study.

If you agree to participate, you will be asked to answer questions in an individual audio-recorded interview. It is anticipated that the entire task will take approximately one hour. The interviews will take place at a location that is convenient for you or by Skype. There will be an estimated total of twenty participants.

There are no known or anticipated risks or discomforts associated with participating in this study. Inconveniences are minor and include the time to arrange and participate in the interview.

Participants will benefit by having the opportunity to reflect on their practices within their research network and lead to better understanding of knowledge production in IRC.

This study contributes to addressing a gap in the literature about this topic and will also be of benefit to others involved in IRC to help them understand the different ways that knowledge is produced in a research network. Upon completion of the study, the members of the three research networks will be provided with an electronic copy of the PhD thesis.

You will be compensated with $10 premium bookshop certificate for your participation in this study.

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your future academic status/employment.

All data collected will remain confidential and accessible only to the investigators of this study. If the results are published, your name will not be used.

If you require any further information regarding this research project or your participation in the study you may contact Dr. Marianne Larsen, Associate Professor, Western University at ███████████ and, Clara Isabel Tascón, PhD Candidate, Western University at ███████████

If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please provide your name and contact number on a piece of paper separate from the Consent Form.

This letter is yours to keep for future reference.

Consent Form

Project Title: Knowledge Production in International Research Collaboration: A Comparative Study of Canadian and Colombian Research Networks

Study Investigator's Name: Clara I. Tascón
                                   Marianne A. Larsen

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print):

_____

Participant's Signature:

_____

Date:

_____

Person Obtaining Informed Consent (please print):

_____

Signature:

_____

Date:

_____

Appendix C.   Letters of Information and Consent Form Spanish Version

Appendix C. 1   Faculty and Staff Letter and Consent Form

Western Education

Título del Proyecto: Producción de Conocimiento en la Colaboración Internacional en Investigación: Estudio Comparativo de Redes de Investigación Canadienses y Colombianas.

Investigador Principal: Dra. Marianne A. Larsen, Profesora Asociada de la Facultad de Educación, Western University – Canadá.

Carta de información

Usted está siendo invitado a participar en un estudio acerca de la producción de conocimiento en la colaboración internacional en investigación teniendo en cuenta que usted tiene experiencia como miembro de una red de investigación.

El propósito de esta carta es ofrecerle la información necesaria para que usted pueda tomar una decisión informada respecto a su participación en esta investigación.

El propósito de este estudio es comprender mejor cómo se produce el conocimiento por medio de la colaboración internacional en investigación (CII) en y a través de tres redes de investigación canadienses y colombianas. Este estudio también aportará nuevos conocimientos a otros investigadores interesados en la internacionalización de la educación superior, específicamente en CII.

Los objetivos específicos de este estudio se centran en identificar a los actores involucrados en las tres redes de investigación en estudio, para así comprender la forma en que participan en la CII, lo que influye en los procesos de producción de conocimiento y los retos, beneficios y efectos de CII desde la perspectiva de aquellos que hacen parte de la red de investigación.

Los participantes en este estudio deben pertenecer a una de las tres redes de investigación que se están estudiando. La selección de los participantes se hace en función de su pertenencia a la red de investigación y a su disposición de participar en las entrevistas individuales. Los participantes deberán haber sido miembros activos de la RI durante al menos dos años, ya que esto les permite tener los conocimientos y la experiencia acerca de la red de investigación para participar en este estudio.

Si usted acepta participar, se le pedirá que conteste preguntas en una entrevista individual que será grabada en audio. Se prevé que toda la tarea tomará aproximadamente una hora.

Las entrevistas se llevarán a cabo en un lugar que sea conveniente para usted o por Skype. Habrá un total estimado de veinte participantes.

No existen riesgos o molestias conocidos o previstos asociados con la participación en este estudio. Los inconvenientes son menores. Estos incluyen el tiempo para organizar y participar en la entrevista.

Los participantes se beneficiarán al tener la oportunidad de reflexionar sobre sus prácticas dentro de su red de investigación y conducir a una mejor comprensión de la producción de conocimiento en la CII.

Este estudio contribuye a hacer frente a un vacío en la literatura sobre este tema y también será de beneficio para otras personas involucradas en la CII para ayudarles a entender las diferentes formas en que el conocimiento se produce en una red de investigación. Una vez finalizado el estudio, se le proporcionará una copia electrónica de la tesis doctoral a los miembros de las tres redes de investigación.

La participación en este estudio es voluntaria. Usted puede negarse a participar, o responder a cualquier pregunta o retirarse del estudio en cualquier momento, sin efecto sobre su futura condición / empleo académico.

Todos los datos recogidos serán confidenciales y accesibles sólo a los investigadores de este estudio. Si se publican los resultados, no se utilizará su nombre.

Si necesita más información acerca de este proyecto de investigación o su participación en el estudio puede comunicarse con la Dra. Marianne Larsen, Profesora Asociado de la Western University – Canadá, ██████████ y, Clara Isabel Tascón Candidata a Doctora en Educación.███████

Si usted tiene alguna pregunta sobre sus derechos como participante de la investigación o la realización de este estudio, puede comunicarse con la Oficina de Ética de la Investigación (519) 661-3036, correo electrónico: ██████████

Si se publican los resultados del estudio, no se utilizará su nombre. Si usted desea recibir una copia de los resultados potenciales del estudio, por favor escriba su nombre y número de contacto en un papel separado del Formulario de Consentimiento.

Esta carta es suya y siempre para referencia futura.

Formulario de Consentimiento

Título del Proyecto: Producción de Conocimiento en la Colaboración Internacional en Investigación: Estudio Comparativo de Redes de Investigación Canadienses y Colombianas.

Nombre del Investigador: Clara I. Tascón
                                      Marianne A. Larsen

He leído la carta de Información y habiendo tenido la explicación de la naturaleza del estudio, yo estoy de acuerdo en participar. Todas las preguntas me han sido contestadas a mi satisfacción.

Nombre del participante (en letra de imprenta):

_____

Firma: _____Fecha:_____

Nombre del testigo (en letra de imprenta):

_____

Firma: _____Fecha:

_____

Appendix C. 2   Student Letter and Consent Form

Western Education

Título del Proyecto: Producción de Conocimiento en la Colaboración Internacional en Investigación: Estudio Comparativo de Redes de Investigación Canadienses y Colombianas.

Investigador Principal: Dra. Marianne A. Larsen, Profesora Asociada de la Facultad de Educación, Western University – Canadá.

Carta de información

Usted está siendo invitado a participar en un estudio acerca de la producción de conocimiento en la colaboración internacional en investigación teniendo en cuenta que usted tiene experiencia como miembro de una red de investigación.

El propósito de esta carta es ofrecerle la información necesaria para que usted pueda tomar una decisión informada respecto a su participación en esta investigación.

El propósito de este estudio es comprender mejor cómo se produce el conocimiento por medio de la colaboración internacional en investigación (CII) en y a través de tres redes de investigación canadienses y colombianas. Este estudio también aportará nuevos conocimientos a otros investigadores interesados en la internacionalización de la educación superior, específicamente en CII.

Los objetivos específicos de este estudio se centran en identificar a los actores involucrados en las tres redes de investigación en estudio, para así comprender la forma en que participan en la CII, lo que influye en los procesos de producción de conocimiento y los retos, beneficios y efectos de CII desde la perspectiva de aquellos que hacen parte de la red de investigación.

Los participantes en este estudio deben pertenecer a una de las tres redes de investigación que se están estudiando. La selección de los participantes se hace en función de su pertenencia a la red de investigación y a su disposición de participar en las entrevistas individuales. Los participantes deberán haber sido miembros activos de la RI durante al menos dos años, ya que esto les permite tener los conocimientos y la experiencia acerca de la red de investigación para participar en este estudio.

Si usted acepta participar, se le pedirá que conteste preguntas en una entrevista individual que será grabada en audio. Se prevé que toda la tarea tomará aproximadamente una hora. Las entrevistas se llevarán a cabo en un lugar que sea conveniente para usted o por Skype. Habrá un total estimado de veinte participantes.

No existen riesgos o molestias conocidos o previstos asociados con la participación en este estudio. Los inconvenientes son menores. Estos incluyen el tiempo para organizar y participar en la entrevista.

Los participantes se beneficiarán al tener la oportunidad de reflexionar sobre sus prácticas dentro de su red de investigación y conducir a una mejor comprensión de la producción de conocimiento en la CII.

Este estudio contribuye a hacer frente a un vacío en la literatura sobre este tema y también será de beneficio para otras personas involucradas en la CII para ayudarles a entender las diferentes formas en que el conocimiento se produce en una red de investigación. Una vez finalizado el estudio, se le proporcionará una copia electrónica de la tesis doctoral a los miembros de las tres redes de investigación.

Usted será compensado con una tarjeta de compra de la Librería Nacional por valor de diez mil pesos colombianos ($10.000) por su participación en éste estudio.

La participación en este estudio es voluntaria. Usted puede negarse a participar, o responder a cualquier pregunta o retirarse del estudio en cualquier momento, sin efecto sobre su futura condición / empleo académico.

Todos los datos recogidos serán confidenciales y accesibles sólo a los investigadores de este estudio. Si se publican los resultados, no se utilizará su nombre.

Si necesita más información acerca de este proyecto de investigación o su participación en el estudio puede comunicarse con la Dra. Marianne Larsen, Profesora Asociado de la Western University – Canadá,   y, Clara Isabel Tascón Candidata a Doctora en Educación.

Si usted tiene alguna pregunta sobre sus derechos como participante de la investigación o la realización de este estudio, puede comunicarse con la Oficina de Ética de la Investigación (519) 661-3036, correo electrónico:

Si se publican los resultados del estudio, no se utilizará su nombre. Si usted desea recibir una copia de los resultados potenciales del estudio, por favor escriba su nombre y número de contacto en un papel separado del Formulario de Consentimiento.

Esta carta es suya y siempre para referencia futura.

Formulario de Consentimiento

Título del Proyecto: Producción de Conocimiento en la Colaboración Internacional en Investigación: Estudio Comparativo de Redes de Investigación Canadienses y Colombianas.

Nombre del Investigador: Clara I. Tascón
                            Marianne A. Larsen

He leído la carta de Información y habiendo tenido la explicación de la naturaleza del estudio, yo estoy de acuerdo en participar. Todas las preguntas me han sido contestadas a mi satisfacción.

Nombre del participante (en letra de imprenta):

_____

Firma: _____Fecha:_____

Nombre del testigo (en letra de imprenta):

_____

Firma: _____Fecha:

_____

Appendix D.   E-mail for Recruitment English Version

Subject Line: Invitation to participate in research

You are being invited to participate in a study that we, Clara Isabel Tascón, PhD Candidate and Dr. Marianne Larsen, Associate Professor at Western University are conducting. Briefly, the study involves an individual interview about your involvement with international research collaboration. It is anticipated that the interview will take approximately one hour, and will take place at a location of your choosing or by Skype.

A letter of information about this study is attached to this email. If you would like more information about this study please contact the researcher at the contact information given below.

Thank you,

Clara Isabel Tascón, PhD Candidate, Western University
Dr. Marianne Larsen, Associate Professor, Western University

Appendix E.   E-mail for Recruitment Spanish Version

Asunto: Invitación a participar en investigación

Usted está siendo invitado a participar en un estudio que, Clara Isabel Tascón, Candidata a Doctora en Educación y la Dr. Marianne Larsen, profesora asociada en la Western University - Canadá están llevando a cabo. En resumen, el estudio incluye una entrevista individual acerca de su participación en la colaboración internacional en investigación. Se prevé que la entrevista dura aproximadamente una hora, y se llevará a cabo en un lugar de su elección o por Skype.

Una carta de información acerca de este estudio se adjunta a este correo electrónico. Si usted desea más información sobre este estudio, por favor póngase en contacto con los investigador. La información de contacto figura a continuación.

Gracias,

Clara Isabel Tascón, Candidata a Doctora en Educación, Western University

Dr. Marianne Larsen, Profesora Asociada, Western University

Appendix F.   Semi-structured Interviews Questionnaires English Version

Appendix F. 1   University staff (International Office and Research Office)

Now we are going to talk about IRCs. I am interested in the role your university international office/ research office with respect to IRCs at your university.

1.   Are you familiar with the term IRC?

2.   Can you tell me about the university policies around IRC?

3.   Can you provide a few specific examples of the different ways that your

university and this international office supports IRC (e.g. financial,

administrative)?

4.   How have you specifically been involved in the research network?

5.   How does this office support the research networks involved in IRC?

6.   What do you think is the purpose of IRC? What are the benefits of IRC (for

students, faculty, the university, the country)?

7.   What do you think are some of the challenges facing those involved in IRC (e.g.

financial, inter-personal)?

8.   Are there other offices, departments, etc. at the university that are involved in this

research network?

9.   Is there anything else you would like to tell me about IRC at your university?

Appendix F. 2   Faculty Members and Students (Members of the Research Network)

1.   When was the research network established? Who was involved in establishing the research network?

2.   What have been the overall benefits of participating in this research network for you?

3.   What have been some of the tensions and challenges that members of the research network have faced?

4.   What is your role with the research network? What specific projects have you been involved in? Who do you collaborate within the research network?

5.   What do you see are the purposes of engaging in IRC? What do you get out of participating in an IRC that you would not if you were a part of research network that was local/national rather than international?

6.   Please tell me about what your research network has produced (e.g. Tangibles: research papers, conference papers, published research, students' supervisions. Intangibles: Solidarity, trust, cooperation, understanding).

7.   Can you tell me what are available supports for the work that take place within this research network?

8.   Can you tell me what are the constraints or pressures faced by those involved in IRC (e.g. Are there university policies that support or constraint the work of the research network? Are there other national or provincial policies that support or constraint the work of the research network? Are there economic or financial support or pressures that influence the work of the research network? Are there

any other socio-cultural factors that influence the work that take place in the

research network?)

9.   Can you tell me about the different ways that the research network disseminates

or shares your research findings (for example, through conferences, publications

in academic journals)?

10. Is there anything else you would like to tell me about IRC with the research

network?

Appendix G.   Semi-structured Interviews Questionnaires Spanish Version

Appendix G. 1   Personal de la Universidad (Oficina Internacional y

Oficina de Investigación)

Ahora vamos a hablar de la colaboración internacional en investigación (CII). Yo estoy interesada en el papel que desempeña la Oficina Internacional/Oficina de Investigación con respecto a la CII en su universidad.

1.   ¿Está usted familiarizado(a) con el término CII?

2.   ¿Puede hablarme acerca de las políticas universitarias de CII?

3.   ¿Puede dar algunos ejemplos concretos de las diferentes maneras en que su universidad y esta oficina apoya CII (por ejemplo financiera., administrativa) ?

4.   ¿Cómo ha estado usted involucrado específicamente en la red de investigación?

5.   ¿Cómo apoya esta oficina la red de investigación que participa en CII?

6.   ¿Cuál cree usted que es el propósito de la CII? ¿Cuáles son los beneficios de la CII (para los estudiantes, la facultad, la universidad, el país) ?

7.   ¿Cuáles cree usted que son algunos de los desafíos que enfrentan las personas que participan en la CII (por ejemplo, financiero, interpersonal) ?

8.   ¿Existen otras oficinas, departamentos, etc. en la universidad que están involucrados en esta red de investigación?

9.   ¿Hay algo más que a usted le gustaría hablar acerca de la CII en su universidad?

Appendix G. 2   Miembros de la Facultad y Estudiantes (miembros de la red de investigación)

1.   Cuándo se estableció esta red de investigación? ¿Quién estuvo involucrado en el establecimiento de esta red de investigación?

2.   ¿Cuáles han sido, para usted, los beneficios generales de la participación en esta red de investigación?

3.   ¿Cuáles han sido algunas de las tensiones y desafíos que los miembros de la red de investigación han enfrentado?

4.   ¿Cuál es su papel en la red de investigación? ¿En qué proyectos específicos ha estado usted involucrado? ¿Con quién colabora usted en la red de investigación?

5.   ¿Cuáles son los propósitos de estar involucrado(a) en la CII que usted percibe? ¿Qué se obtiene participando en una CII que no se lograría si usted fuera parte de una red de investigación que fuera local / nacional?

6.   ¿Me puede hablar de lo que la red de investigación ha producido (por ejemplo Tangibles: trabajos de investigación, ponencias, investigaciones publicadas, supervisiones de estudiantes Intangibles: Solidaridad, confianza, cooperación, comprensión).

7.   ¿Puede decirme qué soportes están disponibles para el trabajo que se lleva a cabo dentro de la red de investigación?

8.   ¿Puede decirme qué restricciones o presiones se enfrentan para los que participan en la CII? (por ejemplo, ¿Existen políticas universitarias que apoyan o restringen la labor de la red de investigación? ¿Existen otras políticas nacionales o departamentales que apoyan o restringen la labor de la red de investigación? ¿Hay

apoyo o presiones económicas o financieras que influyen en el trabajo de la red de investigación? ¿Existen otros factores socioculturales que influyen en el trabajo que tienen lugar en la red de investigación?)

9.   ¿Me puede decir acerca de las diferentes formas en que la red de investigación difunde sus hallazgos de investigación o las actividades que se realizan para este fin (por ejemplo, a través de conferencias, publicaciones en revistas académicas)?

10.   ¿Hay algo más que le gustaría hablar acerca de la CII en la red de investigación?

Curriculum Vitae

Education
Universidad del Valle, Cali, Valle del Cauca, Colombia
1980 – 1989 B. A. Psychology

Universidad de la Sabana, Chía-Bogotá, Cundinamarca, Colombia
1997 – 1999 M.A. Higher Education Administration

University of Western Ontario, London, Ontario, Canada
2012 – 2017 PhD Education

Academic Awards and Grants
Western Graduate Research Scholarship (WGRS) 2012 – 2016

Graduate Student Internal Conference Grant 2013 – 2016

Western Global Opportunities Awards, International Learning – Graduate 2015

Graduate Scholarship, Colombian Institute for the Promotion of Higher Education and
Studies Abroad (ICFES-ICETEX) 1997 – 1999

Graduate Scholarship Government of Valle del Cauca, Internship, European Institute of
Prospective and Strategy Prospektiker, Zarautz, Spain 1997

Graduate Scholarship Colombian Institute for the Promotion of Higher Education
(ICFES) Research Training, National Pedagogic University, Bogotá, Colombia
1996 – 1997

Research (Related Work Experience)
The Canada-Cuba University Partnership: Mapping Connections and Understanding
Effects. Principal Investigator: Dr. Marianne A. Larsen, Associate Professor,
Faculty of Education, Western University, Canada 2015 – 2016

Networks of Internationalization in Higher Education: Understanding National Policies in
Local Contexts. Principal Investigator: Dr. Melody Viczko, Assistant Professor, Faculty
of Education, Western Univesrty, Canada, May – Jul 2015

Ethical Internationalism in Higher Education (EIHE). Multisite Study. Principal
Investigator: Dr. Vanessa Andreotti, Associate Professor, Faculty of Education, Canada

Research Chair in Race, Inequalities and Global Change, University of British Columbia, Canada. Supervisor: Dr. Paul Tarc, Associate Professor, Faculty of Education, Western University, Canada, May – Aug 2013 and Sept – Dec 2014

Locating Science Without Borders in the Canadian Higher Education Policy Field. Principal Investigator: Dr. Melody Viczko, Assistant Professor, Faculty of Education, Western Univesrty Canada, July – Aug 2014

National Policy Actors, Knowledge, and Spaces in Canadian Higher Education Internationalization. Principal Investigator: Dr. Melody Viczko, Assistant Professor, Faculty of Education, Western Univesrty Canada, May – Jun 2014

Intercultural Competence. Principal Investigator: Dr. Angela Borchert Associate Professor, Undergraduate Chair; Dr. Joyce Bruhn de Garavito, Professor, Hispanic Studies, Chair Department of Modern Languages and Literatures, Western University, Canada, Jun – Aug 2013

Publications
Journal Articles
Viczko, M., & Tascón, C. (2016). Performing internationalization of higher education in Canadian national policy. *Canadian Journal of Higher Education 46*(2), 1 – 18.

Tascón, C. (2015). Rethinking how to analyze knowledge production in international research collaboration. In *Working with, against and despite global 'best practices': Educational conversations around the globe*. Toronto. CIDEC, OISE, University of Toronto/RICE, University of Western Ontario. http://www.edu.uwo.ca/centres/rice/compendium.html

Tascón, C. (1999, December). Musical education at the threshold of the third millennium. *Revista Bellas Artes, 5*, 20 - 29.

Book Chapter
Tascón, C. (In press). International research collaboration and knowledge production in Colombia: A network analysis approach. In G. Gregorutti & N. Svenson (Eds.), *Innovative north-south university research partnerships in Latin America and the Caribbean*. New York, NY: Palgrave McMillan Publishing.

Book
Tascón, C. (1997). *A pedagogical modality to teach children musical graphics: Implications of gesture*. Cali, Colombia: Instituto Departamental de Bellas Artes.

Conference Presentations (Refereed)
Viczko, M., & Tascón, C. (2017). *Studying Policy Relationally: Mapping National and Local Internationalization Policies*. Paper presented at the Comparative and International Education Society of Canada, CSSE Annual Conference, Ryerson University, Toronto, ON, May 27 – 31, 2017.

Tascón, C. (2016). *Knowledge Production in International Research Collaboration: A Comparative   Study of Canadian and Colombian Research Networks*. Paper presented at the Comparative and International Education Society of Canada, CSSE Annual Conference, University of Calgary, Calgary, AB. May 28 - June 3, 2016.

Tascón, C., & Larsen, M. (2016). *The Canada-Cuba University Partnership: Mapping connections and understanding effects*. Paper presented at the Higher Education Group, CIES Annual Conference, Vancouver Canada, March 6 -11, 2016.

Viczko, M., & Tascón, C. (2015). *National policy in Canadian higher education internationalization: Comments and questions.* Paper presented at the Comparative and International Education   Society of Canada, CSSE Annual Conference, University of Ottawa, Ottawa, ON, May 30 - June 3, 2015.

Viczko, M., & Tascón, C. (2015). *Locating Science Without Borders in the Canadian higher education policy field.* Paper presented at the Comparative and International Education Society of Canada, CSSE Annual Conference, University of Ottawa, Ottawa, ON, May 30 - June 3, 2015.

Tascón, C. (2015). '*The interpretive zone' of knowledge production in international research collaboration.* Paper presented at the Higher Education Group, CIES Annual Conference, Washington DC., March 8 -13, 2015.

Tascón, C. (2014). *The complexities of international research collaboration*. Paper presented at the Comparative and International Education Society of Canada, CSSE Annual Conference, Brock University, St. Catharines, ON, May 24 - 28, 2014.

Tascón, C. (2014, April). The taken-for granted processes of knowledge production in international research collaboration. In S. Niyozov and S. Mahjanovich (Co-Chairs), *Knowledge Production and Publications: Center - Periphery Relations*. Collaborative symposium conducted at the meeting of Researching International and Contemporary Education (RICE) and the Comparative International & development Education Centre (CIDEC/OISE), University of Toronto, Toronto, ON. April 25, 2014.

Tascón, C. (2014). *Using social network analysis to understanding international research collaboration in Colombia*. Paper presented at the Higher Education Group, Comparative and International Education Society CIES Annual Conference, Toronto, ON, March 10 -15, 2014.

Pollock, K., Tascón, C., Briscoe, P., Mindzak, M., Swapp, D., & Hauseman, C. (2013). *Principals' work in contemporary times*. Multi-paper presented at the Canadian

Association for the Study of Educational Administration, CSSE Annual Conference, University of Victoria, Victoria, BC, June 1 - 5, 2013.

Tascón, C. (2000). *Musical higher education in the Pacific region of Colombia, Year 2010*. Paper presented at the Latin-American Meeting of Prospective Studies, University Externado of Colombia, Bogotá, Colombia, August 22 - 23, 2000.

Tascón, C. (1997). *A pedagogical modality to teach children musical graphics: Implications of gesture*. Paper presented at the First Latin-American Meeting of Musical Education 1997, Convention Center, Salvador-Bahia, Brazil, September 15 - 21, 1997**.**

Conference Presentations (Non-referred)

Tascón, C. (2015). The interpretive zone of knowledge production in international research collaboration. Paper presented at Robert Macmillan Graduate Research in Education Symposium, London, ON, April 1, 2015.

Tascón, C. (2013). Internationalizing educational research in Canadian and Latin American universities: A multiple case study. Roundtable presented at Robert Macmillan Graduate Research in Education Symposium, London, ON, April 18, 2013.

Pollock, K., Ahmadi, A., Briscoe, P., Tascón, C, Hauseman, C., Mindzak, M., & Swapp, D. (2013). *Exploring the current nature of a school principal's work*. Poster presented at Research Day, Western Education, London, ON, March 21, 2013.