English as the International Language of Science: A Case Study of Mexican Scientists’ Writing for Publication

by

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Abstract

Global dissemination of scientific findings is imperative for scientific advancement. However, the domination of English as an international language of science (EILS) has placed a potentially inequitable burden on multilingual periphery scholars attempting to disseminate their research findings in indexed scientific journals. While such scholars have been the focus of much recent research into this English for research publication purposes (ERPP), little empirical research has taken place in Latin America. This instrumental case study examines the experiences of Mexican scientists via an academic writing for publication course (AWC) delivered in Canada and Mexico between 2011 and 2013. This study attempts to better understand scientists’ perspectives on the growing expectations of publishing their research in English, their challenges to achieving publication of research articles in indexed scientific journals, and their perceptions of the efficacy of an AWC at addressing these challenges.

Rich, triangulated survey and interview data point to a grudging acceptance of the growing expectations for publishing in English as well as a widespread perception among Mexican scientists of bias against them at international scientific journals. Further findings include a
comprehensive list of emerging (PhD student) and established (faculty) scientists’ ERPP challenges as well as improved scholar confidence following an intensive AWC. Critical interpretation of findings leads to discussion of participant perceptions of EILS and ERPP within a market of linguistic exchange where asymmetrical power relations and pervasive ideologies of language underscore significant barriers to multilingual scholars achieving a fuller connection to their desired scientific discourse communities. Implications stemming from the study findings include critical, pragmatic suggestions for those involved in the support, production, revision, and adjudication of scientific writing for publication at Mexico University (pseudonym) as well as suggestions for future research avenues into the complex role(s) of English and ERPP instruction in the global production of scientific knowledge.
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AWC – Academic writing for publication course

CONACYT – National council of science and technology (Mexico)

DC – Discourse community

(E) ISJ – (English language) international scientific journal

EAW – English academic writing

ERPP – English for research publication purposes

EILS – English as an international language of science or scientific communication

IF – Impact factor

LI – Linguistic imperialism

L1/L2 – First language/Second language

NES – Native English speaker

NNES – Non-native English speaker

MEX U – Mexico University

MEX U-C – Mexico University-Canada extension school

SNI – National Researcher Evaluation System (Mexico)
Glossary

**Academic Writing** – Writing produced in an academic (i.e., University) setting and/or for an academic audience (e.g. academic thesis, abstract, conference paper, course paper, etc.)

**Academic Writing for Publication** – Writing produced in a University setting for publication in a (often peer-reviewed) book or journal (e.g. book chapter, journal article, book review)

**A(Academic) Discourse community** – a group of (academic) people who share certain linguistic norms and language-using practices

**Centre Scholar** – A scholar who lives and works at a University in a country (e.g. United States) where much of the global knowledge production occurs

**Emerging Scholar** – A scholar new to academia; one who has little experience with the codes and conventions of academic discourse

**English research for publication purposes** – A research and teaching sub-field of English for specific purposes focused on scholarly writing for publication.

**Established Scholar** – A scholar with substantial experience in academia; one with substantial knowledge of the codes and conventions of academic discourse

**International Scientific Journals** – Often prestigious (indexed) academic publications that feature research articles from authors across the globe from (often) discipline-specific areas and attempt to advance scientific knowledge on an international scale

**Multilingual scholar/writer** – An academic who produces – or has the ability to produce – knowledge for dissemination in multiple languages

**Native English Speaker** – One whose mother tongue and dominant spoken language is English

**Non-native English Speaker** – One whose mother tongue and dominant spoken language one other than English

**Periphery Scholar** – A scholar who lives and works at a University in a country (e.g. Mexico) where comparatively little global knowledge production occurs
**Scientific Journals** – Academic publications that feature research findings from a variety of (often) discipline-specific areas

**Scientific Discourse Community** – a group of scientists in a particular disciplinary area who share certain linguistic norms and language-using practices

**Scientific Writing for Publication** – Writing produced in a University setting for consumption by a scientific discourse community
Chapter 1
Introduction, Background, and Rationale

Introduction

Writing a research article for publication is a difficult, time-consuming endeavor; it is a process often replete with challenges achieving appropriate and effective codes and conventions of academic writing (Hyland, 2010; Swales & Feak, 2012). For many graduate students, although they are necessarily familiar with academic writing, it is often during their doctoral studies that they first engage with writing the specific genre of a research article. Further, in many doctoral programs at research-intensive universities, publication of a research article in an appropriate field-specific journal is often a requirement for graduation, making it an extremely high-stakes process. While research article writing is difficult for those writing in their first language, it is understandably even more so for those writing in a second or additional language (Hanauer & Englander, 2011; Moreno et al., 2012). In an international scientific publishing landscape dominated by English, this is precisely the task faced by what I label emerging (PhD students) multilingual\(^1\) or Non-native English-speaking (NNES) scientists at Mexico University (pseudonym) who must publish an article in an indexed scientific journal in their field in order to fulfill program requirements for graduation. For what I label established MEX U scholars (faculty supervisors), expectations for publishing research articles in indexed scientific journals is omnipresent and they are expected to do so in order to achieve continued academic advancement.

This doctoral research project is an instrumental case study of the experiences of Mexican scientists with English as an international language of science (EILS) via an academic writing course (AWC) designed and delivered by Mexico University-Canada (MEX U-C), an extension school connected to Mexico University (MEX U). The course was aimed at improving MEX U emerging and established scholars’ publishing outcomes in English language international scientific journals in their respective field(s). This study investigates and describes the experiences of these emerging and established scientists, including the major challenges encountered with ERPP, the perspectives of the efficacy of an AWC aimed at addressing these

\(^{1}\) Although neither term is unproblematic, I will use NNES and multilingual interchangeably at times throughout this thesis.
challenges, as well as perspectives on the growing necessity of publishing in English as opposed to or in addition to Spanish.

The remainder of this chapter provides contextual information on Mexico, scientific production in Mexico, the case sites of investigation (MEX University and MEX University-Canada), and the AWC designed to help MEX University emerging and established health and life scientists publish in indexed, field-specific international scientific journals (EISJs).

**Academic writing as a social and geopolitical practice of text production.**

As many researchers have argued (Canagarajah, 2001; Lillis & Curry, 2010), geographical and geopolitical locations are central to the politics and practices of text production. This is certainly the case for this study, where, although some text production was completed while participants took the AWC in Canada, Mexico is the central geographical and geopolitical site of participants’ text production. This is important to note as participants come from a periphery nation (Wallerstein, 1991) where the largest and most dominant centre nation sits directly north of the border. While many have critiqued the centre-periphery binary as overly-simplistic (Lillis, 2012), I use this terminology throughout this thesis to highlight the asymmetrical nature of knowledge production between the United States and its southern neighbour.

This dissertation takes a sociopolitical approach to understanding the practice of academic writing for publication as a form of knowledge production. As Casanave (2003) posits, texts are sociopolitical artifacts or “material objects fashioned by people…produced in power-infused settings such as classrooms and discourse communities.” (p. 87) As such, she further argues that we should not underestimate the importance of the context within which we are writing and who/why we are writing for: "writers’ sociopolitical purposes and the sociopolitical contexts in which they write influence their strategies and processes for writing” (p. 90). My study responds to Casanave’s call for qualitative case studies to “to explore the extraordinary diversity of L2 writers and writing contexts from an expanded socio-political perspective.” (p. 85) Bearing in mind the sociopolitical nature of writing for publication, this study further borrows from Lillis and Curry’s (2006) academic writing as a social practice framework that highlights the

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2. Indeed, MEX U should be considered a semi-periphery (Sousa Santos, 1994) location due to the low national profile of English and material conditions in Mexico.
fundamentally social nature of knowledge production that is “embedded in relations of power” (p. 7).

**Background Context**

**Los estados unidos de México.**

The United States of Mexico, bordered by the United States of America to the north and Guatemala and Belize to the south, is the fourth largest Spanish-speaking country in the world, with the largest Spanish-speaking population at an estimated 115 million people. Regrettably in the international headlines in the past decade for violence surrounding narcotics cartels, Mexico is replete with diverse geography, cultures, and peoples, a rich history of pre-Columbian civilizations (Olmec, Maya, and Aztec to name a few), and an ominous and turbulent history of Spanish colonization over several centuries (Grillo, 2011; Kirkwood, 2005). Following the Mexican revolution, with Mexico D. F. as its capital city, the independent country of Mexico was declared in 1821, with the modern nation state appearing nearly a century later following the adoption of a modern constitution (Kirkwood, 2005).

Climate diverse, geographically vast, population- and resource-rich, Mexico is one of the larger global powers economically, ranking 11th in GDP. According to the United States Census Bureau (2015), Mexico’s major trading partner, unsurprisingly, is the USA, accounting for the vast majority of imports and exports; trade between the nations has increased even further since the implementation of the NAFTA agreement in 1994 (Meyer, Sherman, & Deeds, 2003). Despite the economic and cultural approximation of these major border-sharing nations, Mexico still lives in the shadow of its modern imperial neighbour, with linguistic, cultural, and economic tensions often emerging from an asymmetrical power relationship between the two countries. Although economically part of North America—and a member of the Organization of Economic and Cultural Development (OECD) since 1994—Mexico is still considered by many to be a developing nation, much more closely linked, culturally and linguistically, to other nations throughout Latin America than to the United States or Canada (Kirkwood, 2005).

Despite its vast population, abundant natural resources, and recent modernization, Mexico is often considered one of the most unequal nations on earth in terms of distribution of wealth, with 20% of the population living in extreme poverty and a small percentage of elites living in
extreme luxury (Kirkwood, 2005). As access to education has expanded at all levels across Mexico in the past half century, no area has seen higher growth than that of higher education. Arguably the leader in expansion of higher education in the mid-20th century in Latin America, Mexico’s system of higher education expanded dramatically beginning with MEX University. Since the 1950’s the number of students studying in higher education institutions has expanded from approximately 50,000 to over one million (Kirkwood, 2005). Even more recently, there has been a large increase in the number of doctoral students in the sciences studying at Mexican higher education institutions (Carrasco & Kent, 2011). This doctoral student population is the focal point of this investigation.

Even with government expansion of public higher education at the federal and state levels, the majority of students who arrive at graduate studies in public universities have (often but not always) benefited from financial means greater than the average Mexican. This is often reflected in English proficiency of these students, with many who study at the graduate level having taken private English studies—either at a private elementary or high school or at a private language institute—outside the drip-feed English taught inexpertly in the public elementary and high schools across Mexico. However, despite an elevated level of English proficiency compared to many of their countrymen, emerging and established scientists at MEX U appear unable to achieve publication in EISJs at a satisfactory rate for themselves or Mexico University.

**Scientific production in Mexico.**

While still minimal compared to leading scientific knowledge-producing nations like The United States, visible scientific production (i.e., scientific research articles published in international scientific journals) has been increasing in the Latin American region in general and Mexico in particular for the past two decades (Hermes-Lima, Alencastro, Santos, Navas, and Beleboni, 2007; López-Lleyva, 2011). However, according to Vasconcelos, Sorenson, Leta, Sant’Ana, and Bautista (2008):

> developing the linguistic competence for writing research papers is not part of the academic tradition…funding to provide writing support for Mexican scientists is scarce… and writing a publication for an English language international journal is a linguistic burden most scientists from Latin America have to bear themselves (p. 702)

Overall, despite the increased visible scientific production in Mexico over the past decades, there is still an underwhelming amount of production visible in major indexes such as the Thompson-
Reuters (formerly ISI) Web of Knowledge. This lack of indexed publications is of concern to the largest and most prestigious university in Mexico, MEX University, where academics (including many doctoral students) are expected to disseminate their scientific findings internationally—providing institutional rationale for the case under investigation in this study, an academic writing for publication course (AWC) focused on improving the English writing for publication of MEX University doctoral students and their faculty supervisors.

**Mexico University (MEX U).**

Founded in the 16th century, MEX University is one of the oldest and most prestigious universities in Latin America, renowned for both its undergraduate and graduate programs and consistently ranked in the top 150 universities globally (QS World Rankings, 2015). Boasting an enormous student population of over 340,000 students, it is one of the largest universities in the world, with multiple campuses throughout Mexico, with the most populous located in Mexico City. In addition, MEX University has international extension campuses in various countries around the world, including one in Canada.

MEX University has the greatest resources and influence in academic publication of any university in Mexico with its own publishing house, publishing books and several leading Spanish language journals in multiple fields, including scientific ones (García Landa, 2006; Lopez Leyva, 2011). MEX University’s many recognized institutional scientific journals are a prestigious and convenient outlet where many scientists at MEX University choose to publish. These scientific journals are rarely bilingual Spanish-English, however, and often the research published is only accessible by Spanish-speaking scholars. Despite its influence in Spanish-language publishing as the biggest, most influential publishing hub in Mexico, MEX University is concerned with its international reputation outside of the Spanish-speaking diaspora (personal communication, Francisco, AWC course designer, January, 2013).

MEX University uses an evaluation system for its academics, the Sistema Nacional de Investigadores [National Researcher Evaluation System] or SNI, which rates and subsequently values researchers based on their academic production: primarily international refereed journals, but also participation in international conferences as well as publications aimed at a domestic audience, including books, articles, and local reports published in Spanish (Garcia Landa, 2006). The SNI, created in 1984 with the dual aim of increasing academic knowledge production and
minimizing the exodus of Mexican researchers, is used for evaluation purposes by universities across Mexico (including MEX U) as well as by the Mexican national science and technology council (CONACYT). In line with a growing global trend at research-intensive universities (Curry & Lillis, 2014; Salager-Meyer, 2014: Uzuner-Smith & Englander, 2014), this evaluation system primarily rewards indexed journal publications—almost exclusively in English for the health and life sciences—when used for evaluating individual researchers’ scientific production.

MEX University has recently instituted as part of its mission a policy of internationalization, where the main missions are to increase the international reputation of MEX University while facilitating greater international participation and exchange (Mexico University website). A large part of increasing the reputation of the University is increasing its visibility through publication of research in indexed international journals. As part of this policy, and due, in part, to increasing demand by academics and academics-to-be, the university asked its extension school MEX University-Canada to design and deliver a course aimed at “capacity-building on self-editing for scientific publication in English” (personal communication, Francisco, MEX U AWC course designer, October, 2012). It was thought that this course would better prepare current and future academics for the demands and challenges of disseminating their research findings through publishing in English language journals. The course was designed by MEX University’s extension campus, MEX University-Canada, and has been delivered at MEX University campuses in Canada and (primarily) Mexico since July 2011. Through an investigation of this course as a case, I hope to gain a better understanding of MEX U scientists’ experiences with and attitudes towards English as an international language of scientific communication.

**Mexico University-Canada academic writing for publication course.**

At MEX University-Canada, where language courses are offered to the general public in Spanish (for locals), and French or English (largely for Mexican students), day to day programming, teaching, and learning mirrors that of a private language school for adults. Instructors are experienced in language teaching and learning and possess uneven levels of knowledge of academic writing for publication. However, several administrators are faculty from MEX U and they—along with some outside help from a scientific editor specialist—spearheaded the design, development, and delivery of the AWC. Originally designed and piloted in 2011 for MEX U doctoral students as an extension of MEX University-Canada’s language centre programming and intended for delivery only at MEX U-Canada, the MEX U academic writing for publication
course was the brainchild of the academic director and academic liaison at MEX U-C (both MEX U faculty cross-appointed to their own departments and the extension school in Canada). The course was created based on both their personal experiences with the challenges of ERPP and the demand from particular MEX U departments for ERPP support. Since its inception in 2011, demand for the course has dramatically risen and the course is now offered both in Canada and, increasingly, in Mexico. This study investigates the MEX U AWC as a case as delivered between July 2011 and June 2013.

The AWC is a two- or three-week course—delivered at minimal cost to the graduate student and faculty participants—aimed at improving English academic writing (EAW) skills, with the concurrent goals of increasing doctoral student and faculty supervisor capacity to write scholarly articles in English while achieving significant progress towards a publishable article for each participant by the end of the course. The term publishable was italicized because it is both an ideal of the course designers as well as a subjective rating given by the course instructors at the end of the course; while it is certainly the explicit objective of the course, there is no guarantee any of the articles deemed publishable at the end of the course would indeed achieve publication in English-medium journals. The three-week course included a focus on the principles of English academic publishing (Week 1), EAW structure and style (Week 2), and English academic grammar (Week 3).

Student proficiency levels varied from Common European Framework of Reference for Languages: Learning, Teaching Assessment (CEFR) B1 (low intermediate) to B2+ (high intermediate), with the majority falling in the B1-B1+ range (low to mid-intermediate). B2+ level students were expected to leave the course with an article ready to submit for publication whereas B1-B1+ students were expected to need more time and assistance following the course to produce a publishable article. Course participants were Mexican doctoral students and their faculty supervisors; however, there were also participants, both doctoral students and faculty, from other parts of Latin America, including Argentina, Chile, and Cuba.

MEX University offered the intensive AWC seven times in various locales between 2011 and 2013: three times in Canada and four times at various MEX University campuses in Mexico. Using the MEX U AWC as offered between 2011-2013 as the case, this study investigates emerging and established scholars’ experiences with English as an international language of science (EILS).
Positioning, Rationale, and Research Questions

I am a native English-speaking (NES) English for academic purposes (EAP) and English for research publication purposes (ERPP) instructor and journal editor attempting to better understand multilingual, periphery scientists’ experiences with and attitudes towards English as an international language of scientific communication. As a Canadian researcher, I am aware of my complex and at times contradictory position: I am an NES researcher from a centre research institution who, while sharing doctoral student status and similar linguistic resources (I am fluent in Spanish and English) with many emerging scholar study participants, does not share the same geopolitical or sociopolitical context as the scholars under investigation (see Chapter 4 for a more detailed discussion of positioning). Throughout this dissertation, I attempt to consistently highlight my particular positioning as a researcher-instructor while investigating MEX U scholars’ experiences.

As an author of several published English language research articles and editor of a journal for emerging scholars, I have had experience with academic writing for publication including many trials and tribulations with the processes of producing, editing, re-editing, and formatting manuscripts. These writing for publication experiences, combined with my recent instructional experiences with graduate student English language learners in Canada and Mexico—including work as an academic writing instructor with the MEX U AWC—have motivated me to become a better academic writer and instructor/mentor of academic writing across disciplines. These experiences have also caused me to critically consider the global hegemony of my mother tongue in academic communication and the challenges this hegemony poses for many multilingual emerging scholars.

Working with highly motivated doctoral candidates and their faculty supervisors as a MEX U AWC instructor has provided me a particular perspective into the challenges experienced by these course participants on their journeys towards publication. During my tenure as a MEX U AWC instructor (2012), I observed many difficulties encountered by MEX U emerging and established scientists. These difficulties ranged from grammar and vocabulary at the sentence level to cohesion and conciseness at the paragraph and section level to structure and formatting at the paper level. Other common difficulties I perceived were not just textual or discursive but

3. I am currently working on two Spanish language articles connected to my research.
also affective in nature and potentially related to lack of motivation or frustration at having to write an article in English instead of Spanish. During my time working with these scientists, I was continually searching for ways to improve my instruction in order to help them produce the strongest articles possible for submission to international scientific journals laying the foundations for participants to become more effective and autonomous writers and self-editors in English. Striving to provide the conditions for these Mexican scientists to become autonomous producers and editors of their own ERPP by better understanding their myriad challenges culminated in the creation of this case study. I acknowledge, as is highlighted by Lillis (2012) and Curry and Lillis (2014), most academic knowledge production is carried out by scholars publishing in multiple languages for a myriad of reasons, including connecting with various communities. This study focuses on multilingual Mexican scholars’ experiences with English language knowledge production and their connection(s) with international scientific research communities because this is both the primary concern of these scholars as well as the focus of the academic writing for publication course that is the case of this investigation; however space is given and attention paid to these multilingual scholars’ knowledge production in Spanish as well. It is my hope that this study highlights the voices of these multilingual scientists, potentially leading to increased critical analysis and broader understanding(s) of their experiences with ERPP and scientific knowledge production in a Mexican higher education context.

This research project attempted to answer three sub-questions related to an over-arching research question: **What are MEX U scientists’ experiences with English as an international language of scientific communication?** The three sub-questions driving the investigation are,

1. What are these scientists’ attitudes towards English as an international language of science (EILS)?
2. What are emerging and established scientists’ English for research publication purposes (ERPP) challenges?
3. How do participants perceive the efficacy of the intensive MEX U ERPP course in addressing scientists’ ERPP challenges?

**Thesis Overview**

This investigation attempts to better understand experiences of Mexican emerging and
established scientists—previously under-studied populations—through an instrumental case study investigation of an AWC delivered by MEX University-Canada at campuses in Canada and Mexico over two years, between its inception in 2011 and June 2013. Following a review of pertinent literature (Chapter 2), theoretical framing of the investigation (Chapter 3), and methodological overview (Chapter 4), this study presents and discusses findings concerning the EILS and ERPP experiences of MEX U scientists (Chapters 5-7), including a critical discussion of these scholars’ perceptions and practices as well as implications of the research findings for policy makers, pedagogues, MEX U scientists, and ERPP researchers (Chapter 8). The thesis concludes with an epilogue describing recent developments in the MEX U AWC over 2014.
Chapter 2
Literature Review

This chapter provides a broad review of the relevant literature surrounding multilingual scholars’ attitudes towards English as an international language of scientific communication and their experiences and challenges with English for research publication purposes (ERPP). I begin with some contextualization and background regarding the ascension of English to the position of dominant language in scientific communication and the corresponding literature outlining the documented pressures for multilingual or Non-native English speaking (NNES) scholars to publish in English as opposed to or in addition to their mother tongue or national language. The next section reviews literature surrounding these scholars’ attitudes towards English as an international language of science and the how this potentially affects their language selection and writing for publication practices. Next, following a review of the literature on writing challenges of NNESs when attempting to publish in English, including those experienced by multilingual Spanish L1 scientists—the group under investigation in this study—there is a brief overview of the little literature available on the (perceived) efficacy of courses and workshops addressing periphery scholars’ ERPP.

English as an International Language of Science (EILS)

The ascension of EILS.

Following the scientific revolution, three languages were equally used as international languages of science: French, German, and English (with the three centres of scientific knowledge production in Paris, Berlin, and London). Until the early 20th century, these three languages shared fairly equal status in scientific communication, with the ascension of English to the position of the dominant language of science occurring as the result of multiple historical events and factors, principal among which was the rise of The United States as the uncontested global military and economic superpower (Ammon, 2007). These days, there is little debate regarding the global dominance of English as the international language of science (Crystal, 2012; Montgomery, 2013). Although it is challenging to provide definitive statistics, recent estimates put the number of indexed articles published in English to beyond 90% for both natural and

4. Secondary languages of scientific communication included Russian, Italian, Portuguese, and Spanish.
applied sciences (Hamel, 2007; Lillis & Curry, 2010; Montgomery, 2013).

Two of the foremost researchers heading investigation into academic writing for publication, Lillis and Curry (2010) highlight the place of English in science and its role in globalization processes, including dissemination of scientific knowledge: “[English is] considered by prestigious institutions to be the global language of science and by many participants in text production – scholars, reviewers, translators, scientific journal editors – as the default language of science, academic research and dissemination” (p. 1). They further point out that the rise of the dominance of English in scientific communication is growing alongside the prominence of the journal article as an indicator of scholarly performance, particularly in the natural sciences. Whether this is a positive or natural development, however is a highly polemic issue. The growth and spread of English as what DeSwaan (2001) has termed a hyper-central language in scientific production and publication results in what many researchers have described as a circular process whereby English is the language of prestige in scientific publication, requiring scholars to publish in English-language journals for international recognition, thereby increasing the prestige of said journals, thereby solidifying the prestige of English as a language of science (Ammon, 2007; Salager-Meyer, 2014).

**Theoretical positioning on the spread of EILS.**

The global spread of English as the dominant language of technological and scientific communication is seen in different ways: a natural, positive development for science and scientific communication (Coulmas, 2007; Crystal, 2012; Graddol, 2006; Wood, 2001); a complex development with consequences for NNES multilingual scholars (Canagarajah, 2002; Clavero, 2011; Jenkins, 2009; Seidlhofer & Jenkins, 2003; Tardy, 2004); or a negative development serving British and (increasingly) American imperialist interests to the detriment of NNES scholars and their languages (Hamel, 2007; Phillipson, 2008; Perez-Llantada, 2012; Salager-Meyer, 2014). The rise of English as a lingua franca or common language of scientific communication has been lauded by some, albeit critically (Crystal, 2012; Graddol, 2006; Kaplan, 2001). Crystal (2012) applauds “the fundamental value of a common language [English] as an amazing world resource…with unprecedented possibilities for mutual understanding” (p. xiii). In his foundational work *English as a Global Language*, Crystal further posits that instead of focusing on the consequences of the spread of the English language, we should embrace the opportunities that come along with the ascension of English as an international lingua franca,
such as the ability for academics/scientists to communicate easily when they do not share the same mother tongues. Graddol (2006) concurs, seeing the progressive spread of English to different domains as a natural development, akin to the spread of the Internet and other technological advances (to be shared in English, of course). To be fair, Crystal does note that scientists who do not have English as a mother tongue “may have less time to carry out their own creative work” (p. 16); however he posits that this disadvantage is overcome by “proper attention to the question of language learning” (p. 16). While there are theorists who have made the argument that a common language (English) is of immense benefit to the academic and scientific communities as it is naturally pluricentric (Kaplan, 2001) and/or provides easier access to and storage of information while facilitating global knowledge advancement (Wood, 2001), others are wary of the potential political, social, and linguistic costs of English as the international language. As Swales (1997) notes, English is seen by many as “a powerful carnivore gobbling up the other denizens of the academic linguistic grazing grounds” (p. 374).

The past 30 years have seen a myriad of theoretical arguments highlighting the problematic nature of the global spread of English as a global lingua franca (Jenkins, 2014; Perez-Llantada, 2012; Seidlhofer, 2011; Phillipson, 2008) and, as it relates to this study, the spread of English as a global lingua franca of science (Durand, 2006; Hamel, 2007; La Madeleine, 2008; Salager-Meyer, 2014). Many of these arguments surround the detrimental nature of English domination of scientific communication to those who live and work outside the centre research communities. Broader arguments have been made by Applied Linguists arguing that the spread of English has led to problematic policy and pedagogy related to the teaching of English at international higher education institutions, teaching centred around NES norms as opposed to differing international varieties of Englishes produced by NNES scholars (Jenkins, 2014; Seidlhofer, 2011). Seidlhofer (2011) further criticizes the unproblematic way that English as an academic lingua franca is positioned in a way that de-legitimizes non-standard English use characteristic of NNES scholars. Canagarajah (2002), drawing on economic and sociological models, decries the spread of EILS for the resulting deficit position created for NNES periphery scholars attempting to publish in a market dominated by centre interests, leaving periphery scientists without the material resources to compete with their centre counterparts, thereby stifling scientific communication. Hamel (2007) derides the uncritical way in which the spread of EILS has been posited as a natural process along with globalization, a thinly veiled form of “scientific ethnocentrism, disguised under the cover of globalism” (p. 65). These Applied Linguists are not
alone, with many researchers from across natural, health, and life science disciplines (Clavero, 2010; Meneghini & Packer, 2008; Salager-Meyer, 2014) calling for a more critical approach to understanding the spread of EILS and the resulting monolingual scientific communication, as the reduction of communication could “severely hamper the development of science itself” (Hamel, 2007, p. 65).

Whether one is a proponent of monolingualism or plurilingualism in scientific communication, the argument is potentially rendered moot for many attempting to publish from the periphery. As Medgyes and Kaplan (1992) posited more than two decades ago, NNES periphery scholars “cannot reach the larger community if that community is unable (or unwilling) to read the literature in any language not accepted as the dominant language of disciplinary communication” (p. 67). Recent studies carried out in various global contexts support this overall perception among NNES scholars (Ferguson, Perez-Llantada, & Plo, 2011; Huang, 2010; Lillis & Curry, 2010; Martin, Rey-Rocha, Burgess, & Moreno, 2014).

According to Lillis and Curry, academic writing for publication is a truly a worldwide phenomenon, “involving over 5 million scholars, two thousand publishers and over 17,500 research institutions” (Lillis & Curry, 2010, p. 3). The vast majority of this scientific production, regardless of where it takes place, is in English. The ascension of English to the status of scientific lingua franca has created a publishing environment or market where multilingual periphery scientists understand that, regardless of their ideological persuasions or misgivings towards English, they must publish in English language journals to widely disseminate their findings and gain international recognition (Hamel, 2007; Li & Flowerdew, 2009). As Meneghini and Packer (2007) point out, “English has become the modern lingua franca in a world that is economically, scientifically and culturally dominated by Anglo-American countries. Any scientist must therefore master English—at least to some extent—to obtain international recognition and to access relevant publications.” (p. 113) The hyper-language status of English combined with the growth in English language publications in the natural sciences put NNES scholars in the difficult position of having to publish in English in order to be recognized in their fields and to join the international conversation in their particular discourse communities (Ammon, 2007; Clavero, 2010; Hyland, 2015; Muresan & Perez-Llantada, 2014). This is increasingly true for NNES periphery scholars, including PhD students, who are increasingly required to publish in English in order to graduate, if not solely to prepare them for the practice of publishing in English to achieve career advancement as periphery scholars. Unfortunately,
most faculty and students in these countries can read an English text in their area of knowledge, but “rarely have mastered English sufficiently to write a clear and concise text.” (Menenghini & Packer, 2007, p. 114)

**Linguistic legitimacy and quality control: ISI, IF and evaluation systems.**

When reviewing relevant literature to scientific knowledge production and dissemination, a brief history of the Institute for Scientific Information (ISI) is useful in demonstrating one of the quality control mechanisms in scientific publishing, one important when attempting to understand scientific writing practices of periphery scholars.

In the 1960’s Eugene Garfield, founder of the Institute for Scientific Information (ISI) created a systematic way of determining which journals were the most important ones in the sciences. Part of this project included constructing an impact factor (IF) to help when selecting journals for the indexes (e.g. Science Citation Index (SCI)) he created. These indexes now form part of a Web of Knowledge that calculates IF for journals included in the SCI. IF is calculated based on the number of citations to X journal in year Y divided by articles/reviews published in X journal in years Y-1 and Y-2 (Thompson Reuters Journal Citation Reports, 2015). Despite the many criticisms of the IF and ISI, including issues with quality control and bias against multidisciplinary journals, methodology articles, and, principally (and most importantly for this study) an overwhelming bias towards English-medium journals, IF is seen as the dominant statistic for journal quality and is heavily considered by those wishing to publish an article as systems of evaluation at the university level take into consideration the IF of a journal when judging the value of a publication by faculty or potential faculty, tenure decisions, grant decisions, and visibility of institutions (Ren & Rousseau, 2002).

The ISI selection process has been oft-criticized (primarily by NNESs) for its selection process—which excludes most journals that do not publish in English—thereby granting English-medium journals higher IFs and potentially contributing to the continuing hegemony of English as the language of scientific communication. While there has been criticism of the dominance of English in scientific knowledge production and dissemination, ISI unproblematically dismisses the criticism:

> English is the universal language of science at this time in history. It is for this reason that
Thomson Scientific focuses on journals that publish full text in English or at very least, their bibliographic information in English...going forward it is clear that the journals most important to the international research community will publish full text in English. This is especially true in the natural sciences. (Thomson Reuters, 2015)

Given that Mexican higher education institutions employ an evaluation system (SNI) which values most highly scholarly publications in indexed journals—the higher the IF the better—understanding the importance of ISI and IF is potentially important when approaching questions surrounding Mexican scientists’ motivations for writing in English as well as their attitudes towards English as an international language of scientific communication. Empirical research from Curry and Lillis (2004, 2013, 2014), Lillis and Curry (2010), and Englander and Uzuner-Smith (2013) certainly highlights the importance of these evaluation systems on scholars’ publishing practices, suggesting institutional evaluation systems privilege English over other languages in global knowledge production. The following sections highlight studies aimed at understanding periphery scholars’ attitudes towards and challenges with English as an international language of scientific communication.

**NNES Attitudes Towards EILS and ERPP: Acceptance and Resistance**

This section focuses on what different researchers have alternatingly referred to as multilingual, periphery, or NNES scholar beliefs, perceptions, and/or attitudes towards English as an international language of scientific communication and the need to publish in English compared to scholars’ local or national languages. Until recently, empirical studies surrounding NNES attitudes towards EILS were sparse, largely survey-based, and predominantly focused on Asian (Flowerdew, 2000; Huang, 2010; Li, 2006) and Scandanavian contexts (Gunnarson, 2000; Oakes, 2005; Olsson & Sheridan, 2012). Recently, however, researchers have investigated NNES attitudes regarding EILS in other parts of Europe such as Italian (Giannoni, 2008), Romanian (Muresan & Perez-Llantada, 2014) and, most importantly for this study, Spanish language contexts (Ferguson et al., 2011; Gea-Valor, Rey-Rocha, & Moreno, 2014; Martin et al., 2014; Lopez-Navarro, Moreno, Quintanilla, & Rey-Rocha, 2015; Perez-Llantada, Plo, & Ferguson, 2011). While these studies are informative, it is important to note that there have been few studies carried out in a Mexican context (Carrasco & Kent, 2011; Englander, 2009; Hanauer & Englander, 2011; Gonzalez-Trejo, 2012) and even fewer which have employed a primarily qualitative approach to understanding what appear to be complex beliefs, attitudes and/or
perceptions. Of further note is that many studies investigating attitudes and perceptions do so while concurrently investigating publishing practices of these scholars.

**Perceptions of EILS and ERPP.**

From a review of the relevant literature, attitudes of NNESs in the sciences can be seen as split between a grudging acceptance of the utility of English as a common language of science (Jernudd & Baldauf, 1987; Murray & Dingwall, 2001) and dismay at the perceived disadvantage of NNESs in using English as the common language (Flowerdew, 2000; Olsson & Sheridan, 2012; Tardy, 2004), often with NNES respondents reporting conflicting feelings towards English (Ferguson et al., 2011; Lopez-Navarro et al., 2015; Martin et al., 2014; Lillis & Curry, 2013). Surveys of Scandinavian (Jernudd & Baldauf, 1987; Skutnabb-Kangas & Phillipson, 2000), Hungarian (Medgyes & Kaplan, 1992), Polish (Duszak & Lewkowicz, 2008), Romanian (Muresan & Perez-Llantada (2014), and HK Chinese (Flowerdew, 1999, 2000) scholars have all found that these scholars felt disadvantaged vis-a-vis their NES colleagues. What is consistent about these scholars’ attitudes is the frustration at having to work so hard at improving their written proficiency in English on top of all the other concerns that go along with being a faculty member at a research-intensive university.

Ferguson et al. (2011), in a study of Spanish academics at the University of Zaragosa, also found that the while the majority of academics feel disadvantaged compared to their NES counterparts, much depends on the English proficiency level of the academic: the higher the language proficiency, the more positive view of EILS. Further findings indicate conflicting attitudes towards EILS, with respondents overwhelmingly expressing support for the statement that NESs have a significant advantage, but with only half the respondents saying this advantage is unfair to them as NNES researchers. Further, respondents felt there should be an international language of scientific communication, but that there was bias in the journal submission and review process, with a significant number supporting the proposition of at least one NNES involved in all submission reviews. This study, while timely and important, merely scratches the surface of finding a connection between NNES attitudes towards the dominance of EILS and challenges faced by NNESs in publishing. Ferguson et al. rightly call for further research into both NNES attitudes as well as initiatives (such as the writing courses under investigation in my study) aimed at ameliorating the perceived disadvantages faced by NNESs when attempting to publish in English. As Ferguson et al. posit in their recent study, survey studies of attitudes are not the
best instrument for gauging degree of disadvantage of NNESs versus NESs and “can only supply secondary supporting evidence. Their principal value lies rather in informing and guiding language planning interventions designed to mitigate disadvantage, it being well-known that the attitudes of those targeted by such interventions is a significant determinant of their effectiveness.” (p. 45)

In a further survey study, one of the few carried out in a Mexican context, Hanauer and Englander (2011) attempted to quantify, via a large-scale survey of 148 Mexican scientists working at higher education institutions, the burden of writing a research article in a second language. Results from this survey of 141 Mexican scientists from different disciplines indicated that (unsurprisingly) writing a research article in English as opposed to Spanish was 24% more difficult, creating 11% more dissatisfaction and 21% more anxiety. The authors argue that their findings demonstrate that the added burden felt by these scientists when writing in English is linguistic in nature as opposed to disciplinary, i.e., from a lack of English writing proficiency instead of a lack of scientific disciplinary knowledge. The Hanauer and Englander study notes some dissatisfaction among senior Mexican academics at having to publish in English. Of interest is whether more junior scholars and/or emerging scholars share similar sentiment in a Mexican higher education context. This study adds to the scant literature available on attitudes towards EILS and ERPP among Mexican scholars. Other studies from semi-periphery contexts have similarly found conflicting overall attitudes towards EILS and ERPP among scholars, including Spanish L1 scholars (Lopez-Navarro et al., 2015; Martin, 2014; Moreno et al., 2012; Perez-Llantada et al., 2011).

Language choice: English or national/local language.

In one of the most comprehensive studies into periphery NNES writing practices and experiences, Curry and Lillis (2004) carried out a longitudinal ethnographic study of 50 Hungarian, Slovakian, and Spanish psychology scholars, seeing how they handled the concurrent demands of publishing in English along with publishing in their mother tongues. Through analysis of written texts (text histories) and other documents, interviews, and observations, the authors point to the increasing demand on NNES scholars to publish in English, the necessity for these scholars to publish in multiple languages for different discourse communities, and the immense time commitment necessary to achieve professional success. Curry and Lillis point to multiple strategies that these semi-periphery scholars use to overcome their ERPP challenges,
including the importance of interactions with literacy brokers. The authors also highlight the multiple communities for which multilingual scholars write (problematising Swales’ (1990) notion of discourse community) when attempting to disseminate their research. The authors call for an increased study of the multiple publishing challenges faced by periphery NNES scholars and their multilingual publishing practices aimed at overcoming these challenges. While important and influential, Curry and Lillis’ work has focused on established scholars from the social sciences and not on emerging scholars from the health and life sciences.

Duszak and Lewkowicz (2008), in a study aimed at identifying the language of choice between the national language and English in publishing for Polish academics as well as the potential issues resulting from this choice, found Polish scholars from the social sciences and, particularly, the sciences, choosing to publish in English. However, the authors report complexity involved in the decision-making process of these academics, with some finding consequences for career advancement if they publish in Polish, but also consequences in terms of domestic dissemination of findings if they choose to publish in English. Li and Flowerdew (2009) likewise found evidence of language choice for publishing purposes divided by Chinese scholars wishing to connect with both a domestic and international audience in order to satisfy both evaluation committees as well as disseminate their findings to the relevant participants.

Specifically focusing on the world of science and scientific publication, the place of EILS is oft criticized for (purposefully some would argue) leading to preferred treatment and status of NESs to the detriment of their NNES counterparts. In relation to publication language choice, many empirical studies have shown the conflicted situation NNESs find themselves in when selecting the language in which they will try to publish, with English being the common choice as these articles are cited far more frequently in the scientific indexes (particularly the International Science Index or ISI) (Hanauer & Englander, 2013; Duszak & Lewkowicz, 2008; Salager-Meyer, 2008). As Meneghini and Packer (2007) argue from their review of scientific databases, including that of their native Brazil, NNES scholars often publish in their mother tongue due to low English writing proficiency or are incentivized to publish more in English than in their mother tongue due to the prestige of English language journals in the sciences and the fact that English language articles are cited more often, leading to a situation highlighted by Canagarajah (2002) where NNES scholars lack access to English-language resources and therefore cannot cite these sources, but where manuscripts which lack the key (English- language) references are more likely to be turned down. This marginalizes NNESs even when they are writing about their local
communities, while their central scholar counterparts achieve recognition for writing on the same topic.

**Perceived bias against non-native English-speaking scientists.**

While there is some evidence of initiatives aimed at greater equity in scientific publication, “gatekeeping, through editorial boards and referees, provides yet another mechanism for an English stranglehold on scientific scholarship.” (Tardy, 2004, p. 250) Beyond theoretical claims, empirical studies have also shown that the disadvantages to NNESs in terms of access to their desired scientific journals are not solely imagined (Belcher, 2007; Cho, 2004; Curry & Lillis, 2004; Gosden, 1992). As Tardy (2004) notes, discussion in scientific literature regarding exclusionary gatekeeping practices is most often found in editorials and letters to the editor. In a groundbreaking study, Gibbs (1995) details the gatekeeping and publishing practices that serve to exclude periphery scholars. Further, letters to the editor in *Nature* (Carter-Sigglow, 1997; La Madeleine, 2007; Terenzi, 1997; Umakantha, 1997) as well as other scientific journals (Clavero, 2011) provide first-hand anecdotes of these practices. Clavero (2011), in a letter to the editor of the Ecological Society of America, claims his 2010 study into publication rates of NES versus NNES authors demonstrates a clear bias against NNESs in scientific publishing, particularly in the field of ecology. While many periphery scientists have railed against the inequity and inequality of the publishing process and the domination of NESs in editorial positions and consequential bias against NNES authors, Flowerdew (2001), in a comprehensive study of editors from 12 leading journals—in applied linguistics as opposed to sciences—found no bias against NNES submissions. His findings, however, yielded a list of features of NNES writing that may prejudice their contributions such as syntactic errors, lack of author voice, and “nativized varieties of English” (p. 121). Likewise, Curry and Lillis (2004), Lillis and Curry (2006) and Lillis (2012) found reviewers’ comments (even when blind reviews) contained elements of non content-based critiques of non-standard Englishes and widespread ideological orientations biased against non-standard varieties of language use. While Flowerdew’s continuing research (2007) into gatekeeping and potential editorial bias pointed to no self-acknowledged bias against NNESs, other researchers have made it clear that it is not only possible but likely that using a non-standard, nonconventional, nonnative form of language can inhibit NNES scientists from getting their work published and thereby becoming relatively lost science (Lillis & Curry, 2010; Gibbs, 1995; Gosden, 1992; Perez-Llantada, 2012).
NNES English for Research Publication Purposes Challenges

This section provides a brief review of literature related to discursive and non-discursive academic writing for publication challenges experienced by NNES scholars including those highlighted among emerging and established scholar sub-groups as well as those specific to Spanish L1 scholars.

**Discursive issues: Surface-level vs. rhetorical issues.**

From a broad overview of studies looking into questions related to NNES writing for publication practices and challenges, there are several major discursive areas of concern that stand out, many of which are rhetorical in nature, and others which are related to grammar and/or lexicon: grammar; use of citations and other referencing issues; structuring of arguments; discursive organization; making knowledge claims; displaying authorial voice; use of hedging; and writing introduction/discussion sections (Baldauf & Kaplan, 2005; Bazerman, 1988; Cho, 2004; Duszak & Lewkowicz, 2008; Flowerdew, 2001; Huang, 2010; Mur Dueñas, 2011; St. John, 1987; Swales, 1990). Many of these studies have pointed to the problematic nature of NNESs attempting to publish in English, where surface language issues may lead to potential editorial rejection (Duszak & Lewkowicz, 2008; Li, 2006). As one of the foremost researchers in the area of NNES writing research, Flowerdew (1999) indicates that NNES researchers have difficulties in areas such as “facility of expression,” “time needed to write,” “vocabulary,” “capability in making claims for their research with the appropriate amount of force,” “first language interference in the composition process,” “writing quantitative articles,” “keeping to a simple style,” and “[difficulty in writing] introductions and discussions” (Flowerdew, 1999, pp. 255-7). However, the vast majority of studies, including those carried out by Flowerdew, point to rhetorical issues as the main discursive challenge when writing for publication, rather than surface-level issues related to grammar, punctuation, or lexicon.

**L1-L2 transfer and intercultural rhetoric.**

Empirical work from the field of intercultural rhetoric appears to highlight the centrality of both linguistic and cultural transfer issues when attempting to publish a paper in English, where there are very specific norms for how a research article should be written (Connor, 2011; Connor & Rozicki, 2013; Englander, 2006; Mauranen, 1993; Moreno, 1997). In terms of Spanish to English
language or culture transfer, several studies have suggested this is a significant impediment to successful English science writing. For example, Englander (2006), in her dissertation on Mexican scientists’ writing and revising practices, highlighted several previously noted syntax or language-related issues that are different when writing science in Spanish versus in English. Some of these main differences are what Englander terms *lexicogrammatical* (active versus passive voice use; adjective use) but most are structural/rhetorical (abstract structure; use of first person; use of modals to express degree of certainty) and stylistic (length of sentences, paragraphs, overall text), in that the syntax can be perfectly acceptable but the function of the language is unacceptable or missing. Several other scholars have carried out contrastive rhetoric analysis (now positioned as intercultural rhetoric) studies aimed at understanding the rhetorical differences potentially explained by scholars’ linguistic and cultural background. Mauranen (1993) explored these differences when analyzing text produced by Finnish and Anglo-American authors, specifically looking at meta-linguistic differences. She highlighted several differences between scholar groups, suggesting transfer from Finnish to English academic writing of a research article that could potentially cause misunderstanding among interlocutors of the Finish authors’ texts. Studies across linguistic groups have largely pointed to differences in meta-discourse, among other features; however some have argued for the centrality of genre understanding over contrasting rhetorical differences when considering the writing of research articles. Moreno (1997), for example, carried out a study to better understand the effects of linguistic difference on meta-language or language about language use among Spanish L1 and English L1 authors. She found little difference between the groups of scholars writing research articles, suggesting the findings point to the greater importance of genre (in this case, the research article) over Spanish-English linguistic difference. Subsequent studies in the area of intercultural rhetoric have produced a large number of interesting findings related to the linguistic difference (Connor & Rozycki, 2013; Manchón, 2009), including those focused on Spanish L1 academics (Moreno, 1998; Mur Dueñas, 2011; Pabón, 2002; Pabón Berbesí & Domínguez, 2008; Ruiz-Garrido, Palmer, & Fortanet-Gomez, 2010). In providing an overview of this literature in relation to the field of English for Specific Purposes (ESP), Connor and Rozycki (2013) have recently suggested the need for more research into both the challenges facing different groups of scholars (including emerging ones) as well as the processes and interactions involved with writing for specific purposes, including publication of research articles.
The potential challenge of genre: English language research article (RA).

Several researchers have investigated NNES academic writing as it relates to becoming part of a larger community of scientists or what Swales (1990) termed a scientific discourse community. In his studies of novice researchers, Swales (1990, 2004) has found that many issues related to success in academic publishing for NNESs were not related to grammatical or surface-level issues but rather to specific issues that are learned as one seems to gain from more experience writing in genres, or discourse structures and linguistic features of particular types of writing (in our case the genre of English language research articles) in their particular disciplinary field. Swales’ research paved the way for a large amount of genre-based research (spurred on more recently by the advent of corpus-based software for large-scale analyses), including on that of the research article: its structure and the different moves involved in writing this particular genre (Connor, 2011; Hyland, 2004; Swales, 2004)

While writing a scientific article in the natural sciences almost always follows the IMRaD (Introduction, Methods, Results, and Discussion) model of presentation, there are expectations for authors to position themselves and their research in the broader and more specific areas of research related to the topic (Swales, 2004). The main sections where these take place—introductions and discussions—are common trouble spots for NNES authors (Englander, 2009; Li, 2006; Sheldon, 2011; St. John, 1987). Hyland (2004) and Swales (2004), among others, have argued that this is at its root a cultural or genre issue related to understanding particular types of writing, where the L1 norms are contrary to those in English academic writing. There is significant evidence from studies of Spanish L1 NNES academic writing (Bazerman, Keraanen, & Encinas Prudencio, 2012; Gea-Valor et al., 2014; Englander, 2006; Moreno et al., 2012; Sheldon, 2011; St. John, 1987) to suggest that challenges arise from both linguistic differences as well as different understandings of genre-based expectations. In this thesis, I address issues of linguistic difference and genre as discursive challenges to achieving publication of research articles in international scientific journals.

Non-discursive challenges.

In his groundbreaking article outlining what he terms the non-discursive barriers to publication for NNESs, Canagarajah (1996, 2001, 2002) highlights many non language-related challenges
NNESs from the global periphery face when trying to publish research in English, including (but not limited to) a lack of material resources (namely money for high costs of submission), a lack of access to up-to-date information; and a lack of mentoring (particularly from NESs). Although Canagarajah refers to the state of publishing some 20 years ago, other more recent studies have also referred to various challenges or barriers to periphery scholars achieving publication in indexed journals. In this thesis, I refer to all challenges that I maintain are directly related to an unequal distribution of resources as non-discursive, including a lack of exposure/connection to ERPP and a lack of ERPP instruction.

Several studies have investigated the role of members of what Uzuner (2008) labels core disciplinary communities when viewing periphery scholars attempts to access and achieve membership in these core discourse communities (Belcher, 2007; Casanave, 1998; Casanave, 2002; Clavero, 2010; Flowerdew, 2000; Curry & Lillis, 2004). These studies found that there are significant advantages to those NNESs who establish connections with core or centre scholars. Uzuner (2008) argues that, “limited or no contact with core academic communities puts multilingual scholars at a distinct disadvantage in terms of making scholarly contributions to the core knowledge base.” (p. 257) Flowerdew (2000), employing Lave and Wenger’s (1991) notion of legitimate peripheral participation within communities of practice (CoP), found many similar challenges were apparent for Hong Kong scholars in becoming members of a discipline-specific community of practice, including understanding the formatting and content demands associated with particular journals and finding appropriate discipline-specific help in the editing process. Importantly, Flowerdew found that periphery scholars could only achieve legitimate peripheral participation and would be best served by not only receiving NES editing and mentoring, but by discipline-specific editing and mentoring. Englander (2009), in her study of Mexican scientists writing and revision processes (described in more detail later in this chapter), found that Mexican scientists’ identities transformed during the L2 writing process and when moving between Spanish L1 and English L2 communities of practice.

Curry and Lillis (2004; 2014), in their longitudinal ethnographic investigations of 50 European Psychology and Education scholars’ experiences with writing for publication, found major challenges experienced by NNESs attempting to publish for differing communities, including an inability to effectively access academic networks. The authors highlight how these semi-periphery scholars negotiate demands to publish in English and in their national languages or L1s in order to connect with particular communities, with their choices heavily influenced by
institutional evaluation rewarding English-language publications in indexed journals. Curry and Lillis suggest findings point to broad systemic inequity in academic publishing spurred on by ideologically motivated evaluation systems. In a follow-up article related to their longitudinal ethnographic study, Lillis and Curry (2006) further suggest that pressure to publish English language articles in indexed journals is “sustained and refracted through a complex set of interrelationships between local institutional and national geopolitical contexts on one hand and individual scholars’ academic interests and material living conditions on the other.” (p. 4) The authors suggest that various academic, language, and non-professional literacy brokers are an integral part of the process of achieving publication of research articles for these particular scholars and that achieving connections with these networks and managing interactions with literacy brokers is potentially more important for multilingual scholars attempting to achieve publication of articles in English-medium indexed journals. They further suggest pedagogical implications of the study, including a greater understanding of the multilingual publishing practices of NNES scholars as well as the need for greater focus on non-discursive issues facing NNES scholars and their place (and the place of English vs. local languages) in global academic knowledge production.

As many experienced researchers will attest to, writing articles for publication is a time consuming process, involving many edits and re-edits along the way—this is especially true for NNESs. Several studies have highlighted the added professional burden of having to write in a second or additional language for periphery scholars (Casanave, 1998; Cho, 2004; Curry & Lillis, 2004; Lillis & Curry, 2006; Flowerdew, 2007; Hanauer & Englander, 2011). Duszak and Lewkowicz (2008), in a study of Polish academics’ publishing practices, found Polish scientists also reporting difficulties related to meeting scholarly demands in their domestic environment when having to attend to the sometimes overwhelming practices involved with submitting, editing, re-submitting English texts to English-medium scientific journals in order to achieve international dissemination of their findings.

Further demands cited as challenging for periphery scholars include navigating the revision process and dealing with gatekeepers such as journal editors and reviewers. While some have focused on the textual elements of this challenge (Flowerdew, 2001), others have highlighted periphery scholars’ experiences of the asymmetrical power relations involved in such interactions (Burrough-Boenisch, 2003; Cho, 2004; Huang, 2010; Li, 2006; Lillis & Curry, 2006; Lillis, 2012) as well as the (at times competing) perspectives of these (often NES centre)
gatekeepers on the quality of NNES scholar texts (Lillis, 2012).

**Spanish L1 scientists’ academic writing for publication challenges.**

As should be clear from this overall review of literature, much of the recent research into multilingual scholars’ writing for publication challenges comes from a Spanish higher education context, much of it carried out by the ENEIDA (Spanish Team for Intercultural Studies on Academic Discourse) group of researchers. While my investigation took place thousands of miles from Spain, studies from this hotbed of ERPP research are of great import when considering the shared L1 among Spanish and Mexican scholars.

In an investigation of established scholars’ attitudes towards and experiences with ERPP, Martin et al. (2014) use a questionnaire and follow up interviews with Medical sciences researchers from three Spanish post-secondary institutions in order to ascertain the motivations for selecting English or Spanish when writing for publication, strategies employed when writing in English, and major challenges with English for research publication purposes (ERPP). Results point to a growing perception of the need to publish in English, a largely ambivalent attitude towards this growing necessity, and several main challenges with achieving this publication including lack of genre- and discipline-specific knowledge as well as ability to synthesize editor and reviewer feedback. The authors contend that these findings may lead to an improved genre-based approach to ERPP interventions for multilingual periphery scholars. While this study is undoubtedly important and comprehensive in its assessment of the needs of those researchers in the Medical sciences, one is left to wonder about the potential differences between experienced and novice researchers, including those emerging scholars (PhD) not included in Martin et al.’s (2014) study. Other recent survey-based studies from this group have pointed to the heavy influence of evaluation and international recognition as motivators for English language publication among Spanish researchers across disciplines (Lopez-Navarro et al., 2015) as well as particular challenges and needs among researchers from social sciences, including adapting to expectations regarding particular rhetorical sections in English language research articles (Gea-Valor et al., 2014).

In another study of Spanish researchers, Perez-Llantada et al. (2011) carried out a study with Spanish academics in which they interviewed senior faculty at University of Zaragosa as to both their perceptions of English as an international language of science and their writing practices for
publication in English, including which aspects of the writing process they found the most challenging. Findings from this Spanish study included subjects agreeing to the pragmatic utility of English in international dissemination of scientific findings along with a concerned awareness at the linguistic costs of using English as opposed to Spanish when publishing. Further, these senior faculty felt disadvantaged in comparison to their NES counterparts in terms of writing, but, even more so, in terms of disseminating findings through participation at international conferences (oral communication skills). Findings in relation to writing difficulties included rhetorical issues such as making appropriate claims (strength of claims) as well as the stylistic differences between Spanish and English academic writing. Along with calling for measures to ameliorate NNES writing challenges, such as writing courses focused on the research article, the authors also suggest a need for further research into how academics use available resources when producing English texts for publication. Of note is that these Spanish scientists remain outside of their desired discourse communities due not only to written proficiency, but oral proficiency as well.

**Mexican scientists’ attitudes towards and challenges with ERPP.**

In a case study into the language choices for academic publication and challenges involved in publishing in English for faculty at MEX University, García Landa (2006) used a large-scale survey of 600 academics from the social sciences, humanities and natural sciences. Her findings included the greater use of only English among faculty in the natural sciences, the pressures felt by faculty to publish in English to achieve academic advancement, difficulties in disseminating findings internationally through research articles and conference presentations, and a sense of disengagement with non-Spanish international research communities due to linguistic limitations. García Landa suggests the need for measures to aid faculty in overcoming their barriers to full participation in discipline-specific non-Spanish international discourse communities. García Landa’s study clearly points to the pressure felt by faculty to publish in English, but being strictly a survey study, lacks sufficient detailed description of faculty language choices and perceptions of English as a lingua franca. Further, the study does not differentiate between junior and senior faculty and does not include PhD students or Post-docs. In a qualitative study building on García Landa’s (2006) work, Gonzalez Trejo (2012) further highlighted several major extrinsic factors including institutional evaluation and prestige as motivation for experienced Mexican health scientists to publish in English.
In perhaps the most extensive study to date investigating Mexican scientists’ practices of writing for publication in English, Englander (2006, 2009) carried out a collective case study, focusing on three Mexican scientists who successfully published their articles after first receiving harsh criticism for their language use. Through analysis of original submissions and revisions, including the final published article, and multiple semi-structured interview transcripts retrospectively discussing revision processes, Englander found several challenges to these Mexican scientists’ academic writing for publication and consequently successfully navigating the membership journey from L1 to L2 community of practice (domestic scientists to international scientists). She highlights how, through the article revision process, these scientists learned about the NES English language community of practice and how, in doing so, their identities were transformed as they acquired NES “autobiographical selves” (p. 51). This study is important as it chronicles many difficulties Mexican scientists experience with the writing and revising process, including how they attempt to become members of and learn about their desired international scientific discourse communities. Englander’s study, while timely, important, and extremely informative, is limited to established faculty from Mexican universities.

More recently, researchers investigating these issues in a Mexican higher education context have pointed to a perception of the increasing importance of writing research articles for publication in English (Bazerman et al., 2012), the potential perceived burden such writing for publication imposes for Spanish L1 Mexican scholars (Hanauer & Englander, 2011) and the potential of pedagogical interventions aimed at addressing Mexican scholars’ ERPP challenges (Carrasco & Kent, 2011). I now turn to a review of the literature surrounding ERPP pedagogical interventions and how scholars and others involved in the design and delivery of such courses view their efficacy.

Emerging Scholars and the (Perceived) Efficacy of ERPP Interventions

Though it has only recently emerged as a topic of intense investigation (mostly in Asian and European contexts), research into NNES graduate student academic writing for publication is not a new sub-field of enquiry, with studies carried out for the past three decades (Braine, 2002). As early as the late 1980’s, pioneering survey research investigated writing practices and attitudes towards writing of graduate students studying at US universities (Canseco & Byrd, 1989; Jenkins
et al., 1993). US-based case studies into NNES academic writing practices and attitudes are more recent, with most of the research taking place in the past two decades (e.g. Aitcheson, Kamler, & Lee, 2010; Casanave, 2002; Murray, 2010). These studies have pointed to the importance of supervisor-supervisee relationships (Belcher, 1994), the importance of perceived (lack of) connection to a desired discourse community (Dong, 1996), and the utility of NES support for helping gain access to these discourse communities (Cho, 2004).

Studies into emerging scholars’ ERPP in periphery contexts are more common, particularly coming from an Asian context (Flowerdew, 1999; Huang, 2010; Hyland, 2007; Li, 2006). In a study from a periphery context, Li (2006) investigated a Chinese PhD students’ experiences attempting to publish in an English medium journal. This grounded theory study used interviews with both the student and her supervisor as its main data collection method, finding disparities in dispersion of power between student and advisor as well as between student and reviewers. Li’s findings pointing to resistance to revisions suggested by NNES reviewers again suggest a perceived bias against NNES scholars in the sciences, in this case those from China. In another more recent study investigating NNES scientists’ perspectives on writing for publication in English, Huang (2010) found that these scholars felt at a disadvantage to their NES counterparts, a negative perception stemming “not only from their awareness of their nonnative speaker status but also from reviewers’ unfavorable comments on the language” (p. 37). A further important finding from this study was that students viewed AWCs ineffective in addressing their specific needs.

Traditional learning of English for research publication purposes (ERPP) is transmitted either through discipline-specific coursework at the Master’s and PhD levels, supervisor mentorship (via co-publishing and qualitative feedback), and/or University writing centre workshops (Bazerman et al., 2012; Carrasco & Kent, 2011; Casanave, 2002; Morita & Kobayashi, 2008). This is certainly the case at centre research institutions including my own—The University of Toronto—where the School of Graduate Studies offers various workshops and mini-courses to graduate students on academic writing for various purposes, including publication. However, for MEX U emerging scholars (and their faculty supervisors) from a periphery community of scientists conducting their day-to-day science in Spanish, ERPP is not necessarily an explicit focus in any of these domains. Before forging ahead with an attempt to better understand scientists’ experiences with ERPP, including their perceptions of the efficacy of such an intervention at meeting their ERPP needs, this section provides a brief overview of the limited
research into such interventions in a periphery context.

While courses and workshops aimed at academic writing for publication exist in different forms as the importance of English-language publishing increases, few investigations have attempted to better understand these interventions, including scholars’ perceptions of the efficacy of ERPP interventions aimed at addressing potential ERPP challenges and barriers. One such study (Romesburg, 2013) describes a mandatory ERPP course for MSc and PhD students in Environmental sciences at Utah State University. The rationale for delivering such a course is presented, along with a description of the various course components. As the course instructor, the author presents his self-evaluation of student learning outcomes, students self-reporting, and a pre- and post-test on scholarly communication principles, coupled with ERPP outcomes of student-participants, argues that this type of course has the potential to benefit both NES and NNES scientists’ ERPP outcomes and confidence. The author further argues that the results of his study, in combination with other findings (e.g. Lee & Kamler, 2008), show that such a course is ideally delivered early in a doctoral program as this paves the way for more sustained publication throughout scholars’ academic careers. The course, as outlined by the author, appears to address some issues highlighted in the literature as problematic for emerging scholars, both NES and NNES. However, there is neither explicit discussion of potential inequity in scientific publishing nor suggestion of how such a course addresses the challenges faced by scholars with different linguistic backgrounds.

From an Asian context, Cargill and O’Connor (2006) report on an investigation into Chinese scholars’ ERPP through the lens of workshops at Chinese Universities between 2001-2003. Results point to positive perceptions of the “collaborative, genre-based” (Cargill & O’Connor, 2006, p. 209) workshops including increased confidence among Chinese scholars following the intervention. The authors suggest the findings point to both the efficacy of a genre-based approach to ERPP instruction as well as the utility of a collaborative learning process facilitated by both disciplinary and language experts. More recently, Cargill (2009) and Burgess and Cargill (2013) have described a corpus-based genre analysis approach to teaching research articles to multilingual scholars. Drawing on the research and teaching experience of the authors with such an approach across several global contexts (mostly in Asia), the genre-analysis approach uses authentic texts while encouraging students to analyze the genre conventions and corpus examples stemming from four different types (AIMRaD; AIRDaM; AIM(Ra)D; and AIBC) research articles from varying disciplines. Cargill and Burgess suggest introducing students to corpus
analysis tools (concordancing programs) such as COBUILD and encouraging students to do their own analysis of effective articles from their particular field to help them with lexical, grammatical, and rhetorical features found in research articles. While these strategies are potentially quite useful for ERPP instructors and their students, this chapter includes no mention of critical discussion challenging genre conventions/norms or gatekeeper expectations. Further, there is little discussion of how this could be of benefit to scholars at different stages of their academic journey. This type of genre pedagogy appears to be the most common approach when providing ERPP support and its proponents have suggested various ways in which it can be adapted when working with multilingual centre scholars (Swales & Feak, 2012; Tardy, 2009) as well as multilingual periphery ones (Hyland, 2007).

In another study from a Chinese context, Kwan (2010) outlines PhD ERPP support across seven Hong Kong universities, providing a competency model for areas needed in order to achieve publication of a research article (RA): discursive; strategic research conception; strategic management of research and publishing; and, interestingly, publishing the thesis-in-progress. She highlights findings pointing to limited and uneven support, with focus of ERPP support on the discursive competence category (particularly methodological focus) and not enough on strategic competence, occluded processes, and thesis-in-progress. Findings also point to effective mentoring provided by supervisors or other faculty, suggesting more emphasis should be placed on the thesis-in-progress for doctoral students. Overall, findings show student dissatisfaction with ERPP support and the thesis concludes that discipline-specific ERPP support is lacking and must be improved in order to raise individual and institutional publishing outcomes. This article, again focused on an Asian higher education context, provides some instructive suggestions for ERPP support; however there is a lack of clarity on how to operationalize such support the author claims is lacking across public Hong Kong universities.

In a study focused on NNES scholars (some of whom live and work in the global periphery), Lillis, Magyar, and Robinson-Pant (2010) describe the myriad challenges facing periphery scholars attempting to publish research articles in centre journals and outline a mentored peer review process at an Education journal addressing inequity in global publishing for scholars located in the global south. The article describes a mentoring process beginning with a one-day workshop focused on creating an effective abstract (rhetorical moves), locating the study in the appropriate literature/sub-field/journal conversation, writing a convincing argument based on robust interpretation of data, and constructing a clear and sharp focus. Scholars were then
mentored over the next four months (via email) while they prepared an article for submission to the journal for standard peer review. Findings point to successful outcomes of the mentoring initiative with evidence of improved scholarly writing and confidence among participants. The authors are self-reflective, however, and question how successful one small initiative can be in addressing wider inequities in academic publishing. One major shortcoming of this initiative is that it did not connect enough with those authors located in the periphery, with the majority of participants being those stationed at UK institutions. Further, the initiative catered to experienced scholars; one wonders how effective such an initiative would be if focused on emerging scholars? Overall, findings raise interesting questions about the potential of a critical pragmatic approach to ERPP instruction (in the form of a workshop or course as opposed to journal mentorship) which attempts to challenge inequity while still attending to pragmatic needs of achieving publication of research articles in centre journals.

More recently, Bazerman et al. (2012) conducted an investigation into the experiences and potential challenges of 15 Mexican Mathematicians and Physicists (from new faculty to more experienced) and found a differentiation of trajectories and experiences seemingly related to attitudes showing a greater or lesser connection to scholars’ desired international research communities when interviewing faculty during a workshop aimed at addressing ERPP challenges. Bazerman et al. found that meaningful immersion into these desired discourse communities through writing for publication in English often led to what Lave and Wenger referred to as legitimate peripheral participation among certain scholars. They further identified the 5-day workshop as a potential model for intensive distance immersion mediations that could lead to “immersive, accountable, and consequential activities leads to motivated problem solving and habituated use that advances fluency and accuracy.” (p. 247) These results point to the potential efficacy of several types of mediation.

Castelló, Inesta, and Corcelles (2012), in a study aimed at investigating the efficacy of interventions aimed at doctoral students’ academic writing for publication, interviewed Spanish PhD students and analyzed their texts with a particular focus on how they dealt with challenging features associated with effective writing of research articles. The study found both student perception of distance from their desired discourse communities a possible barrier to improved writing as well as strategies to overcome this barrier resulting in writing product improvement over a brief instructional intervention period. While this study was limited to a small number of doctoral students in Psychology, findings related to perceptions of legitimacy among doctoral students.
students at the end of the intervention are of interest. Castelló et al. call for an expansion of the minimal research surrounding ERPP pedagogical interventions aimed at emerging scholars, thereby contributing to the potential of relevant and focused interventions aimed at this emerging scholar population. Further investigation of Mexican PhD students’ enculturation vis a vis ERPP has been carried out recently on PhD students from various disciplines including the life and health sciences (Kent, Carrasco, & Velázquez, 2009; Carrasco & Kent, 2011), with findings pointing to a deep-rooted perception among emerging scientists that publishing in English is necessary for academic career advancement, the importance of mentorship in the enculturation process, and suggesting the need for pedagogical interventions aimed at increasing these emerging scientists’ ERPP knowledge.

**Filling the Gaps: Experiences, Challenges, and Attitudes**

My study is responding to a call for greater case study research into questions surrounding EILS and ERPP (Hyland, 2015; Flowerdew, 2013); particularly as it relates to those attempting to publish from the periphery (Canagarajah, 2002; Curry & Lillis, 2004, 2014), in the sciences (Englander, 2009; Salager-Meyer, 2014) and in a Mexican context (Bazerman et al., 2012; Carrasco & Kent, 2011; Englander, 2014; Hanauer & Englander, 2011). As highlighted throughout this extensive literature review, there is comparatively little research into Mexican periphery scholars’ academic writing practices for publication in English, particularly in the natural sciences, where it no longer appears optional to publish in English if one seeks academic advancement (and membership in international discourse communities). My study addresses a major gap in the literature in terms of empirical research into Mexican scientists’ perceptions of EILS as well as the (perceived) efficacy of ERPP approaches and interventions aimed at emerging and established scholars, attending to calls in the field for such empirical work (Flowerdew, 2013; Hyland, 2015).

**Chapter Summary**

This chapter provided a review of pertinent literature on the attitudes of multilingual periphery scholars and scientists towards English as an international language of scientific communication and their experiences and challenges with academic writing for publication in English, with a particular focus on attitudes and experiences of Spanish-speaking scientists. After a thorough review, a list of noted challenges for NNES scientists was compiled, including those considered
discursive and non-discursive. This chapter provides a review of literature that, when combined with the following chapter’s theoretical framework, provide a basis from which to approach the main research questions regarding Mexican scientists’ attitudes towards English as an international language of scientific communication (EILS) and experiences and challenges with English for research publication purposes (ERPP) under investigation in this case study of the Mexico University academic writing course. My study aims to i) highlight emerging and established MEX U scholar perceptions of English as an international language of scientific communication; ii) compile a list of salient challenges and potential barriers to achieving publication; and iii) better understand the (perceived) efficacy of an ERPP course designed to address those challenges.
Chapter 3
Theoretical Framework and Conceptual Lens

Building on the literature review in Chapter 2, this chapter outlines several theoretical strands that interconnect to form a flexible theoretical framework or base from which I investigate Mexican scientists’ experiences with English as an international language of science (EILS) and academic writing of scientific research articles for publication. Throughout this chapter, I describe two main theories (Linguistic Imperialism and Linguistic Capital/Symbolic Power) and one main concept (Discourse Communities) that provide a foundation for better understanding the complex phenomena associated with these scholars’ experiences, including their attitudes towards and perceptions of EILS, their challenges with English for research publication purposes (ERPP), and their perceptions of an ERPP course aimed at addressing their challenges. This chapter concludes with descriptions and diagrams of both my theoretical framework from which I approach my research questions and my integrated conceptual lens through which I analyze and interpret the findings from this instrumental case study of an ERPP course.

Theoretical Framework

Linguistic imperialism (LI) and English hegemony in scientific publication.

Robert Phillipson’s groundbreaking 1992 book *Linguistic Imperialism* (LI), in which he problematizes the spread of English as a global language (in contrast to the widely accepted perception at the time of English as a natural part of modernization), is an important work when considering the global proliferation of English and the resulting dependency relationship and power relations stemming from this spread, particularly in a periphery or semi-periphery context where English is not a national language (Mexico, in our case). Building on Galtung’s (1971) notion of cultural imperialism, Phillipson’s LI can be defined as “the dominance of English asserted and maintained by the establishment and continuous reconstitution of structural and cultural inequalities between English and other languages” (Phillipson, 1992, p. 47). These structural and cultural inequalities ensure that more resources are allocated (monetary or otherwise) to English at the expense of other languages, thereby benefiting those who are
proficient in English (and even more so those who speak and write it as a mother tongue). English LI is, according to Phillipson, an example of Linguicism, defined as “ideologies, structures, and practices which are used to legitimate, effectuate, and reproduce an unequal division of power and resources (both material and immaterial) between groups which are defined on the basis of language” (Phillipson, 1992, p. 47). More recently, Phillipson (2008) has positioned the linguistic expansion of English to the benefit of the empire of the United States, calling for policy measures that counteract this expansion and instead promote linguistic diversity in Europe and elsewhere. According to Phillipson (2008),

‘Global English’ can be seen as a product (the code, the forms used in a geographically and culturally diverse community of users), as a process (the means by which uses of the language are being expanded, by agents activating the underlying structures, ideologies, and uses), or as a project (the normative goal of English becoming the default language of international communication and the dominant language of intranational communication in an increasing number of countries worldwide). The processes and project are dependent on use of the product, and on ideological commitment to the project. (p. 2)

Scientific writing for publication in an age of global English hegemony certainly seems to qualify as a linguicist endeavor where the structure and practice of publishing in English as opposed to Spanish potentially legitimizes, effectuates, and reproduces an inequitable and unequal division of power and resources between native (centre) and non-native (periphery) writers based on English writing proficiency. Linguistic Imperialism as a theoretical pillar of my framework is, I argue, useful in providing a macro-level lens when investigating, analyzing, and interpreting findings regarding the perceptions of Mexican scientists towards the pressures to publish in English while documenting the major challenges they face in attempting to do so on a clearly uneven playing field.

**Scientific imperialism and ideologies of language and language teaching.**

Within a global market where there exists an unequal distribution of resources and resulting dependency relations between centre and periphery nations, there exists, also, what Galtung (1980) referred to as scientific imperialism where the centre “provides the teachers and the

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definitions of what is to be taught” (p. 130 in Phillipson, 1992, p. 57) in order to maintain such dependency. While this study does not seek to prove or disprove this theory, it is worth noting that, first, features of this model can be seen in orientation of the academic writing for publication course serving as the case for investigation of multilingual scholar perceptions and practices, and, second, that this type of model lays the framework for what Phillipson (1992) calls “ideological tenets” (p. 185) or fallacies of English language teaching and learning that aid in the propagation of English and its native speakers at the expense of users of other languages. I focus on these and other “ideological orientations” (Lillis & Curry, 2010, p. 63) of participants when analyzing and interpreting findings related to multilingual scholars’ perceptions of EILS and ERPP.

Contextually specific LI: Language hegemony in the dissemination of science.

Building on Galtung and Phillipson’s theories of cultural and linguistic imperialism, Hamel (2007) argues that the thrust for English as the only world language (in all domains of communication including science) “blurs the hegemony of a single nation state and creates the ideology that English has already become so international that it neither belongs to any country nor is it controlled by any group of native speakers” where the US scientific market in particular is organized in “an imperial structure which admits subordinate foreign participation within the frameworks established by US science, but not as a global market” (p. 67). Hamel further argues that hierarchy in scientific communication plays a fundamental role in the dynamics of knowledge production, where the new hierarchy, “with English on top, including its discourse structures and related cultural models constitutes a powerful instrument and at the same time an outcome of the broader process” (p. 68). Hamel ultimately promotes scientific publishing in languages other than English in order to “avoid possibly irreversible language attrition…and contribute to a plurilingual perspective in the field of science”. (p. 69) Hamel’s critique of the monolingual and monocultural world of international scientific publication—dominated by and subservient to the US scientific community—is particularly important as a more geographically and geopolitically relevant tangent connected to the LI theoretical frame through which to approach a complex understanding of Mexican scientists’ experiences with EILS and ERPP.

While noting that macro theories such as cultural and linguistic imperialism are problematic in that they at times deny agency (e.g. the students taking this writing course seemingly want to
publish in English and improve their writing and editing skills) and suggest gatekeepers such as English instructors are complicit in spread and maintenance of linguistic inequality, I nonetheless find LI useful as a macro-level theory contributing to a theoretical framework and conceptual lens through which to view, analyze, and interpret the research questions and findings surrounding Mexican scientists’ attitudes and experiences with writing for publication in international scientific journals. Ultimately, approaching the main research questions surrounding NNES attitudes and practices with a macro understanding of (neo-) LI and English hegemony in scientific publication will allow for a clearer and more critical understanding of how writing practices (in this case of Mexican scientists) relate to larger questions of power and legitimacy in local and global scientific knowledge production.

**English as the standard: The production and reproduction of legitimate language.**

Building on Curry and Lillis’ (2004, 2014) and Lillis and Curry’s (2006, 2010) social practices approach to understanding multilingual scholars’ academic writing practices, I incorporate theories of Pierre Bourdieu when viewing these practices as “human activity comprising patterns of interactions that occur within specific social spaces and relations of power.” (p. 4) I draw on Bourdieu when attempting to understand these scholars’ perceptions and practices within these broader social contexts laden with (unequal) relations of power. Bourdieu’s (1984, 1991) notions of social and linguistic capital as well as legitimacy and symbolic power within a particular market are highly complex, worth detailed expanse, and useful in understanding phenomena connecting power and language use. In this case I argue his theories regarding the legitimate or authorized language use within particular closed communities or markets are useful as a basis for investigating and interpreting the experiences of semi-periphery scholars’ with EILS and ERPP. For the purposes of this dissertation a detailed discussion of Bourdieu’s wide-ranging and influential theories will be limited to how they relate to the (perceived) legitimacy of scientists’ writing for publication in what he described as a particular market of linguistic and symbolic exchange.

If we follow Bourdieu’s (1991) instruction and view speech acts or linguistic exchanges (written ones in this case) as symbolic interactions or “relations of symbolic power in which the power relations between speakers or their respective groups are actualized” (p. 36) then we can understand disciplinary-specific writing (science writing in our case) as an economy of symbolic
exchanges. Within this economy there are specific ways of writing that carry linguistic and symbolic capital allowing for a speaker (or writer in this case) to be seen as “legitimate” and as Bourdieu posits “authorized” to write.

Scientific writing (and in fact all academic writing) and writers are faced with the task of becoming authorized and legitimate speakers (writers) and the scientific research article is the main form by which those in this group communicate. By learning the proper codes and discourse (rhetorical style, specific lexicon, etc.), novice writers become part of a specific linguistic community, thereby facilitating their entry (mainly through publication of scientific articles) into what Swales (1990, 2004) calls discourse communities. Viewing scientific writing from this perspective allows a better understanding of how those who are in a particular discourse community are seen (or see themselves) as legitimate or illegitimate members of their (desired) discourse communities.

When considering the scientific research article as a whole, it is helpful to bear in mind Bourdieu’s (1991) assertion that “standard language, that which is learned over years of education and enculturation, is the linguistic norm which is imposed on all members of the same linguistic community…all linguistic practices are measured against the legitimate practices, i.e., the practices of those who are dominant.” (p. 53) While Bourdieu was referring more to language policy and implementation, this framing of legitimate versus illegitimate language use and resulting linguistic capital is relevant for our framework in that the linguistic practices employed by the Mexican emerging and established scientists (who may be considered novice or illegitimate members of the linguistic community) are attempting to replicate normative conventions used by the dominant members of the community (often but not always experienced “centre” scientists acting as reviewers and editors). With the parameters set within this market for what counts as legitimate, Bourdieu (1991) posits we create a “hierarchical universe of deviations with respect to a form of speech that is (virtually) universally recognized as legitimate” and functions as linguistic capital. (p. 56) Further, “the monopoly in the large-scale production of producers/consumers, and therefore in the reproduction of the market without which the social value of the linguistic competence, its capacity to function as linguistic capital would cease to exist.” (p. 57) In speaking of those who are actors within this linguistic market—in our case Mexican scientists—Bourdieu notes that,

All symbolic domination presupposes, on the part of those who submit to it, a form of
complicity that is neither passive submission to external constraint nor a free adherence to values. The recognition of the legitimacy of the official language…is inscribed, in a practical state, in dispositions that are impalpably inculcated, through a long and slow process of acquisition, by the sanctions of the linguistic market (p. 50)

This line of thinking is instructive when considering the attitudes, agency, and practices of MEX U scholars as they (attempt to) gain linguistic capital within a symbolic economy of linguistic exchange. How these actors position themselves and/or are positioned is of central interest to this study.

**Linguistic capital and symbolic power in global knowledge production.**

Logically, then, linguistic capital can be seen as unequally distributed within the international scientific discourse community, with the capital and resulting symbolic power skewed towards the dominant group, in this case those with the greatest facility and knowledge of discourse practices related to English scientific article writing—native English-speaking scientists—and reproduced by the publication of articles by those who follow the linguistic norms dictated by the community. Further, in a market where English is the monopolizing language, it is not just those who have the requisite linguistic competence (in our case English science writing competence) who are dominant but the English language that is dominant at the potential expense of non-native English-speaking writers and other languages (in our case, Spanish). NNES scientists, then, as suggested by this theoretical position, are potentially positioned as complicit agents in the hegemonic spread of English as a lingua franca of science. This study aims to better understand the agency of study participants through an investigation of their attitudes towards and experiences with English as this international language of science.

Using Bourdieu’s notions surrounding linguistic capital, legitimacy, and symbolic power as a pillar of my critical theoretical framework facilitates, I argue, a potentially nuanced understanding of periphery scholars’ English for research publication purposes experiences, including better understanding their motivations to publish in English and their attitudes towards English as an international language of scientific communication. Further, keeping Bourdieu’s ideas on symbolic power at the forefront of my framework for approaching the research questions under investigation appears especially relevant when investigating questions of (perceived) power relations. Adopting together the theories of Bourdieu (linguistic capital,
legitimacy and symbolic capital) and Phillipson (linguistic imperialism and language hegemony), my theoretical framework (see Figure 1) allows for a detailed investigation of questions surrounding MEX U scientists’ attitudes towards and experiences with English as an international language of scientific communication in an age of hegemony.

Figure 1. Theoretical framework. The two main theories of linguistic imperialism and language, legitimacy, and symbolic capital provide the frame from which to approach questions surrounding Mexico University scientists’ experiences with EILS and ERPP.

Integrated Conceptual Lens

I differentiate between my theoretical framework, based on theories of linguistic imperialism and symbolic capital/legitimacy, and my conceptual lens, which I position as including both the pillars of my theoretical framework as well as the additional construct of discourse communities. In the following section I briefly describe the contested concept of discourse community (DC), outlining how it interacts with my main theoretical framework to produce a particular integrated conceptual lens with which to analyze and interpret this study’s findings regarding MEX U scientists’ experiences with English as an international language of science.
**Discourse communities (DCs).**

Using Swales’ (1990) *Genre Analysis*, I outline below the various criteria of a discourse community (DC), identifying how the criteria can be applied to my study participants (see Table 1). Swales (1990) came up with what he describes as a socio-rhetorical term *discourse community (DC)* to approximate the sociolinguistic term *speech community*, which can be seen as, logically, a community of spoken discourse norms as opposed to a DC’s written ones. While I contest some of the criteria based on their uncritical, functionalist parameters, DC can broadly be seen as containing several criteria, including that it has a broadly agreed upon set of public goals; has mechanisms of intercommunication among its members; uses its participatory mechanisms primarily to provide information and feedback; utilizes and hence possesses one or more genres in the communication of its aims; has specific lexis; and has a threshold level for participants based on specialized expertise (Swales, 1990, p. 25-27). As is evidenced in the examples in Table 1, the scientific research communities to which MEX U scientists wish to join or participate in more fully by publishing research articles in journals (particularly international scientific journals) can easily be understood as examples of discourse communities. It should be noted that the international scientific discourse community differs slightly for each group of scientists depending on their sub-disciplinary area (e.g. Environmental Geography, Molecular Biology etc.) and that, as Curry and Lillis (2004) point out, there are likely multiple target communities within the categories of international and domestic discourse communities with/in which multilingual scholars look to connect or participate and that these categories are neither static nor fully monolingual (e.g. intranational journals published in English or bilingually).
Table 1

*International Scientific Discourse Communities as an Example of Swales’ (1990) Discourse Community*

<table>
<thead>
<tr>
<th>Discourse Community (Swales, 1990)</th>
<th>Scientific Discourse Communities (my study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a broadly agreed set of common public goals.</td>
<td>Very broadly understood as the advancement of science and/or scientific knowledge.</td>
</tr>
<tr>
<td>Has mechanisms of intercommunication among its members.</td>
<td>Scientific research articles.</td>
</tr>
<tr>
<td>Uses its participatory mechanisms primarily to provide information and feedback.</td>
<td>Article review process</td>
</tr>
<tr>
<td>Utilizes and hence possesses one or more genres in the communication of its aims.</td>
<td>Science research article writing with its specific codes and conventions.</td>
</tr>
<tr>
<td>Has some specific lexis.</td>
<td>Discipline and sub-discipline specific lexical features</td>
</tr>
<tr>
<td>Has a threshold level of members with a suitable degree of relevant content and discourse expertise.</td>
<td>Membership reserved for those with high level of content and discourse expertise and qualifications.</td>
</tr>
</tbody>
</table>

*Note.* Throughout my study I refer to MEX U scholars’ (desired) discourse communities, including the most coveted, what I refer to as the international scientific discourse community.

While I acknowledge critiques that the concept of discourse communities is problematic in that it does not create sufficient space for the potentially myriad communities with whom scientists seek to communicate through their research writing (Lillis & Curry, 2010), I argue that the broad concept of DCs is helpful in conceptualizing the domestic and (more specifically) international scientific research communities with which the scientists taking the AWC under investigation hope to participate in (more fully) through publishing a research article in an international scientific journal. For the purposes of this study, I use the concept of discourse communities to better understand emerging and established scholars’ differing attitudes towards EILS and their associated writing practices (including potential challenges) when attempting to produce articles for publication. Ultimately my critical, triangulated, conceptual lens for approaching, viewing, and analyzing MEX U scientists’ experiences includes integrated notions of linguistic imperialism, linguistic capital and symbolic power, and discourse communities (see Figure 2).
Chapter Summary

This chapter outlined the major theoretical pillars of my theoretical framework when approaching the major research questions guiding this study as well as the additional concept that makes up my integrated conceptual lens for analyzing and interpreting this study’s findings. Theories of linguistic imperialism (Phillipson, 1992, 2008), social/linguistic capital, symbolic power, and the production and reproduction of legitimate language (Bourdieu 1984, 1991) provide the mainframe by situating emerging and established scholars’ experiences with English as an international language of science and English for research publication purposes within an asymmetrical global sphere of scientific knowledge production. The concept of discourse communities (Swales, 1990, 2004) provides further detail to this integrated conceptual framework, potentially allowing for a more nuanced analysis and interpretation of MEX U scientists’ attitudes, motivations, and practices vis-a-vis English/Spanish for research publication purposes as a means of becoming (more legitimate) members of either international or regional/domestic scientific discourse communities. This chapter concludes with a figure representing this integrated conceptual lens as I move forward to discuss the methodological
approach to answering questions surrounding MEX U scientists’ experiences with English as an international language of scientific communication.
Chapter 4
Research Methodology

To better understand MEX U scientists’ experiences with English as an international language of scientific communication, a case study methodology was chosen. The case (MEX U AWC) was used as a window into MEX U scientists’ experiences of English as an international language of science (EILS), including their perceptions of EILS, their multilingual writing for publication practices, and their perceptions of an English for research publication purposes (ERPP) course designed to address their writing for publication challenges. This chapter further explains the methodological approach adopted to investigate my overarching research question and three sub-questions:

i) What are MEX U scientists’ experiences with English as language of scientific communication?
ii) What are emerging and established scientists’ attitudes towards English as an international language of science?
iii) What are emerging and established scientists’ English for research publication purposes challenges?

How do scientists (and other participants) perceive the efficacy of the MEX U academic writing for publication course aimed at addressing their writing for publication challenges?

This chapter includes a description of various elements of my methodological approach including the philosophical and practical rationales behind my case study approach; an overview of the data collection and analysis tools employed; a contextualization of the study through a brief description of the various participant groups; a discussion of issues surrounding validity and transferability; my reflexive positioning as a researcher, and a discussion of ethical considerations surrounding data collection, analysis, interpretation, and dissemination of study findings.

Case Study

Though at times implicit, all research represents an ideology concerning the nature of reality, a philosophical basis regarding the nature of knowing, as well as various practical methods for studying phenomena (Denzin & Lincoln, 2005). Following a long tradition of qualitative inquiry
in the discipline of social sciences (Denzin & Lincoln, 2011; Miles & Huberman, 1994), and the fields of Applied Linguistics (Duff, 2008), and Education (Merriam, 2008), I chose a case study approach for several salient reasons. Paradigmatically, a qualitative approach was selected primarily because gaining insight into critical questions surrounding attitudes and power relations are best answered with rich, descriptive data collected from multiple participants. A qualitative approach was used in this study to “empower individuals” (Creswell, 2013, p. 48) to share their experiences, stories, attitudes, etc. in order to allow us to better understand the myriad experiences of Mexican scientists with English as an international language of science and their complex challenges when trying to publish scientific research articles in English. My approach and philosophical assumptions are embedded within an interpretive framework for approaching the research questions guiding this study. Borrowing from Creswell (2013) and Denzin and Lincoln (2011), I describe my approach as containing elements of critical, pragmatic, and social constructivist interpretive frameworks (see Table 2).

Table 2

<table>
<thead>
<tr>
<th>Interpretive Frameworks</th>
<th>Ontological Beliefs</th>
<th>Epistemological Beliefs</th>
<th>Axiological Beliefs</th>
<th>Methodological Beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Constructivism</td>
<td>Multiple realities are constructed through our lived experiences and interactions with others.</td>
<td>Reality is co-constructed between the researcher and the researched and shaped by individual experiences.</td>
<td>Individual values are honored, and are negotiated among individuals.</td>
<td>More of a literary style of writing is used. Use of an inductive method of emergent ideas (through consensus) obtained through methods such as interviewing, observing, and analysis of texts.</td>
</tr>
<tr>
<td>Pragmatism</td>
<td>Reality is what is useful, is practical, and &quot;works&quot;.</td>
<td>Reality is known through using many tools of research that reflect both deductive (objective) evidence and inductive (subjective) evidence</td>
<td>Values are discussed because of the way that knowledge reflects both the researchers’ and the participants’ views.</td>
<td>The research process involves both quantitative and qualitative approaches to data collection and analysis.</td>
</tr>
<tr>
<td>Critical</td>
<td>Reality is based on power and identity struggles. Privilege or oppression based on race or ethnicity, class, gender, mental abilities, or sexual preference.</td>
<td>Reality is known through study of social structures, freedom and oppression, power, and control. Reality can be changed through research.</td>
<td>Diversity of values is emphasized within the standpoint of various communities.</td>
<td>Start with assumptions of power and identity struggles, document them, and call for action and change.</td>
</tr>
</tbody>
</table>

Case study research “explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in depth data collection involving multiple sources of information…and reports a case description and case themes” (Creswell, 2013, p. 97). In choosing the MEX U academic writing for publication course (MEX U AWC) as the bounded case through which to explore MEX U scientists’ experiences with English as a language of
scientific communication, I attempted to highlight the writing for publication experiences of these scholars as they relate to broader issues of power and legitimacy outside of the classroom.

A number of key attributes or principles of a case study in the field of Education are outlined by Merriam (1998): boundedness or singularity; in-depth study; multiple perspectives or triangulation; particularity; contextualization; and interpretation. The instrumental case study approach adopted for my study fulfills the criteria or characteristics outlined by Merriam in that the study was of an AWC (bounded unit of analysis), with an in-depth focus on themes related to the experiences with and challenges of academic publication in English (in-depth) gained from perspectives of all relevant participants (triangulation) involved in the course offered by MEX University in Mexico and Canada between 2011 and 2013 (contextualization), with a view to analyzing the multiple perspectives. Given that the multiple research questions surrounding Mexican scientists’ experiences with English for research publication purposes, I position this study as a descriptive, instrumental, single-case case study (Cresswell, 2013; Stake, 1995; Yin, 2014). Table 3 outlines how I position my particular case study in relation to various qualitative research experts’ descriptors: instrumental/collection, particular, descriptive, and heuristic. An instrumental case study design was chosen, using the MEX U AWC as a single case through which to investigate several units of analysis (scholar groups) and in order to provide revelatory and longitudinal data on the course as offered over several years (Yin, 2014).
Table 3

Attributes of my Case Study and How it Meets Various Case Study Criteria

<table>
<thead>
<tr>
<th>Case study descriptor</th>
<th>Researcher(s)</th>
<th>My study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploring a real-life contemporary, bounded system or case</td>
<td>Creswell (2013); Yin (2009)</td>
<td>Academic writing for publication course between 2011-13</td>
</tr>
<tr>
<td>Specific unit(s) of analysis</td>
<td>Yin (2009)</td>
<td>Faculty versus PhD student experiences and attitudes</td>
</tr>
<tr>
<td>Particularistic – focused on a particular program or problem in a specific context</td>
<td>Merriam (1998); Miles &amp; Huberman (1994); Stake (2005)</td>
<td>Mexican scientists’ writing of research articles in English for publication in international scientific journals</td>
</tr>
<tr>
<td>Descriptive – provides an in-depth description and understanding of the problem or phenomenon</td>
<td>Creswell (2013); Yin (2009)</td>
<td>Multiple descriptive data collection methods gaining multiple perspectives</td>
</tr>
<tr>
<td>Heuristic – bring about NES understanding of the problem or phenomenon by the reader</td>
<td>Merriam (1998); Stake (2005)</td>
<td>Explain attitudes and challenges to publication and evaluate AWC in mediating challenges experienced by faculty and PhD students</td>
</tr>
<tr>
<td>Instrumental</td>
<td>Creswell (2013); Yin (2014)</td>
<td>Focused on the issue of Mexican scientists’ academic writing for publication through a bounded case (AWC)</td>
</tr>
</tbody>
</table>

Framing my case study in the field of Applied Linguistics.

The case study has long been used in the field of Applied Linguistics, but has gained particular traction as an approach in the past thirty years and has, according to Duff (2008), been “very productive and influential” (p. 36) particularly in the sub-field of L2 writing research. Further, Brain (2002) compellingly argues that an in-depth understanding of NNESs acquisition of academic literacy “must be in the form of case studies…[as they] provide rich information about the learners, the strategies they use to communicate and learn, how their personalities, attitudes, and goals interact with the learning environment, and the nature of their linguistic growth.” (p. 66) My study is far from the first to address questions of power and equity in NNES academic writing for publication and attempts to build on previous case studies’ efforts to understand issues related to NNES challenges in writing for publication in English (Braine, 2005; Casanave, 2002; Englander, 2009; Li & Flowerdew, 2009).

Although many case studies in the field have been intrinsic ones—focused on the individual learner/teacher/speaker—there is a growing recognition in Applied Linguistics that instrumental case studies, such as mine, are advantageous in that they account for and correct for weaknesses in other approaches. There are many advantages to using a case study approach, including a high depth of analysis, a high level of readability and, according to Duff (2008), this approach may
produce “new understandings about the nature of language learning or other processes” (p. 43)—in this case, new understandings of the experiences of NNES periphery scientists with academic writing for publication. Foremost among the multiple advantages of a case study approach to understanding issues related to NNES academic writing for publication and advancement is the ability to use multiple forms of qualitative data collection to provide thick description and triangulation, resulting in an in-depth understanding of complex issues. This study involves several data collection methods and analysis that employ varying lenses, allowing for a focus that looks at multilingual scholars’ experiences using a wide-angle lens when considering group relations of power and zooms into close-up focus on (teaching) writing practices and processes when appropriate. By employing a study design that allows for focus on individuals and their perspectives, this study provided a thorough description of the case, including triangulated perspectives (see next section) from those taking the course as well as other participants (administrators, supervisors, scientific journal editors) connected with the course. Ultimately, completing a case study of an academic writing for publication course (MEX U AWC) allowed me to engage with multiple perspectives from different participants—from administrators to instructors to journal editors to faculty and PhD students—in order to better understand the role of individuals in navigating and mediating the challenges and pressures related to English as a language of international scientific communication.

Triangulation.

My critical, pragmatic, social constructivist framework and collective case study approach relied heavily on the notion of triangulation: ontologically, epistemologically, and methodologically. Triangulation, originating from the fields of surveying and navigation (suggesting several independent sources of evidence increases the confidence at arriving at a conclusion), is an essential component of any qualitative study, especially when using an instrumental case study approach (Yin, 2014). According to Duff (2008), “data, methods, perspectives, theories…can be triangulated in order to produce either converging or diverging observations and interpretations” (p. 30). A triangulation of perspectives in relation to the experiences, challenges, and attitudes of MEX U scientists is sought through application of various data collection tools. Indeed, this study incorporated the notion of triangulation on many levels, including epistemologically (as described in this section), theoretically (see Chapter 3), and methodologically (see data collection and analysis).
Stake (2005) states, “triangulation can be used to ascertain multiple forms of interpretation (or multiple realities) at work in order to clarify meaning by identifying different ways the case is being seen” (p. 454). Key to my approach was an assertion and assumption that reality exists in multiple forms and a researcher has a responsibility to present different perspectives in order to arrive at the truth(s). Further, while these multiple perspectives on reality were (co-) constructed through (participant and researcher) lived experiences, power and privilege form a major part of these (at times unequal) relations, and thus must be highlighted in order to provide an open account of these truths. Absolute truth is not the goal of this research; rather multiple perspectives combined with a detailed account of the particular context and questions under investigation should provide the reader with sufficient knowledge to come to reasonable conclusions.

**Contextualization: Research Sites and Participants**

Whereas the background information in Chapter 1 touched on the social, historical, and cultural contexts surrounding this study, this section focuses on the instructional and institutional context, with a description of the research sites and key participants involved in the study.

**Mexico.**

The academic writing for publication course (MEX U AWC) was offered at various MEX University campuses across Mexico four times between 2011 and 2013, with the two of the courses taking place at the main campus in Mexico City, one in Morelia, and one in Taxco. On-site data collection occurred primarily at the main campus in Mexico City as well as at a satellite campus in Morelia, Mexico. Most of the graduate students and faculty taking the course were commonly studying or employed as faculty at the main campus where data collection occurred but some traveled from campuses across Mexico to participate in the AWC. Administration of the AWC in Mexico was done through MEX University-Canada and facilitated by MEX University-Canada’s academic coordinator, who traveled to Mexico to be present during the course. All instructors teaching the course offered in Mexico were instructors from MEX University-Canada, an extension school. The course ran morning sessions, where

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6. Mexico was originally supposed to be a secondary research site for this case study. However, as the course scheduled for delivery in Canada in July 2013 was cancelled, much more onus was given to using the June 2013 course as a main focus of data collection.
students of all proficiency levels are together in one classroom on campus for a lecture and then split into intermediate (CEFR B1) and advanced (CEFR B2) levels for the afternoon sessions. Participants, both emerging and established scholars, were generally from the same or related disciplines or sub-disciplines. While taking the AWC in Mexico, students were encouraged to stay on campus as much as possible and to dedicate themselves fully to producing a significantly improved, potentially publishable manuscript by the end of the course.

Canada.

MEX University-Canada is located in central Canada, on the border between the Canadian provinces of Ontario and Québec. MEX University-Canada is in essence a language school operating year-round, with foreign language courses offered in Spanish along with second language courses offered in both English and French. In line with MEX University’s policy of internationalization, the extension school also offers cultural workshops and events aimed at spreading knowledge regarding Mexican literature, art, political thought, etc. MEX University-Canada was responsible for the design and implementation of the AWC in Canada and in Mexico between 2011 and 2013. When offered in Canada, the MEX U AWC ran concurrently to Spanish language courses being offered to Canadians (adults) and English and French courses to Mexicans (teens and adults). The AWC was independent of the other language courses occurring in the school, however, as were the instructors involved in teaching the AWC, with students and instructors dedicated solely to the intensive writing for publication course over the 2 or 3-week period. The AWC took place in Canada three times between 2011 and 2013. The AWC as offered in Canada took place in one large classroom during morning sessions, where all students attended the same lecture, regardless of proficiency level, and two separate classrooms during afternoon sessions, when students were separated into intermediate and advanced proficiency level sections. Though the course was demanding (8-10 hours per day) students attending the AWC in Canada were encouraged to immerse themselves, linguistically and culturally, in the city and surrounding areas whenever possible. Many events and festivals occur in central Canada in the month of July and students were encouraged to participate in these events, with the hope that further exposure to the target language aided their spoken (if not written) proficiency.

Scope of case study.

As seen in Figure 3, the MEX U AWC as the case of analysis was offered seven times in the two
years between the pilot course in 2011 and the June 2013 course during which the majority of qualitative data collection occurred.

Figure 3. Scope of my case study: MEX U AWC 2011-14. MEX U AWC as offered between 2011 and 2013 with the first seven boxes representing the iterations of the course falling inside the scope of this study. The case as investigated in this study includes iterations of the course offered between July 2011 and January 2013. The June 2013 course is bolded as this is where the majority of the data collection occurred. The January 2014 course did not form part of the case but was a site of major onsite data collection and is therefore bolded.

**Sampling.**

Upon gaining access to the research site and participant pools I decided to employ a mixed sampling approach, in line with what has been described as purposeful sampling (Creswell, 2013; Miles & Huberman, 1994). Potential participants (graduate students and faculty) were contacted via email from the researcher requesting participation (see Appendix A). Past course participants were asked to contact the researcher either in person (when onsite) or via email to volunteer to participate in the focus group and/or interview phases. All students who took the course between 2011-2013 were asked to fill out the post-course survey (see Appendix B). 54/91 former course participants completed the survey-questionnaire between June and August 2013. Those chosen to participate in the post-questionnaire data collection (interviews and focus groups) were chosen purposefully as representative samples of the participant populations; ultimately I chose more interviewees than expected for semi-structured one on one interviews. To stimulate greater participation from past course participants, the academic directors of MEX
University-Canada sent a follow-up email requesting former course participants consider contacting the researcher to volunteer for individual interviews. Ultimately, I accepted as many former course participants as were willing to participate in any phase of data collection, receiving more than anticipated in all instances. In total, 47 participants were interviewed between June 2013 and August 2014 (see Table 4 for overview of participants). While this sampling approach can be seen as purposeful (serving multiple needs), I ultimately took advantage of opportunistic sampling, where word of mouth led to additional interviewees (such was the case for several scientific journal editors). Overall, these sampling approaches—described under the umbrella of purposeful sampling—yielded what I claim was the maximum amount of triangulation, providing flexibility in data collection, and meeting the multiple interests of this research project (Miles & Huberman, 1994).

Participants

In this section, I provide a brief overview and some exemplars of the various participant groups from this study. I have chosen to highlight only particular individuals who appear frequently in the findings chapters of this thesis (See Appendix C for a complete listing of interview participant profiles). Before proceeding to a description of each participant group, Table 4 provides an overview of the study participant numbers and how many individuals participated in each segment of data collection.

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7. MEX University-Canada was a willing partner throughout this research project process and provided me access to all requested documents and materials related to the design and delivery of the AWC as well as contact information for all course participants between 2011 and 2013. Further, MEX University-Canada allowed me unfettered access to the research sites, both in Canada and Mexico, as I carried out the research, including real-time delivery of the course over 3 weeks in June 2013.
Table 4

Overview of Participants by Sub-group

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Individual interviews</th>
<th>Focus group interviews</th>
<th>Post-course survey</th>
<th>Classroom observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Administrators</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Instructors</td>
<td>7</td>
<td></td>
<td></td>
<td>3 (3 per instructor)</td>
</tr>
<tr>
<td>Faculty supervisors</td>
<td>9 (8 faculty, 1 post-doc)</td>
<td></td>
<td>17 (16 faculty, 1 post-doc)</td>
<td></td>
</tr>
<tr>
<td>Graduate students</td>
<td>20 (12 PhD, 3 MSc)</td>
<td>5 (4 PhD, 1 MSc)</td>
<td>38 (32 PhD, 6 MSc)</td>
<td></td>
</tr>
<tr>
<td>Scientific journal editors</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total participants</td>
<td>47</td>
<td>5</td>
<td>54</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: Follow up interviews were conducted with 2 main administrators. One post-doctoral student (post-doc) was labeled as faculty for the purposes of this study.

**MEX University PhD students and faculty supervisors.**

Forming the vast majority of participants in the AWC, doctoral student course participants were all Latin American, Spanish L1 speakers and writers enrolled full-time in doctoral studies at MEX University. Students who took the AWC in Mexico between 2011 and 2013 were almost exclusively from the health and life sciences. In addition to Mexican graduate students, participants included graduate students from Argentina (one) and Chile (two). Students who took the course in Canada were also from the health and life sciences (with approximately 10% coming from the social sciences or humanities). Doctoral students differed in gender, age, EAW proficiency, stage of doctoral studies as well as other variables. Table 5 below outlines representative participant profiles gathered through post-course survey, only highlighting essential variables such as title, disciplinary background, English and Spanish academic writing proficiency, and number of peer-reviewed publications in English and Spanish. Information included in Table 5 is enough to provide a snapshot of these participants without compromising their identities.
Table 5
Graduate Student Interviewee Background Information

<table>
<thead>
<tr>
<th>Interviewee pseudonym</th>
<th>Title</th>
<th>Disciplinary background</th>
<th>Academic writing proficiency (self-rated)</th>
<th>Peer-reviewed publications (in English)</th>
<th>Peer-reviewed publications (in Spanish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patricia</td>
<td>PhD student</td>
<td>Biological Sciences</td>
<td>Poor</td>
<td>1-2</td>
<td>3-5</td>
</tr>
<tr>
<td>Javier</td>
<td>PhD student</td>
<td>Biological Sciences</td>
<td>Good</td>
<td>3-5</td>
<td>6-9</td>
</tr>
<tr>
<td>Miguel</td>
<td>PhD student</td>
<td>Environmental Sciences</td>
<td>Fair</td>
<td>0</td>
<td>3-5</td>
</tr>
<tr>
<td>Rosa</td>
<td>PhD student</td>
<td>Environmental Sciences</td>
<td>Fair</td>
<td>1-2</td>
<td>0</td>
</tr>
<tr>
<td>Yolanda</td>
<td>Post-doctoral student</td>
<td>Environmental Sciences</td>
<td>Good</td>
<td>0</td>
<td>3-5</td>
</tr>
<tr>
<td>Gabriela</td>
<td>Master of Science student</td>
<td>Biological Sciences</td>
<td>Poor</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Forming approximately 15% of the course participants, faculty participants were an integral part of the participant population (see Table 6 for representative profiles). All faculty participants were Mexican, with the exception of one Cuban researcher. Faculty taking the AWC in Mexico and Canada were often supervisors of one or more of the doctoral students taking the course at the same time. Faculty members who took the course were from the same faculties as the doctoral students. Doctoral students participating in the course always did so with the knowledge and (in-person or by-distance) support of their faculty supervisor and/or department. Participating supervisors were invaluable in terms of their established scholar perspectives, particularly on the growing necessity of academic writing skills in English for PhD student graduation and academic career advancement. Supervisors and other faculty were interviewed regarding what they perceive to be the major academic writing for publication challenges facing MEX U PhD students and faculty as well as their attitudes towards English as an international language of scientific communication. It is through these perspectives that this study gathered sufficient data to suggest similarities and differences between emerging (PhD) and established (faculty) scholar experiences and challenges with and attitudes towards English as an international language of scientific communication.
Course instructors.

There were three instructors per course (all Canadian), one for each week/module of the academic writing for publication course. The week 1 instructor was the same for all courses delivered in Canada and Mexico between 2011 and 2013 while the other instructors (including myself) varied depending on the iteration of the course. Course instructors were not university professors but rather English language teachers associated with the MEX U-C extension school. The Week 1 instructor (Janet) was also one of the course designers and was interviewed in much greater depth than the other instructors. In addition to being a course designer and instructor, Janet had a somewhat different background than the other instructors as she was a science writing editor rather than a language instructor. Each of the instructors, who differ in age, education, teaching experience, etc. (see Table 7 for representative profiles) were interviewed at length regarding his/her perspective on the main academic writing (for publication) challenges facing Mexican scientists as well as their perceptions of how well the AWC addressed these emerging and established scholars’ challenges with academic writing in English.
Course designers and administrators.

There were three specific administrators (school director; academic liaison; course designer) who can be considered the principal or key architects of the MEX University-Canada AWC (see Table 8). All based on site in Canada, they were all interviewed at length regarding their academic and teaching backgrounds, experience with academic writing for publication in English, perspectives regarding English as an international language of scientific communication, the academic writing for publication challenges facing MEX U scientists, and their perceptions of how the AWC addresses these challenges. Two of the course designers/administrators were interviewed twice.

Scientific journal editors and scientific writing experts.

For each course delivered between 2011 and 2013, one journal editor (see Table 9 for representative profiles) of a leading journal from the particular scientific field of the course
cohort gave an on-site guest lecture providing guidance and advice to both emerging and established scholars regarding successfully achieving publication in international scientific journals. I interviewed one editor from each of the the seven MEX University AWCs offered between 2011-2013 regarding their perceptions of NNES and Mexican scholars’ academic writing for publication challenges, the necessity of publishing in English for academic advancement, and access and equity issues regarding international (specifically Mexican) manuscript submissions. Seven of the editors were North American and one was Australian. Two additional scientific writing experts were interviewed even though they were only tangentially connected to the AWC. All scientific journal editors and writing experts have or had acted as editor-in-chief of an international English-language scientific journal in the health or life sciences.

Table 9
Course Guest Lecturer (Scientific Editor) Interviewee Background Information

<table>
<thead>
<tr>
<th>Interviewee pseudonym</th>
<th>Title</th>
<th>Disciplinary background</th>
<th>Academic writing proficiency (self-rated)</th>
<th>Peer-reviewed publications (in English)</th>
<th>Peer-reviewed publications (in Spanish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul</td>
<td>International scientific journal editor</td>
<td>Biological Sciences</td>
<td>N/A</td>
<td>10+</td>
<td>0</td>
</tr>
<tr>
<td>Stewart</td>
<td>International scientific journal editor</td>
<td>Biological Sciences</td>
<td>N/A</td>
<td>10+</td>
<td>0</td>
</tr>
<tr>
<td>George</td>
<td>International scientific journal editor</td>
<td>Veterinary Sciences</td>
<td>N/A</td>
<td>10+</td>
<td>0</td>
</tr>
<tr>
<td>John</td>
<td>International scientific journal editor</td>
<td>Environmental Sciences</td>
<td>N/A</td>
<td>10+</td>
<td>0</td>
</tr>
</tbody>
</table>

Data Collection

This section includes a description of the multiple data collection tools employed in order to gain multiple perspectives while investigating the experiences, attitudes, and challenges of MEX U scientists with English as an international language of scientific communication. Each tool is briefly described below, in chronological order, beginning with documents for analysis. Data were collected between January 2013 and August 2014 with the majority of collection taking place through two main tools: i) a post-course survey; and ii) individual semi-structured interviews. For a detailed overview of data collection, see Table 10.
Table 10

Data Collection Summary and Timeline

<table>
<thead>
<tr>
<th>Data Collection Tool</th>
<th>When</th>
<th>Where</th>
<th>How</th>
<th>Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Analysis</td>
<td>January 2013 – August 2014</td>
<td>Toronto and Mexico City – accessed electronically</td>
<td>Accessing public electronic documents as well as materials and design documents provided by MEX University-Canada</td>
<td>Researcher and MEX University administration</td>
</tr>
<tr>
<td>Survey</td>
<td>May - August 2013</td>
<td>Mexico – survey accessed electronically</td>
<td>Course participants filling out 30-minute online survey</td>
<td>54 MEX University PhD students and faculty</td>
</tr>
<tr>
<td>Classroom Observations</td>
<td>June 2013</td>
<td>MEX University course locations in Mexico</td>
<td>Researcher observing 3 90-minute lecture segments per instructor (9 total)</td>
<td>3 instructors and course participants in a classroom setting</td>
</tr>
<tr>
<td>Interviews</td>
<td>June/July 2013 and January 2014</td>
<td>MEX University classrooms, interviewee offices, via Skype from researcher office</td>
<td>Researcher asking questions from semi-structured interview protocol – 60 minute maximum</td>
<td>2 MSc students; 14 PhD students; 13 faculty; 4 course administrators; 6 course instructors; 7 journal editors; 1 national science council administrator</td>
</tr>
<tr>
<td>Focus Group Interviews</td>
<td>June 2013</td>
<td>MEX University classroom</td>
<td>Researcher facilitating by posing questions from semi structured focus group protocol</td>
<td>1 group of 3 PhD students; 1 group of 1 MSc and 3 PhD students</td>
</tr>
<tr>
<td>Follow up interviews</td>
<td>August 2013 – August 2014</td>
<td>MEX University classroom and electronically via Skype</td>
<td>Researcher asking follow up questions related to previous administrator interview responses</td>
<td>MEX University writing course administrators</td>
</tr>
<tr>
<td>Summary</td>
<td>January 2013 - August 2014</td>
<td>Canada and Mexico</td>
<td>Qualitative data collection tools and a post-course survey</td>
<td>54 survey respondents, 47 interviewees</td>
</tr>
</tbody>
</table>

Note: Intensive periods of data collection occurred in May – August 2013 and January 2014.

Document analysis.

Document analysis is a traditional method of data collection associated with a case study approach (Yin, 2009). Documents analyzed included both publically available information, such as that available on university and Mexican national science and technology council (CONACYT) websites and databases, as well as private e-documents made available by MEX University-Canada such as course design and instructional materials. Analysis of these documents between 2013 and 2014 served multiple purposes, including providing detailed background information regarding the case under investigation and the embedded units of investigation at each site (faculty and PhD students). Examples of documents analyzed included those available on MEX University and MEX University-Canada websites as well as specific course design blueprints and modules. Examination of course-related documents occurred both
prior to the course taking place as well as after in order to better understand the theoretical and pedagogical approaches to teaching academic writing for publication to MEX U scientists, including a detailed approach on how the course aimed to address the writing for publication needs of both PhD students and their faculty supervisors. Analysis of MEX University and CONACYT website provided information about the national and institutional expectations and evaluation policies surrounding publication of research articles in indexed journals.

Post-course survey.

Whereas surveys are generally well suited for quantitative studies and statistical analysis, I argue they were a fundamental component of this study by providing a broad understanding of faculty and PhD student perspectives regarding attitudes towards and experiences with academic writing for publication at a minimal expense of time, effort, and resources. The post-course survey provided a basis for descriptive statistical analysis (using Survey Wizard 2 software) within and across participant sub-groups. The survey followed an orderly style and was piloted on one MEX U PhD student and one faculty member prior to employment in this study in order to assess clarity, coherence, appropriateness, and length of the survey. The survey was in English as all participants had sufficient language proficiency to competently complete the survey in the target language. Of note, follow-up interviews were conducted in English and Spanish, depending on the fluency of the participant.

The post-course survey (see Appendix B) was employed to gain overall descriptive background information as well as a general understanding of attitudes towards English as an international language of science, academic writing experiences and challenges, and the perceived efficacy of the AWC in addressing these challenges. The survey was distributed online to all 91 participants (approximately 13 from each course offered between 2011-2013) with 54 completing the survey between June and August 2013. Those who took the course in June 2013 took the survey almost immediately post-course, while those who had taken the course before this time obviously took the survey several months (up to two years) following course completion. Perhaps due to time elapsed since taking the course, the total response rate was low at 59% and more participants from courses offered in 2013 responded than those who had taken the course in 2011 and 2012. However, survey respondents represented well the overall population of course participants 2011-2013, with participation from 76% (41/54) graduate students and 24% (13/54) faculty.
The survey was simple and straightforward, allowing all participants to complete the English-medium online document easily and in a timely manner. The survey was designed to take no longer than 30 minutes and the average time was 19 minutes. Survey Wizard 2 software provided by the University of Toronto Education Commons was used to create a user-friendly format where participants responded to closed questions regarding their backgrounds, exposure to English and English writing, as well as Likert scale questions regarding the greatest challenges to publishing in English and their attitudes towards English as an international language of science. Although open-ended questions provide far greater detail, these surveys were meant to gather general perspectives and provide a basis for further investigation of attitudes through semi-structured interviews and focus groups.

Confidentiality and complete anonymity were built into the survey, with respondents having the ability to volunteer for participation in further data collection phases (interviews and/or focus groups). Students needed not identify themselves when completing the online survey and no questions included on the survey requested student identification in any form except for when requesting student participation in further data collection phases. If students wanted to volunteer for participation in further data collection phases, they were required to provide their email contact information, thereby partially compromising their anonymity. The online survey followed Dornyei’s (2003) suggestions for ethical survey use and was accompanied by a letter of greeting/instruction (see Appendix A) describing the research project, those responsible for conducting the study, emphasizing there were no right/wrong answers, requesting honest answers, promising confidentiality and anonymity (if chosen to be maintained) and thanking the respondents for their time and effort.

**Classroom observations.**

While a minor data collection tool in this case study, classroom observation proved useful in that it allowed for direct observation of instructor and student behaviour within the different case sites, largely useful for understanding participants’ perceived efficacy of the AWC and how attending to the academic writing challenges highlighted by administrators and course designers were operationalized by instructors. Nine total classroom observations were carried out during

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8. Some of the questions eliciting student attitudes regarding EILS were loosely adapted from survey-questionnaires employed by Hanauer and Englander (2011) and Perez-Llantada et al. (2011) in their studies investigating Spanish L1 scholars’ publishing practices.
the first two weeks of the June 2013 course in Mexico. Observations were carried out during three lecture portions for each instructor, with occasional unscheduled observations (5 in total) of sessions where instructors circulated as facilitators during participants’ individual writing time. The observations were tabulated in a logbook as part of my field notes and formed part of the descriptive data set regarding major participant writing for publication challenges and how the AWC addressed these challenges (see Appendix D). These notes also included my own reflexive teaching observations from my experiences teaching different course sections in 2012 iterations of the AWC. The observations at times informed modifications to subsequent data collection, such as focus group and post-course interview protocols and allowed for deeper connections to be made related to instructor, PhD student, and faculty challenges and experiences with English for research publication purposes and the AWC.

**Semi-structured individual interviews.**

Interviews, the most important data collection tool available for any instrumental/collective case study, including this particular one, were essential to an in-depth understanding of the experiences of Mexican scientists with English, including the main challenges facing scientists’ when attempting to achieve publication in international scientific journals, the perceived efficacy of the AWC in addressing these challenges, and, perhaps most importantly, perspectives regarding English as an international language of scientific communication. Interviews provided a particularly rich data set to a level of saturation for each sub-group of participants with 54 interviews conducted with 47 participants including 2 MSc., 14 PhD, 13 faculty (including four department heads, 6 senior faculty, 2 junior faculty, and one post-doctoral fellow), 4 administrators, 6 instructors, 7 scientific journal editors, and 1 Mexican national science council (CONACYT) administrator. Interviews were carried out in three main phases in June 2013 (Mexico), July 2013 (Canada), and January 2014 (Mexico).

Interviews with participants were employed in order to obtain multiple, descriptive perspectives. These interviews provided a set of data from which major themes could be drawn and analyzed in tandem with data sets from other data collection tools. Interviews were carried out in English; however Spanish was also employed by the researcher most commonly as a time-saving device, providing quick translations or clarifications. MEX U scholars occasionally code-switched from English to Spanish, often when discussing a topic that evoked an emotional response. I highlight this code-switching from time to time when presenting findings in Chapters 5 to 7. Also of note,
while the interviews were semi-structured, participants were provided with opportunity to expand on their experiences (and often did) beyond the scope of the questions contained on the protocol.

The vast majority of interviews were conducted in person; however several interviews were conducted using SKYPE or telephone. Interviews were conducted using a semi-structured approach with an interview protocol designed and piloted for each sub-group of interview participants: students and faculty (see Appendix E), administrators (see Appendix F), editors (see Appendix G), and instructors (see Appendix H). Interview protocols differed only slightly between students, instructors, administrators, and scientific journal editors, with brief questions related to background information followed by questions related to main academic writing challenges, the efficacy of the AWC in addressing these challenges, and perspectives on English as an international language of science. Interviews lasted on average 60 minutes so as not to overly inconvenience the interviewees. Interviews were semi-structured but left enough leeway for participants to discuss their experiences with EILS, ERPP, and the AWC in detail. Interviews with administrators, instructors, scientific journal editors, and student participants were requested via email (see Appendix I). Interviews were conducted in a classroom provided on-site at MEX U by MEX University-Canada or in the interviewee’s office space at MEX U. An audio data recorder was employed to record the interviews (with permission of the interviewee). Following interviews, data were immediately transferred to my laptop where it remained encrypted and locked (MAC OSX operating system file vault access) while awaiting transcription and then re-encrypted and locked on an external hard drive device following transcription. Interviewee consent was gathered upon sitting down to conduct the one-on-one interview, with the researcher advising the interviewee of their right to withdraw at any time and/or not answer any question, providing a further description of procedures taken to ensure participant anonymity (beyond identification to the researcher of course) and confidentiality, and a requesting that the interviewee answer in a forthcoming manner.

**Focus group interviews.**

Two focus group interviews were conducted with sets of emerging scholars (MSc and PhD) at MEX U. Interviews were requested via e-mail letter (see Appendix J) and conducted in a classroom arranged by MEX U-C in Mexico in June 2013. The focus group format facilitated gathering of more sensitive or polemic information in a group discussion format that could have
otherwise been more difficult to obtain through survey-questionnaires or one-on-one interviews. This format appeared to provide participants—some of whom were not willing to participate in an individual interview—a more comfortable platform on which to express their beliefs on polemic issues, such as the perceived necessity of publishing in English for graduation. These perspectives were invaluable to better understanding emerging scholar attitudes towards English and are highlighted in the findings chapters. To stimulate honest and open discussion and to maintain anonymity, focus groups were carried out in a segregated manner with PhD students interviewed separately from faculty (see Appendix K). Focus groups were conducted using the same procedures to assure and guard confidentiality and relative anonymity (as with the individual interviews), though participants from one focus group were colleagues from the same department and knew each other.

Data Analysis and Interpretation

This section describes the gradual analysis of data carried out during this case study, how data were stored, analyzed, and interpreted, concluding with a brief discussion of the internal and external validity, transferability, and potential limitations of the study (see Figure 4).

Figure 4. Integrated data collection, analysis, and interpretation. Overview of data collection, analysis, and interpretation 2013-2015, with bolded bullet points representing central elements in collection, analysis, and interpretation processes.
Data analysis was carried out continuously alongside data collection between 2013 and 2015. There were three main phases of analysis, beginning with the categorization and coding of all documents (field notes, interview transcripts, e-documents, survey data) into thematic categories related to three research sub-questions, progressing to a data reduction phase where re-coding resulted in the emergence of particular salient themes related to each sub-research question, and finally the integration of all survey and qualitative data (including all follow-up interview data).

Multiple data management and analysis tools were employed when carrying out an initial analysis, including NVivo 10 and Survey Wizard 2. NVivo 10 was employed as the main data storage and management tool for qualitative data gained from classroom observations and other field notes as well as individual and group interviews. Following transcription of 56 interviews, themes were created and data chunks stored under each theme (e.g. perceptions of grammar section of AWC) and for each sub-group of participant (PhD vs. Faculty perceptions). Survey Wizard 2, a self-contained survey collection and analysis tool, separated survey responses by question, producing numerical and graphical representation for each question answered by the complete set of respondents (N=54). This level of data analysis allowed me to answer all three of my sub-research questions in a broad sense, providing me with qualitative data as well as descriptive data across a large number of former course participants. Following the initial analysis and organization of qualitative and survey data into separate data sets, data were reduced in an effort to highlight emerging salient perspectives from each sub-group and related to each theme. Descriptive data sets were dynamic and in flux throughout the data collection and analysis and were constantly re-analyzed, including following collection of follow-up interviews at the end of data collection. The main sub-groups of analysis (faculty versus PhD students) were further compared in terms of attitudes, challenges, and experiences. These perspectives, once highlighted, were then ready to be used by the researcher when writing up the findings chapters. Likewise, survey data were reduced to descriptive data sets for each sub-group and for the participants as a whole using the Survey Wizard 2 software, highlighting salient findings related to each theme that could eventually be inserted into the findings chapters by the researcher. This stage involved re-coding of data from each thematic data set with a heavy focus on reducing large data sets in order to eventually present them in a concise manner while highlighting salient, representative participant voices.

The next stage of analysis included integrating descriptive statistical data from the post-course survey related to each sub-group of participants (PhD versus faculty) with nuanced qualitative
data gathered from classroom observations, field notes, document analysis, and, most importantly, interviews. From this analysis, there emerged representative (and at times divergent) perspectives from sub-groups of participants, perspectives that were inserted by the researcher in the findings chapters. This phase of data analysis included integrating data and answering the three sub-questions in as much detail as possible in order to allow for the deepest possible understanding of the scientists’ experiences with English as an international language of scientific communication. This integrated data consolidation (Greene & Caracelli, 1993) allowed for greater insights into sub-groups of participants’ perspectives on English as an international language of scientific communication, the main publishing challenges facing MEX U scholars, and the efficacy of the AWC in addressing these challenges.

While attending to issues of power, I applied a social constructivist approach to interpreting data, employing an inductive method of emergent ideas through analysis of data collected. Following the integrated data analysis phase, I interpreted the merged data sets with a particular conceptual lens, adding my own perspective to the multiple perspectives of different participant groups. Ultimately I feel my approach to answering questions related to challenges facing MEX U scientists and their attitudes towards English as an international language of science allowed me to best answer these different, but connected research questions in a satisfactory manner, with descriptive, triangulated data leading to context-specific findings and related implications.

**Data presentation.**

An in-depth picture of scholar experiences is presented using a narrative format highlighting participant voices, including a chapter with a detailed overview of participant attitudes towards English as an international language of science, including the growing need for English for research publication purposes (Chapter 5), followed by a description of the main challenges facing Mexican scientists when attempting to achieve publication of research articles in international scientific journals (Chapter 6), and a chapter on the evolution and perceived efficacy of the AWC aimed at addressing these challenges (Chapter 7). Each sub-question is addressed in its own chapter, with embedded discussion connecting findings to previous empirical studies and the overarching conceptual framework. This organization of study findings paves the way for an interpretive discussion chapter (Chapter 8) where the main findings are discussed in more detail in relation to particular literature strands reviewed in Chapter 2 as well as the conceptual framework outlined in Chapter 3. Chapter 8 also outlines the main findings and
implications stemming from this investigation’s findings, including suggestions for future research and implications for several participant groups including policy makers, practitioners, and scientists working at higher education institutions in the global periphery.

**Validity (authentic understanding), quality, and analytic generalizability.**

As this case study was trying to ascertain multiple perspectives on a range of issues, arriving at detailed understandings as opposed to truth, validity can be better described as gaining *authentic*, triangulated, representative perspectives and deriving analytically generalizable (Yin, 2009) lessons from these perspectives. One of the main goals of this research was to give voice to the MEX U scientists participating in the study, allowing them to articulate their attitudes towards and experiences and challenges with ERPP, including the perceived efficacy of an academic writing for publication course in attending to these scholars’ challenges. Validity, or what I would call authentic understanding, was derived from several measures aimed at ensuring the accuracy of the findings, including the triangulation of perspectives of PhD student and faculty voices, but also those involved with mediating these scholars’ concerns, such as writing course designers and administrators and course instructors as well as those deemed *gatekeepers* in this process (international scientific journal editors). Beyond triangulation, several more strategies were employed to ensure validity, including prolonged engagement, clarifying researcher bias, and rich/thick description (Creswell, 2013). It is hoped that triangulated perspectives gleaned from multiple participant groups provided a quality *story*, allowing for not only understanding of MEX U scientists’ experiences with English as an international language of scientific communication but also lessons that may be learned from these experiences. These lessons were then analyzed in a very specific context to arrive at potential analytic generalizability or transferability. The main objective of the study, however, was to obtain a detailed understanding of MEX U emerging and established scholars’ experiences with English, including better understanding their attitudes towards English, their main challenges with writing for publication in English, and their perceptions of the efficacy of a course offered to mitigate these challenges.

**Potential limitations.**

I chose a case study for many reasons outlined at the beginning of this chapter and I believe it to have been the most appropriate design and approach for answering the questions relating to the
diversity and complexity of MEX U scientists’ academic writing for publication experiences. Case studies have their distinct limitations, however, and my study is no exception. First and foremost among the potential limitations are validity-related in that graduate students and their faculty supervisors voluntarily attended the MEX U AWC and therefore may not be fully representative of the wider populations at MEX U. I cannot therefore claim participant representativeness of the entire doctoral student or faculty populations at MEX U. I do argue, however, that those participants highlighted in this study are representative of the population taking the AWC and validity lies in the authentic nature of perspectives gained through extensive, triangulated data collection. Another potential limitation of this study is that I was unable to gain the perspective of certain policy makers at MEX U. These perspectives would have been a welcome addition in relation to the primacy of English language research articles necessary for student graduation as well as for faculty evaluation. Finally, no quantitative data was available on post-course publishing outcomes of past participants, which would have provided a useful data set when discussing the efficacy of the AWC. I argue that the limitations noted above are minimal and do not take away from the important, relevant, and timely nature of this research into the EILS and ERPP experiences of MEX U scientists, an under-researched geo-linguistic population and topic of focus in Applied Linguistics.

Re-visiting Researcher Background and Positioning

Research is undoubtedly value-laden and therefore biased. I have multiple biases when carrying out this research, including a critical philosophical approach leading to a focus on addressing problems of (unequal) power relations as well as views as to what constitutes acceptable written English(es). This places me in the camp of critical researchers who seek to understand the social, political, and economic conditions that they assume may systematically disadvantage certain people…whose languages or whose futures are constrained by the dominance of another language such as English (Pennycook, 2001). As a result of my critical stance and my academic writing instructional experiences, I have an accepting view of what constitutes acceptable scientific ERPP and my attitudes and experience undoubtedly affected the formation of my research questions as well as my data analysis and interpretation of findings. In the case of multilingual scholars experiences with EILS and ERPP, I attempt to highlight their voices and contextually situate their experiences while minding not to position them as deficient users of English but rather multilingual scholars doing science in multiple languages. However, I concede
that my positioning as a centre graduate student investigating questions surrounding multilingual semi-periphery scholars’ perceptions of English and the many interview questions on this topic may have influenced participant responses and directed their discussion more towards their English language practices as opposed to their multilingual practices in English and Spanish. In the spirit of authenticity, I have presented participant responses (in English and Spanish) in their original form and added clarification only if I believed the excerpt to be unintelligible.

Throughout the findings and discussion portions of this thesis, I incorporated self-reflection from past experiences teaching the MEX U-C AWC when considering the (perceived) efficacy of participants, particularly course instructors. I argue that this reflective practice provides a potentially informative perspective; however I attempt to insert this voice in a peripheral way when I believe it effective in adding to the depth of analysis or narrative presentation.

Ultimately, my professional, cultural, ethnic, linguistic background marks me as an outsider (Course instructor; English L1 speaker; Canadian; Caucasian). I am fully aware of my (perceived) position of privilege as a native speaker of the dominant language of academic knowledge production. Further, despite my extensive experience as a language learner (French, Portuguese, and Spanish), teacher, journal editor, and emerging L2 author, I cannot claim to completely understand the pressures the Mexican PhD students and faculty face when trying to publish research articles in English language journals. However, I feel my Spanish L2 proficiency, knowledge of Mexican culture, and academic status as a doctoral student (similar to many of the participants under investigation) may have somewhat mitigated my outsider status and positioned me well to carry out data collection with a reasonable level of trust established through minimizing the perceived distance between myself as researcher and the participants. In an attempt to provide epistemological soundness and the greatest authenticity to the accounts, I attempted to balance my role as outsider (NES researcher) with that of insider (Spanish-speaking, PhD student) while carrying out this research.

**Ethical Considerations**

Ethical clearance to carry out this comparative case study on the AWC at MEX University-Canada was given by the institutional review board at the University of Toronto in May 2013 and access to the MEX U AWC was granted from the director of studies at MEX University-Canada in April 2013. This investigation’s success was due in large part to the goodwill and
participation of MEX U graduate students and faculty, MEX U-C instructors and administrators, and science editors associated to the MEX U AWC and compensation to participants was limited to a promise of an executive summary of study findings and implications targeted to each participant group, optional official certificates of study participation, a randomized giveaway of two iPods in July 2014, and a social event (ceviche party) funded by the researcher.

Throughout the data collection phases, care was given to ensure free and informed consent, anonymity (when possible), and confidentiality. Recruitment letters requested participation of the different participants, highlighting the potential participants’ protections of anonymity and confidentiality, the right to withdraw from participating at any time without consequence, and contact information of the researcher, the research supervisor, and the University of Toronto Ethical Review Board in case of participant concerns or queries regarding the research project (e.g. see Appendix A, E, I). Consent forms likewise highlighted information regarding free and informed consent and confidentiality and were presented to individual participants prior to conducting interviews, both individual and group, to sign (see Appendix O and P). When individual interviews took place virtually, consent was sought verbally. The consent form for the post-course online survey was identical to the other letters of consent but was included in the same email as the letter of introduction. Consent was gained by the participant clicking on a link to the survey. Consent for carrying out research on the MEX U-C AWC was requested from (see Appendix L, M) and granted by (see Appendix N) the MEX University-Canada director. Unusually, MEX University-Canada did not request anonymity and was, in fact, keen to be recognized as the designer and deliverer of this AWC. However, to protect the anonymity of the individual participants in regard to the identification by colleagues, superiors, or others at their home university, pseudonyms were used for both individuals and the University. Other than being known to the researcher, who interviewed them, anonymity was only compromised for those graduate students who participated in focus group sessions, where they were inevitably exposed to their colleagues. Further, surveys were completed anonymously, with an option available for self-identification (only if interested in participation in interviews and focus groups) at the end of the questionnaire. Anonymity and confidentiality were strictly guarded through the use of pseudonyms and the encrypted storage of data, both in the University of Toronto Education Commons server and on my personal laptop and backup devices (USB and external hard drive).
Chapter Summary

This chapter outlined the qualitative paradigmatic approach, including the triangulated epistemological, theoretical, and methodological underpinnings of my instrumental case study approach to investigating the main research question and three sub-questions guiding this study. A description of and rationale for all the data collection methods chosen (post-course survey; classroom observations; document analysis; semi-structured interviews; focus group interviews) preceded an overview of different sub-groups of participants’ background information and description of different phases of data analysis and interpretation. Following a list of potential limitations, this chapter concluded with a discussion of the researcher’s dynamic self-reflexive positioning as well as ethical issues involved in carrying out this investigation.
In addressing the overarching theme of multilingual scientists’ experiences with English as a language of science, this chapter addresses the first research sub-question: What are participant attitudes toward English as an international language of scientific communication? Drawing largely on qualitative data to expand and elaborate on survey findings, this chapter includes findings of the extrinsic motivation behind MEX U scholars’ language choices when writing for publication, a grudging acceptance of the functional necessity of publishing their research in English-medium scientific journals, some frustration and resistance towards the growing publishing expectations facing emerging and established scholars, and a widespread perception among MEX U scholars of bias against non-native English-speaking authors at these international journals. As is the case with each of this thesis’ findings chapters, a brief discussion of the findings in relation to the literature previously reviewed in this thesis and the conceptual framework adopted for interpreting these findings is embedded within the chapter while still leaving substantial space for an analytic discussion in Chapter 8.

Multilingual Authors and Language Choice

Post-course survey results indicate a widespread perception among MEX U scholars that publishing research articles is important for their academic career advancement in both Spanish and, even more so, in English. This perception of the paramount importance of publishing in English appears to be perceived among both emerging and established scholar groups, with 88% of emerging scholars and 72% of established scholars strongly agreeing and 100% of scholars agreeing to some extent with the statement, “Publishing in English is important for my career” (see Figure 5). The following sections outline qualitative data explaining scholars’ perceptions of the (growing) importance of achieving publications in English and how that affects their language choice when disseminating their research findings as well as why and how they choose to publish in both English and Spanish when balancing competing demands and expectations.
Figure 5. Perceived importance of publishing research articles in English. Post-survey results point to overwhelming agreement among emerging and established scholars with the statement, “Publishing research articles is important to my career”.

Why English?

This section provides an overview of emerging and established scholar perspectives on English as a language of scientific communication, highlighting three main categories of reasons for choosing English over Spanish, the L1 of all study participants (see Table 11). As is the case throughout these three findings chapters, tables provide well-articulated, representative voices of participants.
Academic Advancement.

As the largest population of participants in this study, doctoral students repeatedly referred to the policy of their graduate unit as their greatest motivation for, first, taking the MEX U AWC, and second, publishing their research findings in English. Many doctoral students (as well as the few MSc. students who took the course) also spoke to how fulfilling their graduation requirements was their biggest hurdle, one that at times was delaying their graduation even though their dissertation had been written in Spanish prior to constructing an article for publication in English: “I wish I do this course before because now the article is stopping me from formation…I have done everything but this is very difficult for me” (Maria, PhD). While I believe the departmental policy of requiring doctoral students to attain publication of a research article in English is problematic given the overall level of ERPP proficiency at MEX University (see Chapter 8 for implications), it is clearly a strong incentive for doctoral students to begin or continue publishing research articles in English. According to Laura, the head of the Biological Sciences Graduate Studies department (umbrella department that oversees nine distinct departments from which many of the course participants were drawn), the policy is indeed meant to introduce these emerging scholars to a culture of publication in their disciplinary area that necessarily happens largely in English: “These days it is a fact that we must publish in English and we want these students to do this early and then often…it is good for them and good for the University” (Laura, department head).
Graduate students who were considering applying to doctoral programs, post-docs, or faculty positions following graduation also pointed to the importance of publishing research articles in English in order to achieve this academic advancement. Overall, the message of the importance of publishing (in English) for academic advancement has been received loud and clear by graduate students as evidenced by this excerpt from a focus group discussion:

**Leticia (MSc):** I had my final exam of this semester last Friday and I was just talking to my supervisors about make a PhD and we were discussing the topic of my research and one of them said, ‘you have to focus on how you can make different papers out of the result because that’s what they are really going to evaluate and that’s what’s going to be really important and not the result of the [research] investigation’.

**Roberto (PhD):** The most important thing now is to publish; that’s how we get evaluated.

**Fernando (PhD):** For me it is very important to involve with the international research community and to be more confident in [my] profession and be evaluated better.

**Daniel (PhD):** Well I agree with my companions.

Doctoral students very close to graduation seemed acutely aware of the importance of the need for publications on their CVs in order to be considered for research positions at Mexican universities: “Everybody knows that for you to look for a position in an academic institution, you need to have a profile of publication so yes, you need to publish to get a job. It's absolutely necessary if you choose an academic career” (Miguel, PhD).

Experienced scholars supported these students’ claims regarding the growing necessity of English publications on one’s CV when applying for a faculty position at a Mexican University. Many experienced scholars also spoke openly about how this pressure to demonstrate prior publishing success in English has changed over the span of their careers (see Table 11). Overall, both the emerging and established scholars interviewed were hyper-aware of the importance of publishing in order to graduate and/or for academic advancement in both the short- and long-term and this was clearly an incentive for them to choose English as the language for disseminating their research findings.

**Financial compensation.**

From extensive interviews with junior and senior faculty from various departments in the health
and life sciences at MEX U, publishing research articles in English carries enormous weight in institutional and national evaluation schemes: “[Publishing in English] will help me in many senses. For instance, in the way we are evaluated here in order to get promoted you need more publications and most of the journals which are reputable are published in English so we are forced to publish in English if we expect to improve our career.” (Ricardo, junior faculty)

**SNI: National researcher evaluation system.**

By far the greatest motivation for established scholars (faculty) to publish research articles in English is the financial compensation provided both by MEX University and the CONACYT [Mexican National Science and Technology Council], organizations that use the National Researcher Evaluation System (SNI) when deciding on financial compensation provided to researchers. Jesús (department head) explains,

> Our basic salary is not very good. If we don't have these extra salaries [bonuses] most of us wouldn't be here; we would be looking for something outside of the country. This is something the government did to keep the scientists inside the country, you know? So, it's an investment to have high quality education and people with experience at the Universities to teach and do different things like teach and solve national problems with research.

Without going into excessive detail—though a detailed description would require this given the complexity of the evaluation schemes—the SNI is a who’s who of researchers working at Mexican Universities. It was created in 1984 with the intent of providing financial compensation to researchers who otherwise would receive relatively poor salaries compared to international colleagues and would likewise choose not to work in Mexico. The SNI has four levels of researchers with ascending financial reward given to those at higher levels. The SNI is not an organization itself but rather is employed by the university and by the CONACYT when distributing research monies to researchers working at Mexican universities.

Many of the faculty interviewed spoke to the importance of receiving this funding without which they would make meager livings. The SNI evaluates researchers in an ongoing basis (every three years) and evaluates researchers first and foremost on their academic output. Rated highest (up to 10 times higher than articles published in Spanish) on their evaluation chart are articles published in indexed international scientific journals (i.e., English language journals). Many experienced scholars who were interviewed spoke to their desire to ascend the SNI rankings (thereby reaping the financial benefits) as their main motivation for publishing research articles in English. “This
is the reason why most of us publish in English, really. That and to get known around the world…The extra salary we get is important for all of us, believe me, we don’t live well without this money” (Veronica, junior faculty). Veronica’s claim was repeated by both junior and senior faculty from various departments. Administrators and department heads also reiterated the importance of SNI to researchers and the incentive to publish in English for financial compensation (both individual and departmental). Indeed, according to one of the AWC designers, one of the motivations behind the AWC itself was the potential CONACYT funding that could be obtained if particular departments and graduate units (in this case Biological Sciences Graduate Unit) could argue that the course would improve their overall number of publications in English: “The Biological sciences graduate unit head made a proposal that was accepted by the CONACYT for doing the course because it would be in the national interest improving the publications coming from this unit” (Francisco, course designer). Ultimately, evaluation system compensation seems to drive many scholars’ language choices when considering language of publication.

**PRIDE: Full-time academic staff performance premiums.**

Many established scholars spoke not only to the importance of evaluation of articles for SNI but also for their university-specific academic status and resulting financial compensation. The Full-time Academic Staff Performance Premiums (PRIDE) were also considered highly important to researchers who highlighted the importance of English language research articles for evaluation committees deciding on whether researchers would remain ascend, descend, or stay at the same level. Like the SNI, PRIDE values most highly publications in indexed journals (i.e., English language articles) and all scholars are keenly aware of the financial benefits gained by maintaining their institutional evaluation level(s). The importance of SNI and PRIDE evaluation schemes was highlighted by all participants, from doctoral students not yet vying for funding connected to these evaluation schemes (but understanding of the potential future importance) to all faculty including both junior and senior, teaching-load heavy and research-load heavy, to department heads. Emiliano summarizes the prevailing attitude towards publishing for academic advancement:

Most of the articles are in English these days because for us it is a requirement for us to publish in international journals and they usually are in English. I have a few papers that are in Spanish but most of them are in English. I have 52 refereed papers published - from those I have maybe 10-12% in Spanish (5-7 papers) so most of them are in English.
This is normal [at MEX U] because we are evaluated by papers we publish - SNI - and they require international journals that are usually published in English. So, if I don't do that, I'm dead.

**Impact factor and evaluation.**

Time and time again, scholars spoke to financial compensation gained by achieving positive evaluations through publishing in journals with a high impact factor (iF)—i.e., in English—as the main motivator behind their language choice. Although many scholars found this state of affairs untroubling, some scholars, even those with a high level of English writing proficiency, appeared concerned:

> It has been like this for the last probably ten years and is stronger now. CONACYT is evaluating us on the basis of English production because that’s where we can find the highest impact journals…this makes me worried. I have to write more and more in a language that is not mine. I think is not fair. (Yolanda, Post-doc)

Both doctoral students and more established scholars echoed Yolanda’s consternation at the changed (and changing) landscape where evaluation is driving their language choices and potentially affecting their scientific output, while encouraging what many established scholars deride as sub-standard articles in the name of increased scientific output. Francisco, an experienced scholar and one of the architects of the MEX U AWC elaborates:

> The average contribution they [MEX U] are asking for each year is 1.5 articles in indexed journals per year. This is a lot because you have to be thinking of articles for the next three years because it takes so much time and effort for each paper. What we need to learn to do is to split the pizza. The other important thing, for instance, is my colleagues from the USA they conduct one survey and publish three articles using the data for different purposes. We wouldn't do that, culturally speaking. This implies that the evaluation system is not fair because we are not culturally prepared to do things that a NES is.

Francisco, along with many other experienced and established scholars, appears to challenge the evaluation system not because it is inherently unfair but rather because it is expecting scholars to publish in a manner they are unaccustomed to (i.e., increased output in terms of number of articles published on the same subject). He suggests that there is a need for a change in *culture* among MEX U academics where they accept the reality of increased publishing expectations. His criticism, echoed by some other senior faculty and department heads, comes across as a thinly-veiled criticism of those who, as José (department head) describes, “simply use this
[frustration at the unfair evaluation system] as an excuse to be lazy and not do what they know they should do". Francisco, José and others speak to the need for changing the culture of publishing to one where this type of multi-pronged (in English and Spanish) approach to publishing is the norm, something course designers insist is on their minds when designing, tweaking, and delivering the MEX U AWC.

Overall, however, there is substantial frustration across the board among both emerging and established scholars at what they feel is an unfairly arranged system of evaluation which increasingly favours publication in high iF journals, ostensibly pressuring them to publish more and more in English. While not all participants agreed with the ethics or validity of the national or institutional evaluation schemes, these financial compensations nevertheless appear to be the prime motivator for MEX U experienced scholars to publish research articles in English. Even the CONACYT administrator interviewed admitted to the potentially contradictory nature of the evaluation system in achieving national aims or goals, stating that the evaluation system encourages publishing in English while concurrently solving problems of national interest. She further stated that the evaluation system is in need of review but that it is being increasingly adopted across different disciplinary areas, from the natural sciences to the social sciences and humanities. These findings add to the growing body of literature pointing to institutional evaluation as a primary motivator of language choice (i.e., English) for periphery or semi-periphery scholars (Curry & Lillis, 2014; Perez-Llantada, 2012; Salager-Meyer, 2014; Uzuner-Smith & Englander, 2014), raising troubling questions about evaluation systems as potentially engendering systemic inequity and asymmetrical power relations in scientific knowledge exchange. That these systems of evaluation are the prime motivation for scholars’ language choices when publishing their research is not a novel finding; however the pervasive nature of this pressure felt by emerging (PhD) scholars in this particular context is important to note and suggests the weight of ideologically-driven evaluation systems on scholar perceptions of language in scientific knowledge production.

**Joining the conversation: Connecting with the international research community.**

During individual interviews, several emerging scholars mentioned that, although they do not currently feel particularly connected to the international community of scholars investigating questions of interest, they desire a greater connection and feel that publishing an article or
articles in English is a way for them to achieve this goal. While not many emerging scholars had yet developed a research agenda that would allow them to claim to be part of a larger conversation, many expressed hope that publishing in English would facilitate this: “I want to be part of the talk [conversation] because that is what we should do, no? That is part of our work and I want to talk to the others who do work [like] mine…this is very important to me” (Javier, PhD).

This desire was also apparent among new faculty. Vitoria, a junior faculty member, speaks to her desire to join the conversation in earnest her research area by publishing in the main international journal in one of her desired research communities: “I will soon be a bigger part of the conversation because poultry science is the main journal for worldwide poultry science community…important researchers read articles in this publication…they get to know you and this improves the connection”. Vitoria alludes to an upcoming publication in the journal and hopes that this publication will spread the word about her research. While generally feeling more connected to their desired international research communities, established scholars also expressed desire to increase these connections through publishing of research articles in international journals. They largely spoke knowingly of how language choice positively affected their recognition internationally and domestically, including at their institutions and beyond.

Other participants such as Janet (course designer⁹) agreed that disseminating research findings in English was essential to forming and maintaining these relationships and seemed central to scholars’ decisions to publish and present in English. When asked why choosing English as the language of publication was important, she responds,

Oh my god. Essentially they will have a scientific career. They'll be able to collaborate internationally, their work will become known internationally, their science will improve because they'll have people contacting them and they'll have fruitful interactions with scientists in other countries. I don't think they even understand how big this is. This will open up a whole world for them. If they are not publishing, they are not on the radar of the international scientific community.

Established scholars also spoke about the personal satisfaction of finding a broader audience to whom their research was of importance. Humberto explains why he and other colleagues choose English as their language of publication, “Well [publishing in English] is an obligation to get a

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⁹. Janet wore several hats in the design and delivery of the MEX U AWC and will be alternatingly referred to as either course designer, administrator, and instructor.
good income in Natural Sciences: Physics, Chemistry, Biology…but also as a way to communicate their results in a wider way…it’s also a personal satisfaction to do that”.

Financial compensation was not the only motivator for publishing in English for established scholars at MEX U. As evidenced by survey results from questions posed regarding the importance of connecting with international research communities (see Figure 6) both emerging and established scholars were interested in forging and/or maintaining close(r) ties with the international research community through disseminating their research via research articles in international journals as well as through presentations at international conferences (i.e. in English), with over 87% of respondents strongly agreeing and 13% agreeing that it is important to them to be connected to an international research community.

Figure 6. Perceived importance of being connected to the international discourse community. Post-course survey results point to overwhelming agreement among scholars with the statement “It is important to me to be connected to the international research community”.

Scholars were acutely aware that publishing research articles in international scientific journals was the main avenue for forging these connections they desired with the international community. While emerging scholars spoke to the desire to publish in English in order to form these connections with the international community, more established scholars spoke to the absolute need for publishing in English for their careers, highlighting that if they chose not to
pursue publishing in English, there was little way to establish these connections given the assumed monolingualism of many of their centre counterparts:

Robert Day said it in a nice way; he says when someone speaks two languages he is bilingual, when someone speaks three languages he is trilingual, when someone speaks one language he is an American. If you want Americans to read what you have to say, you must write in their language because they wouldn't dare to go outside their own context to learn about something. (Francisco, course designer and administrator)

Francisco’s comments hint at resentment towards having to communicate in English. However, like most established scholars, he and others seemed resigned to the fact that English truly was the acting lingua franca of scientific communication.

Both emerging and especially established scholars spoke to the benefits of not only publishing articles to establish these connections but also to presenting at international conferences, with some even suggesting that presenting is of even more importance when attempting to establish working relationships with international peers. When asked if it was important for their careers to present research in English at international conferences, an overwhelming 95% of scholars strongly agreed or agreed (see Figure 7).

![Figure 7. Perceived importance of presenting research in English at an international conference. Post-course survey results point widespread agreement among scholars with the statement, “It is important for me to present my research findings in English at international scientific conferences”.](image-url)
Emerging scholars frequently spoke of enriching experiences presenting at international conferences and their desire to do so more in the future. Established scholars also spoke to the benefits of international collaboration and how international conference participation facilitated establishing the necessary relationships for such collaboration: “Conference presentations are very important—not as important as writing research articles—but very important for becoming part of a community. I have found this especially with American researchers…I try to encourage my students to do more presenting abroad” (Emiliano, senior faculty). Though the perception of the importance of presenting research in English was widespread, the MEX U AWC was perceived to have insufficiently addressed this skill during the period under investigation, much to the chagrin of many emerging and established scholars (see Chapter 7). Findings regarding the perceived importance of writing and presenting in English support other recent findings suggesting the increasing importance of both of these tasks for periphery scholars doing science (Lillis & Curry, 2010; Perez-Llantada, 2012).

Why Spanish?

While academic writing for publication in English was the focus of the writing course offered by MEX U-C, questions posed on the post-course survey elicited responses regarding the importance of the use of Spanish juxtaposed with that of English. Emerging and established scholars responded overwhelmingly that, although publishing in English and presenting in English at international conferences was more important for them and their academic careers, doing so in Spanish was nonetheless important with 86% strongly agreeing or agreeing that publishing in Spanish was important for their careers (see Figure 9) and 69% strongly agreeing or agreeing that presenting research in Spanish at regional or national conferences was important for their careers.

Survey results clearly show the recognition by both emerging and established scholars that publishing research findings in Spanish is still important despite the greater importance of publishing in English. Both emerging and established scholars highlighted particular motivations and contexts in which they would choose Spanish as their language for disseminating scientific findings. As this brief exchange between graduate students demonstrates, emerging scholars felt there was a place for Spanish as a language of choice for scholars:

Leticia (MSc): I think it depends what kind of work you are doing…if you do a localized work maybe it’s enough to publish it in Spanish because it’s going to be important to
people who work here but if it’s more of international concern it’s important to publish it in English.

**Daniel (PhD):** I live here: we can get them to know us and know their work in symposiums, or in congresses or in meetings instead of a journal. I believe we have more impact going to those kinds of meetings and presenting our investigation and our projects to the local crowd…Researchers already know that publishing in English is the best thing to do and they search for articles in English and not published in Spanish.

**Fernando (PhD):** I feel that and that’s why I think both idiomas [languages] are important for example in my area of research that consider human health, veterinary health and ecology system for me is important that people who take decisions know my new research so I think that for my career as a researcher maybe the most important thing is to publish in international foreign journals.

**Roberto (PhD):** I had the experience that we can do both things since journals accept papers that has been previously published as an abstract or just a part of the investigation not the whole paper and maybe just what’s relevant in a regional case and not in the international way so I don’t think one affects the other.

These graduate students seem to suggest that their language choice depends on who the target audience is, with English positioned as the language of more robust international publication and Spanish as the language of dissemination to a local audience, both through conference presentations and publication in lesser status journals. This theme of finding a balance between English and Spanish publications was a common one among both emerging and established scholars, with several particular reasons forwarded for choosing Spanish as a language when writing for publication (see Table 12).
Table 12

Reasons Forwarded by Scholars for Choosing Spanish When Writing for Publication

<table>
<thead>
<tr>
<th>Ease and accuracy of expression</th>
<th>Moral obligation and responsibility</th>
<th>Connecting with a regional audience</th>
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<tr>
<td>“We have to publish in index journals and that mean you have to publish in English. This is frustrating and now, yeah, I hate the English because of my poor abilities to communicate in English. If I have good skills probably I didn’t think that…I think that I am more frustrated than that common people or at least of my partners in the post grade…it is frustrating for me because I see in my area I see articles that for me aren’t amazing are common articles but I think the research is English and he or she is a recognized scientific or research he or she has more probability to publish his/her articles that (than) me and more quickly than me.” (Patricia, PhD)</td>
<td>“If you look in the constitution of the university it is said that research carried out in the university should be applied to solve national problems and so on. But in some departments it is not interpreted like that. I think many try to respect this but of course it is more important to publish in English for most because of money and prestige.” (Jaime, department head)</td>
<td>“Yes, I think you should differentiate the impact of your work with publications… it is the right thing to do… because for example right now I'm working with a group doing research on environmental problems with a local community. If you publish this in English, it wouldn't have the impact we want it to have - it would be like losing the information. In this case you have to publish in Spanish in a journal that does not have high impact you want. But, on the other hand if you want to publish something on the theoretical approach of ecology you wouldn't publish in a Spanish language journal.” (Miguel, PhD)</td>
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Easier to communicate in L1.

While emerging scholars time and again spoke of the importance of publishing in English, some occasionally pointed out their greater comfort with writing for publication in Spanish due to their facility in expressing complex and/or context-specific ideas. While explaining the choice of Spanish over English several emerging scholars suggested they felt somewhat marginalized when they chose Spanish as the language of publication while other colleagues with higher ERPP proficiency are publishing articles in English more easily and quickly (see Table 12). Other more experienced scholars pointed out that they feel that, at times, after their articles undergo review and revision by multiple participants in English that the ideas are ultimately expressed in a way that is not necessarily true to the original thought or idea. After highlighting the need to use Spanish to reach a domestic audience, Francisco (course designer) states,

There is a huge difference between English and Spanish. I'm not able to provide feeling to my writing in English. I just can't. Whereas if I do it in Spanish I always make sure if someone reads my manuscripts they know what I'm feeling about my topic. This expression of personality is very important to be disseminated as well.

Although Francisco expresses frustration at not being able to express himself fully in English he nevertheless chooses English (as do the vast majority of established scholars interviewed) almost exclusively as his language of writing for publication.
Responsibility in solving national problems.

One main theme emerging and established scholars referred to when describing why they chose (or plan to choose) Spanish as their language of scientific dissemination was that they felt a responsibility as researchers at the most prestigious national university to contribute to solving national problems. Both emerging and established scholars related their feelings of responsibility to the country and its population. In this focus group discussion, Maria and Juana express their thoughts when asked if they feel a responsibility to publish in Spanish:

Maria (PhD): For me, it’s something ethical. It’s sad that we have to focus in [on] English public when we live here…what about the people of the community where I work?

Juana (PhD): I should to publish short communications like divulgation papers [reports] that everybody can understand and that should be write in Spanish.

Maria: Yeah because the problem with journals, Spanish journals I feel embarrassment to say that but they publish everything…so the quality of the work sometimes is very low so I don’t want to publish in that kind of [publication].

Even while highlighting their sense of responsibility to the Mexican state and people, Maria and Juana are aware of the status and quality difference between international and domestic journals, stating their choice of Spanish as a language of dissemination is limited to certain types of journals. Other more experienced scholars stated similar feelings of responsibility toward publishing in Spanish as a matter of ethics with some citing the constitution and mission of MEX U and the national science and technology council (CONACYT).

Connect with a regional or local audience.

Perhaps the most common reason for both emerging and established scholars electing Spanish as the language of article publication is in order to connect with a particular audience or research community. According to many scholars, it is a simple question of connecting with a community with the greatest stake in the research. Whether it be an academic community or a community living where the research takes place it is often one that reads or understands Spanish: “I think it's important because in the scientific area it may be written in English but sometimes we have to spread the information to [those] who don't read scientific papers—particularly in Latin America—so we have to present our study in Spanish” (Rafael, PhD).
While some scholars spoke to choosing Spanish when writing for publication for various reasons outlined above, others reported the importance of presenting their work in Spanish and as some explained this choice was often made in order to connect with a domestic or hispanophone research community. Emiliano explains, “presenting in Mexico is also important because you get connected to your colleagues…when I present here in Mexico many people know me and many students come to talk to me…it is a useful way to exchange information” (Emiliano, senior researcher). While some established scholars like Emiliano found presenting in Spanish to be a necessary and productive mode of knowledge dissemination, others stated that they presented in Spanish as their only mode of communicating with the domestic research community with English being their language of choice for written dissemination of their research findings.

**Balancing Pressures through Multilingual Publishing**

As several scholars mentioned previously, balancing the pressure to publish in English with a sense of responsibility to disseminate research findings to domestic and regional communities is challenging. More experienced scholars reported finding a way to serve both their personal aims

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10. Hispanophone is defined here as a research community of Spanish-speaking scholars working and/or living in Spanish-speaking countries.
as well as national/regional aims by publishing their research in international journals (in English), local journals or other types of publications (in Spanish) while presenting their findings at international conferences (in English) as well as domestic or regional academic conferences (in Spanish) or community settings (Spanish or indigenous language specific to community in question).

While this seems to be an ideal model for meeting their disparate publishing aims, several scholars offered that this is truly an ideal state of affairs, one that does not always come to pass when time and money are finite and act as limiting factors. Often, many claim, it is easiest and smartest professionally to focus on the publications and presentations that gain the greatest financial and academic reward (i.e., those in English), a state of affairs some find acceptable and just a part of life and others find limiting and contradictory. Elena (PhD) outlines her experiences and feelings on the subject:

I think it’s wrong because the scientists are more concerned about publishing outside your country than inside your country. I’m doing science for my country, for my city and the people who matter here and not the people of China or something…but I understand that English is the most popular language in the world and for that I’m okay to publish in English and I don’t have a problem with that…Well we try to write in Spanish too in some papers and in magazines and something like that but the university it doesn’t care about that kind of things.

Though Elena has not yet joined the ranks of MEX U faculty she laments the evaluation system in place that she and so many others feel is the main influence on language choice of scholars at MEX U. Elena expresses a commonly reported reality where both emerging and established scholars must consider the ethical and political implications when choosing a language of scientific dissemination of their research findings.

Overall, it appears that motivation for language choice is overwhelmingly based on extrinsic reward including increased academic status and/or career advancement and financial reward, with English playing the higher status role in scientific research article publication among MEX U scholars (see Figure 9).
Figure 9. Scholars’ incentives, pressures, and writing for publication choice. An overview of scholars’ motivations for choosing Spanish or English as their choice of language when writing for publication.

Findings demonstrating scholars’ perceptions of balancing of languages when meeting demands of connecting with both international and domestic/regional discourse communities seem to support recent findings from empirical studies in Asia (Li & Flowerdew, 2009) and Europe (Curry & Lillis, 2014; Lillis, 2012; López-Navarro et al., 2015; Muresan & Perez-Llantada, 2014). These findings point to a potentially disturbing trend of prioritizing English medium journal publication at the potential expense of publishing in national/regional journals in Spanish. The MEX U emerging and established scholars’ attitudes towards EILS (as highlighted throughout this chapter) point to an awareness of the pressures imposed by evaluation systems and other status-related incentives for publishing their findings in English. Overall, these findings are also troubling when considering the apparently low status of Spanish when compared to that of English and the resulting legitimacy or capital accrued by those who are able to navigate this multilingual publishing and the lack of legitimacy for those who do not have sufficient ERPP proficiency to adequately do so. However, findings also suggest the awareness and agency of periphery scholars, particularly those without much experience publishing in either English or Spanish, in adapting to these pressures within local and global markets of symbolic exchange.
Attitudes towards EILS and ERPP

The following sections provide an overview of the differing and often competing attitudes and perceptions MEX U emerging and established scholars hold in relation towards English as a language of scientific communication and, more specifically, the growing necessity of producing research articles in English for publication in international scientific journals.

As was highlighted earlier, MEX U scholars see a great importance in achieving publication of English language research articles for a variety of reasons largely based on extrinsic motivators and incentives. This section outlines responses to semi-structured interview questions aimed at gaining a greater understanding of the perceptions of emerging and established scholars (but also other participants such as course instructors, administrators, and scientific journal editors) connected to the MEX U AWC (see Table 13).

### Table 13
*Perspectives on English as an International Language of Scientific Communication*

<table>
<thead>
<tr>
<th>Functional</th>
<th>Natural</th>
<th>Resistance</th>
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<tr>
<td>“I have no feelings. It is not a feeling, it is a fact…this [English] is a tool we have to learn like statistics and other stuff you need. Like computers are a tool. For me, English is a tool.” (Francisco, senior faculty and administrator)</td>
<td>“I think it's fine. I mean it has to be one language and English is the main language in the scientific area so why not English? Of course, I would prefer if it were Spanish but I think English is ok.” (Rafael, PhD)</td>
<td>“I understand that we have to talk the same language...and I don't have a problem if it's English, Spanish, or whatever, but I cannot avoid feeling a little bit uncomfortable because of the political implications. I cannot avoid relating English with imperial politics of the United States imposing their language.” (Miguel, PhD)</td>
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### Acceptance.

The following section outlines the most prominent theme when emerging and established scientists discussed their perceptions of or attitudes towards English as a language of scientific communication and the growing need for ERPP, that of grudging acceptance.

**Functional and natural: English as a scientific lingua franca.**

Both emerging and experienced scholars repeatedly responded in a similar manner when asked how they felt about English as the predominant language of scientific communication. They consistently stated that they felt little emotion about the subject; that it was simply a necessity in
order to function at optimum capacity as a scientist. This view was expressed time and time again by emerging scholars who often seemed at ease with the prospect of a career ahead of them involving extensive English for research publication purposes. Established scholars often used a functional description when referring to the attitudes towards English for academic publication as a tool with which to achieve their aims, one that many have been honing for some time and feel quite comfortable with and one, as shown earlier, they cannot survive without using.

Emiliano (faculty supervisor) describe a process of an evolving grudging acceptance during the course of his career to the point now where it is hard to imagine it any other way:

Well, it's just a fact of life. We have to live with it. I used to have emotions about it at the beginning I would say, ‘why is everything in English? Why do we have to read and write in English when those that who were born in those countries do it easily without any problem because it is their mother tongue?’ Now, it's just the way it is…Most of my colleagues are of the same opinion. Sometimes the students are the ones that express those hard feelings towards English but in the end if they enter academia there is no way that you can survive if you don't read and write in English.

Interestingly, while Emiliano describes his grudging acceptance over time he points out a perceived difference in attitude between emerging and established scholars, where many more emerging scholars openly display frustration and/or resentment toward the growing necessity of publishing in English (see resistance section).

Other emerging and established scholars referred to English as a language logically placed to be used as a lingua franca of communication between scientists from different countries: “English is good for when two do not share the same language, no? It is a good and easy language to learn and this is good for science I think” (Daniel, PhD). This viewpoint was repeated often even by those who concurrently expressed some resistance to the pressure to publish in English. Further, this view was also the one most commonly forwarded by course administrators, instructors, and scientific journal editors when asked about the current place of English in scientific communication and the subsequent pressures felt by MEX U scholars to produce research articles for publication in scientific journals: “Well if you compare English grammar with the grammar of romance languages like Spanish, French, and Italian, it’s simpler. It has its difficulties of course. But I think in general its grammar is simple and it’s a more succinct way of writing things” (Marta, editor). Many scholars and other participants agreed with Marta, referring to the differences between English and Spanish, citing the direct, concise, and coherent nature of English as good reason to use it (as opposed to another language like Spanish) in
international scientific communication. Several instructors and editors echoed scholars’ sentiment that English was a suitable and desirable scientific lingua franca while admitting the fortunate benefits of the current state of affairs for Native English speakers such as themselves:

I guess I feel like I was lucky to be brought up speaking English, since I wanted to be a scientist, but I feel like it’s not something that my culture is forcing on the world. I think it’s just a fact that it has become the language of science. And as I mentioned, you know, it would be wonderful if we had Latin or Esperanto as the Universal language, but that’s not the way things happen…When I’ve been to World Fairs or any place where there are translations of captions, this includes museums, side by side, I’m often impressed that the English one is the shortest one. And this I think relates to the conciseness of the language. And the tendency of speakers of English to freely borrow from other languages. (Stewart, editor)

Stewart succinctly summarizes the common perception of English as the dominant language of scientific communication expressed by some scholars and almost all scientific editors, instructors, and (native English speaker) administrators connected to the MEX U AWC. That is not to say that many participants, including course designers, were uncritical in their assessment of the place of English; however the prevailing attitude among non-scholar participants (particularly North American journal editors and course instructors) was that whether by fluke or plan the place of English as the hyper dominant language of scientific communication was a good thing for science even though it may be unfair for MEX U scholars and make their professional lives more difficult.

The position that English is logically placed to provide a platform for greater scientific knowledge exchange is a common one taken by study participants; however there appear to be particular ideologies of language at play when analyzing their responses, echoing theoretical positions adopted by Crystal (2003) and Graddol (2006) that the expanding use of English for various purposes, including scientific knowledge exchange, is a natural and/or inevitable development. These positions are problematic and linguicist (Phillipson, 2008) in nature in that they pave the way for policies and pedagogies that elevate English at the expense of other languages, in this case Spanish. This is not to say that there was no resistance to the growing need for MEX U scholars to use English as a language of scientific publication. The following section outlines the various complex and subtle resistance conveyed by MEX U scholars and discusses the motivation surrounding this resistance.
Resistance.

While the vast majority of scholars interviewed displayed little ill will towards English or resistance to having to use it as a language of scientific communication, several established scholars displayed conflicting sentiment: “It’s not like we don’t like to publish in English…it’s just that we feel our efforts, our time which is very limited should be more dedicated to publish in Spanish as well” (Pedro, faculty). This conflicting sentiment was common among established scholars who were proud of their publishing achievements in English (which were often greater than those in Spanish) while feeling they nonetheless had a desire and/or responsibility to publish in Spanish as well. Further, not all experienced scholars interviewed were comfortable with the growing need to publish in English. Some experienced faculty, like Juan Carlos, displayed both resignation and mild frustration at the current expectations surrounding publishing in English at MEX U:

I have frustrations because is an obligation to publish in English in our system and my English is not so good so I want to tell my student everything in Spanish and show in Spanish and write…but as a colleague told me, ‘if you want to play baseball, you have to play by the baseball rules. If you want to play football, you have to play by the football rules. If you want to be a researcher, play by these rules; otherwise play something else.

Despite Juan Carlos’s apparent frustration as a whole, established scholars interviewed were largely accepting of the growing necessity of publishing in English as a simple fact of life. Indeed, both emerging and established scholars largely displayed a largely uncritical acceptance of English and its growing dominance in scientific communication. However, some emerging scholars, perhaps armed with less to lose, were at times more vocal with their resistance towards what some viewed as the imposition of English in an academic world where they must publish in English in order to secure career advancement:

para mí la cuestión de Inglés como idioma dominante es relacionado con las relaciones asimétricas entre las personas y los países - los que dominan estas relaciones son los que deciden el idioma de comunicación. Así que no puedo escapar a la sensación de que es algo más que hablar un lenguaje común para la ciencia sino también acerca de la imposición de un lenguaje más poderoso y un menos potente ... aunque puedo apreciar que es mucho más fácil de aprender Inglés que español, por ejemplo, y que el conocimiento de Inglés puede facilitar el intercambio de conocimientos en la ciencia [for me the issue of English as the dominant language is related to the asymmetrical relations between people and countries – those that dominate these relations are the ones who decide the language of communication. So I can’t escape the feeling that it is about more than speaking a common language for science but also about an imposition of a more
powerful language on a less powerful one…even though I can appreciate that it is much easier to learn English than Spanish for example and that knowing English can facilitate knowledge exchange in science]. (Miguel, PhD)

Miguel was not alone in expressing resentment or resistance towards the English language in general and, more specifically, the fact that it must be used for academic writing for publication in the place of their mother tongue. While this resentment was expressed more freely by emerging scholars, some experienced scholars also expressed a similar frustration that English brought with it a cultural imposition beyond the simple language use and that, while this did not stop them from using the language in order to achieve their aims, it did cause them consternation, particularly when there was little attempt by North American colleagues to reciprocate: “sometimes I am sitting beside someone who has been researching the Maya or Mesoamerica and they cannot work or speak in Spanish whereas we have to work and speak in English…I have a bit of frustration at US researchers in that respect” (José, department head). With its long history of imperial influence in the region, the United States seemed to be the lightning rod for this criticism with some scientists equating the English language with Mexico’s northern neighbour:

I must admit that for me English is not English, it is American. I would certainly differentiate between English as a language (which is fantastic) and the imposition of American culture…the way they organize their thoughts and topics of research and the "hot" areas…at times we are driven away from our own expertise because something else is a hot topic and publishable and relevant in the US. That's a problem and we all have it and we have to be mature about it. But, I like English a lot and it helps me in many ways to communicate with people and I feel comfortable with it and it makes things accessible so I think we are using a good tool and that's it. (Francisco, course designer)

Francisco displays some resentment to what he views as the explicit connection between English and US-centric cultural dominance in the area of scientific knowledge production and dissemination. However, he again falls back to the most oft-forwarded position among established scientists that English dominance is a fact of life that scientists must accept and ultimately English is a useful tool for engendering scientific communication.

Perhaps the most vocal critics of the growing need for MEX U scholars to publish in English were some of the applied scientists (both emerging and established) who highlighted a disconnect between language of publication and participants who could potentially benefit from dissemination of research findings. These scholars expressed frustration at what they hinted was a potentially unethical state of affairs, one that placed them in an unenviable position of having
to decide on where to place their limited resources and energies once ready to disseminate their findings. Some expressed their perception that the dominance of English in international scientific communication forced applied scientists to make difficult ethical decisions when electing between English and Spanish: “If you want to be a hard ecologist you have to focus on the publications in English…if you want to have an impact on policies at a local level—on changing local realities—then you have to try to publish your work in Spanish” (Miguel, PhD). Miguel once again makes clear the dilemmas that many emerging and established scientists face when choosing the language of scientific knowledge dissemination. Miguel is particularly insightful for a PhD student and seems rightly troubled by the difficult choices that may lay ahead of him in his career as an applied scientist.

Overall, attitudes towards English as a language of scientific communication appear to be a mixture of acceptance and resistance which I would describe as grudging acceptance at the need to publish for academic advancement with some mild resentment or resistance at the perceived imposition of these English for research publication purposes demands. These findings provide further qualitative support for European survey studies into established scholars’ conflicting and conflicted attitudes towards ERPP (Ferguson et al., 2011; Gea-Valor et al., 2014; Muresan & Perez-Llantada, 2014; Perez-Llantada et al., 2011) and provide detailed findings in relation to emerging scholars, an under-researched population that appears to demonstrate an equal (if not greater) amount of resistance to the growing hegemony of English as do established scholars. The widespread and uncritical placement of English as a natural language of science, however, suggests the normalization “ideological orientations” (Lillis & Curry, 2010, p. 163) towards EILS, orientations that may contribute to maintaining the processes of linguistic imperialism.

**Bias against Mexican scholars.**

Data gathered from a survey of both graduate students and their faculty supervisors appears to show a distinct perception by these scholars of inequity in the world of scientific publishing (see Figure 10). Both emerging scholars—though they have more uneven experience with publishing—and particularly experienced scholars appear to feel that Spanish L1 authors do not share an equal chance with their NES counterparts in achieving publication in international journals, that their submissions are not judged equally by journal editors, and, further, that these journals do not provide adequate support for Spanish L1 authors.
Figure 10. Perceptions of equity for NNES authors at international scientific journals. Post-course survey results point to disagreement with the statement, “NNES authors are treated equally to NES authors when attempting to publish at international scientific journals.”

**An uneven playing field.**

Through semi-structured interviews with scholars it seems that many scholars share the perception that there is an inherent bias against NNES authors and, even more specifically, against Spanish L1 authors based in Latin America. Due to their limited experience with the submission and review process, many emerging scholars could only speak to the information they have received second-hand as opposed to their personal experience:

**Maria:** It is a disadvantage for the persons who English is not our first language because we cannot write a paper in short time and also I have heard that in some journals if they read your last name it’s Spanish they…

**Juana:** Judge.

**Maria:** Just reject. And they don’t review, they don’t check the paper in the same way as it would be [when] written from an English person.

**Juana:** I have heard the same thing too. I don’t know if it’s a myth but when they look at a last name and that it’s not European or English they say this report is not from an English speaker or something like that and they don’t judge the same.

**Maria:** Yeah.

(PhD focus group)
While Maria and Juana expressed the common perception among MEX U scholars interviewed, that there is inequity at international journals when comparing NES and NNES submissions, other emerging scholars had more direct experience with name-based discrimination. Javier recounts his experiences:

Well my advisor and me once submit an article and they say it would be better if you have a professional check the English. Then we submit with a friend of mine [who] is more Mexican than mole [Mexican style sauce] named Ian McGregor and no problems when we submit the same article with him as first author...so we say, okay, what is happening here?

Moreover, several established scholars recounted direct experiences with journals where their submissions were dismissed for various reasons—including name and institution bias—unrelated to article content, something that they perceive as unfair. These perceptions abound among scholars from those just entering academia to those with decades of experience. José, a department head who has published dozens of articles in English during his extensive career, responds when asked if editors at international scientific journals judge submissions equally from NES and NNES authors:

No, definitely not. Papers are being rejected just because you constructed wrongly one sentence. I have read those comments - I am not imagining this. I have seen ‘This is very badly written. If they cannot properly write in English how can they do an experiment?’ Who the hell do they think they are? Awful. I would add it's not only the language, I think there is also prejudice concerning your affiliation (institutional)...so if you are from let's say Mexican institution you are subject to doubts but if you are affiliated with UC London then it's ok.

Given José’s extensive experience and status, his perceptions of inequity seem to carry significant weight. After considering his comments, José qualifies his suggestion of inequity, “but you know there are some among us who use this as a bad excuse to not do what they are supposed to do [publish in English]…there are many [faculty] like that. This should not be an excuse not to write in English and publish your important work…that is just lazy”. José is one of dozens of scholars who, through survey responses and interviews, expressed their perceptions of bias against Mexican scholars, perceptions due to several reasons highlighted in Figure 11.
Figure 11. Factors contributing to scholar perceptions of bias. Overview of factors potentially contributing to the widespread perception among scholars that there is bias against Spanish L1 authors at international scientific journals.

Please seek professional English language assistance and re-submit.

Overall, emerging and (especially) experienced scholars at MEX University appear frustrated and potentially de-motivated by their perception of a biased system where they do not stand an equal chance of success. One of their main complaints is the common response to their submissions from the editors of scientific journals, which generally reads something like, Please seek professional English language assistance and re-submit, followed by suggestions for using professional editing services connected to the journal. This response, cited time and time again by scholars as the most common form of rejection, appears to be a lightening rod for MEX U scholars’ criticism of the perceived systemic bias at international scientific journals:

Once I submitted a paper and the co-author was an English person and I suppose they didn’t read his name in the co-authors list and that very comment was made to me [please check English and re-submit] even though I know the paper was really well written, I wrote it and then I got it checked by this person so I know the paper was well written and I know there wasn’t an issue with the language. (Raúl, senior faculty)

Established scholars described these types of inequitable experiences with international scientific journals time and time again. Even those scholars who have repeatedly published in the mid- to upper-echelon scientific journals in their fields spoke of an understanding among successful MEX U scholars in their departments or institutes that, given the unequal playing field they must
work harder and better in order to succeed when in competition with NES colleagues:

[Bias against NNESs] has been proven through experience that we are going to be demanded to do twice what a NES (American) would do in order to get something published. In a way it is positive coming from someone who likes challenges because you have to be very rigorous and very strict with your work”. (Francisco, administrator)

Francisco, like many of the established scholars who have a successful record of EAW for publication, appears to relish the role of underdog and sees it as a challenge when attempting to publish his work. However, other senior researchers with a lesser record of publishing success commented that the inequitable situation was de-motivating to them and could affect their students in a publishing environment where a greater and greater number of English language publications were expected of researchers at MEX U. Emiliano, an experienced researcher who, according to his self-reporting, has published dozens of times in international scientific journals in his field describes how he and his colleagues have accepted the fact that they must work harder in order to avoid the bias that lays in wait:

I think the way we [NNESs] write becomes an issue with NS editors. Sometimes this prejudice has been documented quantitatively. Usually, addresses that are outside of the Anglo centers they usually get more rejections than the other ones. It could be that the science is not as good, but if the English is not very good and you are not very good at getting across your points it is easier for them to reject you. The thing is that most editors, particularly in the most famous journals, they are very busy people and their job sometimes seems to be to have a high rejection rate so they use any excuse - if they detect any problems with the language it's easier for them to reject the paper even if the science is good. So, this is a problem.

**Lack of support.**

As demonstrated in scholars’ post-course survey responses to whether international scientific journals provide adequate support for NNES authors (10% strongly disagree, 38% disagree, 42% neutral, 6% agree, 4% strongly agree), there is a widespread perception of inadequate support. In addition to the survey findings regarding the lack of support for NNES authors at international scientific journals, many scholars expressed what appeared to be closer to resignation rather than anger at the perceived lack of support. Many scholars, particularly those with experience gaining grants for their research, complained that editing services suggested by journals were unreasonably expensive, rendering them inaccessible even to scholars with some funding for this. Again, Francisco provides insight regarding the services that journals *offer* NNES authors:
The straightforward business is that they make money by offering services for editing your work. They say, ok we can help you with the paper and the help you need but you pay for that...and the rejection was based on academic sources but the rejection was because of English not because of science. Sometimes the lines are fuzzy.

While editors were not wholly unsympathetic to scholars’ concerns about lack of support for NNES authors, many appeared exasperated by the number of submissions their journals were receiving and, while understanding the cost of editing services was a disincentive to international NNES authors, did not see many other options for journals other than to suggest using these services and/or better utilizing available resources. As John (editor) points out, the entire system of peer-reviewed publication is predicated on “the good will of referees who put in time to make a paper understandable and clear; there's only so much that a journal can do”. He goes on to state, “more and more of this is downloaded to authors by necessity and that's part of the reason why all of these agencies have sprouted up in order to help authors communicate in English in science”. John goes on to state that he believes authors should better utilize the resources around them (e.g. NS colleagues) if they cannot afford these services, pointing out that “most of us along the way have relied on the goodwill of an awful lot of people to get a manuscript out. Most of us should spend both more time helping others and asking others to help us get our work in better shape”. It is difficult to disagree with John’s assertion that academics should develop the ability to give and receive feedback from colleagues; however the reality at MEX U is that the amount of scholars with a high level of ERPP expertise appears to be finite while the need is seemingly infinite.

**Competing perceptions in a changing market: Editors versus scholars.**

As made clear throughout this section through survey and qualitative findings, many MEX U scholars clearly perceive an unfair disadvantage facing them and their colleagues based on what they describe as unethical and/or dispassionate editors and reviewers at international scientific journals (see Figure 12).
Interviews with journal editors connected with the MEX U AWC paint a different picture of how these international journals deal with submissions from NNES authors, however. Several editors, while admitting the potentially unprofessional behaviour of counterparts at other scientific journals, stated that there is a trend at most journals of acceptance of a greater number of articles from NNES authors, with a growing emphasis on accommodating these authors’ needs. George (editor) speaks to his experience as editor-in-chief at an international Veterinary journal: “it would be a rare event that we return a paper because of language issues…we spend a lot of time transforming language from not very good into good scientific English. There are some papers on which I spend hours and hours”. George’s contention that many journals strive to accommodate international authors directly contradicts the perception of many of the MEX U scholars interviewed. Even though all editors described the occasional case of poor reviewing or editing, they all appeared to highlight the same message: content trumps form but form must be easily intelligible to reviewers. They stated time and time again that it is unfair to expect editors
and reviewers to be language experts and navigate between content and language concerns in order to properly judge the value of a submission. Therefore, their job as editors is to make sure the language is at a level where the content is easily discernable.

Though some editors concede NNES authors did not necessarily get a fair shake from high profile international scientific journals due to the massive amount of submissions and limited human resources available, editors from disparate scientific fields in the health and life sciences also claimed that their staffs have “bent over backwards to try to help authors who are in that position [NNES or graduate students] try to produce a final product that is clear, concise and that the author can be proud of” (John, editor). Responding to claims of bias from MEX U scholars, some editors also suggested that perhaps the dreaded Please seek professional English language assistance and re-submit could be due to more than simply language issues, with editors potentially using this response as a time-saving mechanism for not having to detail many other content issues affecting the quality of an article or due to the large number of submissions and subsequent pressure on editorial staffs at international journals: “when the editor says the problem is the English, there are probably also problems with the structure and organization of the papers” (Janet, administrator).

While editors spoke to the increasing number of submissions from NNES authors and how those submissions are welcomed and supported (albeit admittedly in an insufficient manner), those connected to the AWC with direct experience with scientific journals pointed out that rhetoric and reality are two different things:

I've seen it happen, watched it happen. I've been in the room with the editors who say we want to see publications from emerging nation authors—we want to publish those papers...and then an hour later they're saying ‘I'm getting all these papers and the English is so poor that the peer reviewers can't understand them so we have to send them right back and say get help with your English’. They have to because they don't have the time or money to put into it. (Janet)

Janet provides some insight into what appears to be the different positions forwarded by the scholars and scientific journal editors when considering the issue of bias against NNES authors at these journals. Her perspective—a long with that of Francisco and Antonio (course administrators and designers)—drove her pedagogical approach to dealing with this issue during the MEX U AWC, one meant to address the potentially unequal playing field openly and frankly:

I talk about it [during the course] because I think people should understand the situation
honestly the way it is so that they have their eyes open and they're realistic about it. If you understand that it's a tough world out there—which it is—you don't take things as personally, you learn that it's a bit of a game you have to play...I hope people don't find that too harsh or discouraging a message but they have to be clear about it or they won't succeed, I think.

It is unclear how this message was taken up by participants and if it is partly responsible for scholars’ elevated sense of bias. However, what is clear is the pervasive nature of scholar perceptions of bias.

Other scientific journal editors connected to the AWC highlighted the changing nature of the profit-based publishing industry and the combination of an increase in publishing expectations and the growing oligarchization of the English language publishing industry among other trends leading to depleted resources at journals, leaving editors with little option for language support other than to suggest professional editing services. Editors also lamented the decreasing overall quality of journal submissions, something they attribute to an increase in publishing expectations globally. MEX U is no exception to this as described earlier thus leading to a situation where there is “an increase in ‘tortilla production’ as researchers are threatened with termination of employment if they don't increase the number of their publications” (Linda, editor). Other editors complained of this decrease in quality globally—not just with NNES authors but from those in North America as well—with NNES authors feeling the strain even more when having to meet institutional publishing expectations when writing in a foreign language.

Findings pointing to divergent perspectives between authors and journal gatekeepers are not unique (Burrough-Boenisch, 2006; Cho, 2004; Flowerdew, 2001; Gosden, 1992; Lillis, 2012) however, the overwhelming nature of participants’ sense of bias against them is a finding that raises questions about whether these perceptions are accurate as well as the potential demotivating effect this may have on scholars who clearly perceive themselves at a distinct disadvantage compared to their NES counterparts in the world of scientific knowledge production. As with other findings regarding scholar attitudes towards EILS, the fact that emerging scholars also perceive so strongly this sense of bias and inequity raises questions as to the potential implications of their attitudes on scientific production and their longer term publishing practices. What appears clear is that these findings suggest a need for policy and pedagogy aimed at addressing the real/perceived inequity (see Chapter 8 for discussion and implications) as well as further research into the disparity between editor and author perceptions.
Overall, attitudes towards EILS and ERPP appear to suggest a grudging acceptance of English but not without resistance to growing expectations for English language publishing of research articles and resentment at a perceived bias against Mexican scholars. Findings from this study provide qualitative evidence to support some previous studies that have suggested resistance and frustration among periphery scholars at the growing hegemony of English in the production and dissemination of scientific knowledge among established (Ferguson et al., 2011; Martin et al., 2014) and emerging scholars (Huang, 2010). Findings regarding attitudes towards EILS and ERPP are potentially an important contribution to understanding the impact of ideological policies and perceptions on emerging scholar scientific knowledge production practices and suggest the need for greater research into this scholar group, particularly in Latin America. Findings suggest a resistance to English hegemony in scientific communication while pointing to the resilience of scholars in balancing the demands of publishing in English and Spanish in order to connect with different discourse communities, findings also found by researchers investigating multilingual scholar publishing practices in other contexts (Curry & Lillis, 2004; Li & Flowerdew, 2009; Muresan & Perez-Llantada, 2014). This chapter’s findings point to the potentially ideological understandings of scientific communication among all participants, understandings that facilitate and perpetuate the asymmetrical power relations between English and Spanish in scientific knowledge production at MEX U and that position MEX U scholars as symbolically and linguistically deficient users of scientific English. The perceptions of emerging and established scholars toward EILS and ERPP raise questions regarding the uneasy balance between English and Spanish in the scientific production of knowledge at research-intensive universities in Mexico, questions addressed more fully in Chapter 8.

**Chapter Summary**

This chapter included findings in relation to this study’s first sub-question: What are MEX U scholars’ perceptions of English as an international language of scientific communication? Findings reported in this chapter point towards the perception among both emerging and established scholars of the growing importance of English as a language of scientific communication and ERPP, often leading to a unequal balancing of languages of publication in order to connect with international (English) and domestic/regional (Spanish) discourse communities. Data collected via post-course survey supported by data collected via focus group and individual semi-structured interviews point to a perception among emerging and established
MEX U scholars of English as a functional tool used to achieve extrinsic goals such as academic advancement, with many scholars pointing to its utility as an international language of scientific communication while simultaneously expressing consternation at the growing pressure to publish in English. Further findings highlighted in this chapter were in relation to an overwhelming perception among these emerging and established scholars of bias against them at international scientific journals. Findings suggest the pervasive nature of ideologically-driven evaluation systems and general ideologies of language and language use on participant perceptions of English within markets of linguistic exchange that extrinsically and intrinsically promote particular forms of linguistic and symbolic capital. The key findings highlighted in this summary are discussed at length in Chapter 8.
Chapter 6
Scientists’ ERPP Challenges and Potential Barriers

In addressing the overarching theme of scientists’ experiences with English as a language of scientific communication, this chapter presents and discusses findings in response to this study’s second sub-question: What are MEX U emerging and established scientists’ perceived ERPP challenges and potential barriers to achieving publication of research articles in English? Through a combination of survey data gathered from past AWC participants, classroom observation data, and, predominantly, perspectives gathered through semi-structured interviews with course administrators, instructors, guest lecturers/journal editors, and course participants (graduate students and their faculty supervisors), this chapter provides an extensive list of ERPP challenges experienced by MEX U scholars. These challenges are highlighted for both graduate students and faculty at MEX University, with challenges that potentially inhibit successful publication of research articles in indexed scholarly journals positioned as potential barriers. As is the case with each of this thesis’ findings chapters, a brief discussion of the findings in relation to the literature previously reviewed in this thesis and the conceptual framework adopted for interpreting these findings is embedded within the chapter while still leaving substantial space for greater discussion in Chapter 8.

Background and Language Learning Trajectories

When addressing the writing for publication experiences of MEX University graduate students and faculty, there are several context-specific notes to consider: first, all of the graduate students and faculty supervisors taking the MEX University-Canada academic writing for publication course (MEX U AWC) come from departments where there is a strict requirement that, in order to complete a PhD degree, one must publish a research article in English derived from the students' dissertation research. This does not mean that their entire dissertation is in English—in fact it must be in Spanish—however, it does mean that doctoral students in particular often face pressure to achieve (almost always co-) publication of a research article in English, a task they have not always achieved previously. Further, as their dissertations are written in Spanish, they are often working with subject material they have already written about in Spanish when attempting to produce an English text. Next, many faculty supervisors are working together to co-publish articles with students carrying out research under their supervision. While not
expected to publish in English for graduation like the doctoral students, faculty nonetheless feel pressure to both publish in English in order to achieve academic advancement (see Chapter 7) and successfully guide their doctoral students through their program to completion, which in these departments means guidance to a successful publication in an indexed scientific journal.

**Publishing experience and self-rated English writing proficiency.**

While all doctoral students must achieve publication of a research article in an indexed scientific journal in order to achieve graduation, survey data suggests that some doctoral students had already previously achieved such a feat at the time of data collection (see Appendix C). Overall, 33% of doctoral students report to having (co) published an article in an indexed journal (ostensibly, in English) before attempting to produce an article stemming from their dissertation research. Of note is that when asked about such publication experience, many doctoral students reported to having little to do with the actual writing up of the article(s) that were published in indexed journals even though they were named as one of the co-authors. Logically, faculty supervisors had a greater publishing record, with 82% reporting to having published an article in an indexed journal in English. As evidenced in the profile tables in this section, however, data gathered suggests some disparity among course participants in terms of not only previous exposure to academic writing opportunities in English but also overall English proficiency (see Appendix C). Most study participants self-rated their English writing proficiency as "fair" (46%), or "good" (44%). English writing proficiency level of many of the MEX University doctoral students was, at best, Common European Framework of Reference for Languages (CEFR) B1, while most faculty were at a B2 level. The actual proficiency level of both students and faculty was perhaps a bit lower than their self-ratings but not to a great extent. Along with varied records of publication and English writing proficiency comes very different language learning trajectories among course participants.

**Background context on participants.**

Before diving into writing challenges experienced by graduate students and faculty at MEX University, it is important to have an understanding of the language learning trajectories of these scholars, both those I label *emerging* and *established*. This section provides a brief overview of scholars’ English language learning trajectories. Table 14 includes representative quotes from three doctoral students highlighting their trajectories with (academic) English language learning.
One common theme among the over 50% of course participants who self-rated as *poor or fair* writers is the distinct lack of exposure to English among those who studied in public schools. This schooling experience appears to be similar for students who studied at public schools throughout Latin America, not just those from Mexico, with doctoral students from Argentina, Chile, and Venezuela reporting similar trajectories of minimal exposure to English.

During classroom observations, I overheard many students commiserating over their lack of previous exposure to English and particularly their lack of exposure to English academic writing (EAW) opportunities. The lack of exposure to English experienced by the vast majority of MEX University scholars prior to post-secondary studies is no doubt one of the challenges facing doctoral students expected to produce effective writing in English and eventually publish in indexed journals in their L2. It seems that one way these public school students have mitigated the poor language instruction and minimal exposure to English in public schools is through additional language learning at private language institutes either during high school or undergraduate studies.

While most common among those who self-rated as poor or fair academic English writers, lack of exposure to English language opportunities and, particularly, academic writing opportunities during formal studies through high school and undergraduate studies was a common theme among participants of all writing proficiencies, with many emerging scholars like Javier pointing to their self-guided study through undergraduate and most of their graduate studies before gaining some exposure to English academic writing opportunities and guidance from (in Javier’s
case) a supervisor in their doctoral programs. As is highlighted later in this chapter, the limited exposure for some doctoral students to English and English academic writing prior to doctoral studies appears to be a challenge to achieving effective English academic writing and a potential barrier to these students achieving publication of a research article in an international scientific journal.

Table 15

Established Scholars’ English Language and Academic Writing Trajectories

<table>
<thead>
<tr>
<th>Yolanda (Post-doc)</th>
<th>Juan Carlos (Faculty)</th>
<th>Raúl (Faculty)</th>
</tr>
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<tbody>
<tr>
<td>“So I did all these courses at University here in Mexico including Cambridge exam and a TOEFL course at the end of my university studies...and then I did my Master's studies here at MEX University and all the writing was in Spanish so I didn’t have to write anything in English until my PhD...So, I did my PhD in the UK and there I took some courses on academic writing offered by the university at a special center for international students...at the beginning I was translating a lot directly and I think my supervisor suffered lots... After six months of writing every day in English I could make myself understand [understood] to my supervisor because before that it was terrible...and now I’m back here (at MEX U)”</td>
<td>“Ok well I start to study English when I was a child in a private school but maybe I didn’t realize the importance at that time but I didn’t learn sufficiently the English. I have to learn English for my reading comprehension and then I started the Master’s degree and had to improve a lot not for talking but for reading comprehension because I have a bunch of papers in English that I have to read every day and I start to improve a little bit at least the reading...that was my big improvement...When I started the PhD my supervisor pushing me to start to take courses in English and I spent two years in private English institute but when I finish the advanced course I couldn’t speak! I improve a lot my English certainly but not enough…And writing in English is necessary now and always difficult”.</td>
<td>“Well I went to a school since kindergarten where we were taught English as a second language so I grew up not speaking English but having some knowledge of English and then becoming a good English student in my teens...I studied my PhD in Scotland and then I worked there as a post doc while there I took two scientific writing courses and I received I suppose very good advice from my supervisors and my colleagues in terms of scientific writing. So I’m well acquainted with English and writing in English”</td>
</tr>
</tbody>
</table>

Not all those interviewed experienced limited exposure to EAW throughout their undergraduate and graduate studies, however (see Table 15). Yolanda, a post-doctoral fellow in Environmental sciences who self-rates her writing proficiency as good, had a very different trajectory than many as she was able to study in a private high school and do her doctoral studies in the United Kingdom. However, like her slightly more junior colleagues, she speaks to the poor quality of English in high school and a lack of serious focus on academic writing until her doctoral studies abroad. Like her more senior colleagues, Yolanda is an example of those who gained great exposure to and experience with academic writing for publication while studying abroad. While Yolanda has yet to publish in English (several articles submitted and under review), her previous ERPP exposure bodes well for her future success. Many MEX University faculty supervisors with extensive English publication records spoke to the benefits studying abroad had on their English writing proficiency:
When I was in England during my MSc, we received as foreigners a very nice course on how to write in English. The main purpose at that time was for us to do a nice job writing the final exam because we had to do well on the final test. So, the university provided us with this specific course to write in English in order for us to write a good final test and also our dissertation. Also, some help from supervisors with writing. What I did was to read a lot of papers and then you have a better idea how to write them and you have something natural in you that induces you to write this way or that way (Jesús, senior faculty).

Jesús, a senior faculty member and department head in veterinary medicine, speaks to the explicit help from supervisors as well as a specific course on academic writing as key elements in helping him develop his EAW skills. While Jesús attained much of his English academic writing knowledge at the Master’s level, almost all others related their experiences with explicit academic writing instruction at the doctoral and post-doctoral levels. Raúl’s language learning trajectory (see Table 15) is a prime example of those senior faculty at MEX University who can be considered expert writers. Like Raúl, those who completed doctoral or post-doctoral studies abroad where English was the language of written communication, speak to the support they received from colleagues and supervisors in improving their ERPP (see Chapters 7 and 8 for findings and discussion related to supervisory support). While almost all the established scholars participating in this study report high English language publishing output, not all have had such smooth or successful experiences with English language learning. However, the apparent experiences and trajectories of successful established MEX U scholars appear similar to those mentioned in other empirical studies highlighting the potential benefits of exposure to ERPP through scholars’ academic career trajectories (Curry & Lillis, 2013; Englander, 2009). How much of this publishing success is due to explicit ERPP instructional intervention, mentorship of NES writers, and other factors such as living abroad is difficult to ascertain and beyond the scope of this study. However, there is clearly a gap between those who have had the opportunity to engage with ERPP in a meaningful way and those who have not and, considering the trajectories of expert vs. novice scholars in this section, this lack of exposure to ERPP could be a potential barrier to achieving the linguistic capital necessary to successfully achieve publication of research articles in scientific journals. The question I attempt to answer in this chapter is, what are the main challenges these scholars and their doctoral students experience when producing English for research publication purposes?
English for Research Publication Purposes: Challenges and Potential Barriers

Central to this research inquiry into multilingual scholars experiences with EILS is the question of the main challenges to doctoral students and their faculty supervisors achieving publication of a research article in an indexed scientific journal. This section outlines the main challenges each sub-group faces when attempting ERPP while highlighting the potential barriers these challenges may pose to achieving publication of research articles in international scientific journals.

In the following focus group discussion, three doctoral students respond to a question regarding their main challenges in achieving publication of a research article in a peer-reviewed, indexed scientific journal:

**Daniel:** My biggest challenge is that I don’t have experience in writing in Spanish and less in English. I’m doing research for around seven years only and mostly doing fieldwork or lab work…but not writing. I only have one experience of writing a paper that has been published last semester.

**Fernando:** I don’t have enough experience also; and in particular my problems are with structuring the manuscript in a way that has logical flow and also in not putting things that are really not important for the article and keeping it simple.

**Roberto:** I have a general problem with the adjectives, with the order of the adjectives. I always put like in Spanish and then I must re-read and then I discover these constant errors. I also make many mistakes with conjugations and I write long sentences and in the secondary [part of the] sentence I always forget the subject.

**Daniel:** Another thing is like in Spanish we put a lot of punctuations, different punctuation rules and in English it’s very different, you know the use of periods, comas, colons, and semicolons. Well I don’t know that kind of rules in punctuation.

**Roberto:** Well the main problem with Spanish is that we explain things by too many words, we always use many different adjectives and that’s what makes it difficult so usually what we do I think is that we translate everything that we are thinking into English and then we make very large sentences, very complex with many words that are not necessary and…well it confuses, I suppose, English people.\(^{11}\)

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\(^{11}\) I have chosen to include study participants’ voices as they are without extensive editing; I have only made changes [noted in brackets such as these] when I feel there is a danger that the passage is potentially unintelligible in its original form.
When discussing challenges they face, these three veterinary science students refer to their lack of exposure to and experience with ERPP, specific lexical, grammatical, and punctuation concerns, achieving clarity, conciseness, and coherence in their writing, and overall differences between Spanish and English academic writing. Throughout this section, I outline the challenges doctoral students (and their faculty supervisors) face when producing research articles for publication. To make for easier reading, and drawing on Canagarajah’s (1996) categories, I divide these writing challenges into *discursive* and *non-discursive* ones.

**Discursive challenges.**

This section includes several categories of ERPP challenges falling under the label discursive challenges, including those related to lexico-grammatical accuracy, clarity, genre, and linguistic transfer. This categorization is not meant to be absolute but rather these categories are used as a heuristic device knowing full well that there is significant overlap between challenges and categories. Further, as is discussed later in the chapter, these categories include what appear to be lexico-grammatical, rhetorical and structural challenges. The purpose of this section is to identify some of the discursive challenges facing these authors; however I am most interested in the perspectives of different scholars, instructors, and editors regarding the importance of these challenges in relation to achieving publication of research articles.

**Lexico-grammatical accuracy.**

Coming from an ESL/EFL teaching background, my first instinct when reading course participants’ manuscripts was to focus on their surface-level errors, of which there were plenty. While teaching the course, I noticed consistent issues with higher level grammar points, such as prepositions, articles, and relative clauses as well as occasional issues with more elementary grammar issues such as subject-verb agreement, present perfect versus past simple use, and gerund versus infinitive verb use.

Those who reported lexico-grammatical difficulties were often those graduate students who self-rated as having *poor* EAW proficiency. Patricia gives a representative list of issues common among those struggling with both basic and advanced grammar concerns when producing a manuscript in English: “I have typical problems with when and how to use the no [zero] article or use the -ing or the verb in infinitive…also sometimes countable and uncountable nouns” (Patricia, PhD). While few faculty supervisors deemed grammar a pressing concern, some could
not help mentioning the difficulties they continue to have—despite much EAW experience: “It really drives me crazy…Prepositions are the most difficult - have to check [if I am using prepositions correctly] on Google.” (Ricardo, faculty)

Instructors who taught all three course sections spoke to surface-level errors as being a minor annoyance. While surface-level errors were an annoyance to instructors and deemed a big stumbling block to achieving effective ERPP by graduate student participants, as evidenced in a section below entitled grammar as a red herring, these surface level issues were not considered by editors to be a serious barrier to achieving publication of research articles unless found to be significantly impeding comprehension.

While many graduate students rated grammar as a moderate to big concern on the post-course survey, often times when they were asked to expand on what they felt their main problems were, it became apparent that they were describing challenges more closely related to discipline-specific and genre-specific writing, conflating structural and rhetorical challenges with grammatical ones. Javier (PhD) for example reports, “when we talk about grammar there are some constructions in discussion parts when you have to say some hypothesis or tell objective or to highlight something that you don’t have the specific constructions to do…when I try to say the same things my vocabulary or my grammar constructions are not good enough”. One such construction that was mentioned as a challenge for MEX U scholars by various participants was the use of passive versus active voice: “One major issue some of them are having trouble still figuring out is when something is passive and when something is active and when to use the active voice in their own writing…it seems they don’t feel comfortable using active” (Susan, instructor). As Susan explains, many graduate students not only displayed a lack of ability to identify the passive voice—generally only those at a B1 or lower proficiency level—but also a great reluctance to incorporate the active voice into their writing. The (under) use of active voice appears to be related to the larger rhetorical challenge (function) of expressing a clear author voice (see clarity section below).

**Intelligibility: Grammatical accuracy as a red herring.**

While many of the former course participants rated lack of accuracy (grammar, vocabulary, punctuation) in their English language use as a challenge to achieving effective writing, those participants further up the publishing ladder were clear that surface-level errors in research
articles being considered for publication—unless in abundance and therefore causing a major issue with intelligibility—did not pose a major barrier to authors achieving publication of their research articles. Scientific journal editors from various disciplines, including Biomedical Sciences, Environmental sciences, and Veterinary sciences reported that, as chief editors of their respective journals, content trumped form: “There are some [submitted papers] where the language is not up to scratch but, if the science is good, if we can understand what they’re trying to say, we will do a lot of work to help them put it into good English” (George, editor). Ruth, a former editor in chief of several biomedical journals, agrees: “To be completely honest, in biomedical sciences if it’s good enough science, only unintelligibility or low level writing to a distraction can prevent it going to review” (Ruth, editor). Ruth and George seem to suggest that good science reported in an intelligible manner is key to achieving publication or, at very least, getting past the editorial review and sent for specialist review. Janet (course designer, instructor and science editor) also refers to intelligibility as the de facto line in the sand where an editor decides to reject an article without sending it to review. Where this line is drawn, however, appears to be difficult to pin down:

I don't want to scare [course] participants that their English has to be perfect. I want them to express their ideas clearly and structure their paper properly because I'm pretty sure that while the editor is saying the English isn't good enough the concomitant problem is that the paper is not structured properly and the information is not presented logically in a way that flows. I've worked on a lot of papers where there were many little problems in English but when the peer reviewers can't understand the paper it's probably not just English it’s presentation and explanation and all the other things we're teaching them. Janet suggests while surface-level errors may play a part in leading to unintelligibility or overall lack of clarity, it is a combination of issues that leads to rejection of articles. She alludes to the fact that many articles, while rejected on the grounds of language issues may in fact be rejected because of overall issues related more closely to structural and rhetorical issues effecting clarity and logical coherence rather than accuracy.

Given the widespread assertion by MEX U scientists’ that their grammar is a major issue there appears to be a discrepancy regarding the importance of accuracy in achieving publication of research articles, with students seeing it as a major issue and other participants seeing it as something of a red herring. What is also clear is that there is overwhelming agreement that intelligibility is key in achieving publication. What exactly that means is unclear and very likely depends on the specific editors and reviewers. Discrepancies between emerging and established
scholar and editor perceptions are a recurring theme in this study’s findings. In relation to the importance of grammatical accuracy, it appears that emerging scholars in particular tend to overestimate the importance of accuracy, a finding also noted by Huang (2010) in her study of Chinese emerging scholars. Whether this is due to a lack of nuanced understanding of academic writing for publication, low confidence with writing proficiency, an ideological orientation of prescriptive scientific English norms, or a combination of factors is unclear. So, if accuracy (unless impeding intelligibility) is not a barrier to MEX U scientists’ achieving publication in international scientific journals, what is?

**Clarity.**

Although lexi-co-grammatical accuracy appears to be a challenge for many (mostly) emerging and established scholars in terms of achieving effective ERPP, it does not appear to be a major barrier to achieving publication in international scientific journals. Clarity of expression, however, does appear to be both a major challenge and a potential barrier, with clear and concise expression of research purpose, importance, and relevance to be the main areas highlighted as problematic (see Table 16). Clarity as a category of challenge is somewhat problematic as instructors and editors refer to a combination of syntactic, structural, and rhetorical issues that intermingle in their descriptions of (lack of) clarity in MEX U scholars’ writing. However, I use this category as it reflects the perception of instructors and editors when describing their assessment of multilingual scholars’ writing.

**Coherence, concision and repetition.**

Part of achieving clarity, according to many participants, is writing in a logical sequence or flow (coherence) in as direct and concise a manner as possible (concision) when writing a research article. Course participants by far and away referred to achieving concision as their main writing challenge. At every level, participants appear all too aware of this difficulty and its importance when attempting to achieve effective writing for publication. This section discusses coherence and concision as part of the overall concept of clarity as an impediment to effective academic writing and, ultimately, achieving publication of scientific research articles.

Susan (instructor) explains how coherent, linear expression common and specific to scientific ERPP and why it is an expectation for readers of this genre:
[English writing is] less circular and more linear, it’s more to the point, it’s more like say this and that’s it. Yeah, simple sentences, clear sentences, less words things like that. Maybe in building an argument or just explaining something English seems to be quite linear we have a sort of pattern that we follow when we’re writing things that is expected and the Spanish mind set seems to be a little bit more circular in explaining and coming back to something and then explaining again so that actually makes it less clearer just because the English brain doesn’t expect that and so it’s unclear as to what is referring to what point so I think probably the linear versus the circular arguments produce problems for the reader.

Though Susan’s explanation of an *English brain* is problematic, her point about reader expectations regarding logical flow or coherence in an English language scientific research article is important. Susan's sentiments about the linguistic differences where English is direct and to the point and Spanish writing is more *descriptive* and *circular* are seconded both by other instructors and journal editors.

Several emerging and established scholars expressed frustration at scientific writing norms in English, suggesting a cultural component to the differences, where the direct, efficient approach to communication adopted by science writing in English is seen as brusque and obtuse from a Mexican perspective. MEX U scholars (both graduate students and faculty) appear to be self-aware of their difficulties with achieving concise writing:

> I think in Spanish we use more words to explain something and in English is more direct, more concise…we try to use different words to refer the same thing because we don’t appear repetitive but in English you have to use the same word to refer to the same thing no? (Patricia, PhD)

Patricia refers to two difficulties related to concise writing that students encounter when writing in English. First, the more direct and explicit approach to description; second, the use of repetition following a definition or introduction of a term. Other students also found the need to repeat terms and keep sentences short a frustrating exercise, and expressed their frustration often during the AWC. This frustration was shared by both emerging and established scholars:

> The kind of logic of English construction of phrases [sentences] are a challenge because I don’t write as an English speaker so the way how English speakers build a phrase is different from how we build [a sentence in Spanish] and I find English sometimes redundant and for us it doesn’t make sense that you have to use these same words and it is annoying because it is not exactly how I want to say it (Yolanda, Post-doc).

While Yolanda speaks to the frustration of attempting to adhere to the expectations of producing clear, direct, coherent, concise writing in English, course instructors are clear about how the lack
of attention to such norms is a major writing challenge for MEX U scholars and can negatively affect the reader, something many instructors tried to impart on their students during the course:

[MEX U scholars] have a tendency to want to write either run on sentences and stringy long sentences so I had to keep reminding them that the English sentence is a kind of straightforward preacher and it wants to go straight to its goal and then stop, without too many subordinate clauses…I was asking them to write in English stressing clarity over stylistic considerations and avoiding repetition [and that] was just not something they felt comfortable with. They felt that they wanted to write more elaborately and more I don’t know, fluently from their point of view, rather than to give up that kind of stylistic richness for the sake of clarity, and I, yeah at certain points felt that I almost wanted to say, go home and write a poem and then come back and write an academic paper, I mean, there’s merit in both but, you have to keep them separate (Tony, instructor).

Instructors appeared frustrated and dismayed by the descriptive detail, stylistic flare and lack of logical flow in students’ writing and link this lack of coherence and concision to the notion of rhetorical differences between Spanish and English academic writing.

Table 16
Clarity of Expression as a Writing Challenge and Potential Barrier to Achieving Publication

<table>
<thead>
<tr>
<th>Concision</th>
<th>Purpose</th>
<th>Importance &amp; Relevance</th>
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<tr>
<td>“In Spanish we are used to writing long, sophisticated sentences; never, never, never would you be able to provide a straightforward sentence because the language would be poor and impolite and inelegant and Spanish always tries to be elegant...pretty much like French, I guess. Therefore, a major constraint for us is ‘how do I say my idea in just 3 sentences?’ Conciseness is the most difficult thing for Spanish speakers, especially academics”. (Francisco, administrator and senior faculty)</td>
<td>“I think really getting to the point and having a clear objective statement is something that’s a little bit foreign for Mexican, well maybe for all Mexican writers...And they don’t understand that conciseness and an ability to clearly state the main point, upfront is really important. It’s very different from a literary approach where you don’t want to give away the ending. In scientific writing it’s becoming more and more a necessity to get your main idea, your main point up-front, very early…it’s a cultural difference”. (Stewart, scientific journal editor)</td>
<td>“I read the ones [submissions] that are assigned to me and I make the decision whether or not to even go ahead with this and if I don’t understand what the purpose of the study is and why it’s important, if it’s not clearly stated, we just send it back to the author and my rationale for that is if you can’t figure it out why are you doing something and why that something is important, why would you expect the reviewer will figure it out?” (Paul, scientific journal editor)</td>
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Clarity of purpose.

Several editors mentioned the importance of clarity of expression in regards to the study purpose or objective (see Table 16), a move that naturally occurs in the abstract and introduction sections. When asked what MEX U scholars’ main writing challenges are, Stewart explained: “I can’t say
enough about how impressed I was with the MEX U students and they were really doing some
top notch work, but when you ask them what their important findings were it was sometimes
difficult for them” (Stewart, editor). From his experience as a guest lecturer in the intensive
writing course, Stewart suggests that MEX U scholars have difficulty expressing themselves
clearly and concisely and that this may stem from rhetorical and structural linguistic differences
between scientific writing in Spanish and English. The contrasting differences are a common
theme among those describing the challenges with producing publishable research articles (see
section on intercultural transfer below for further discussion). Stewart’s suggestion that good
science may be impeded by a distinct lack of concise and coherent writing is one expressed by
many editors, instructors, and administrators and appears to be inextricably linked to a particular
cultural and linguistic understanding of effective scientific communication.

*Clarity of study importance or relevance: Answering the “so what?” question.*

John, a scientific journal editor with decades of experience as editor in chief, makes it
abundantly clear how important he feels it is for authors to clearly describe the importance of
their research: “If an author can't tell you why the study is important, then he/she shouldn't be
submitting the manuscript. They need to answer the ‘so what?’ question clearly” (John, editor).
Instructors also spoke to the lack of clarity in participants’ writing when expressing the objective
and implications of research and its findings. Janet goes on to describe the characteristics of a
successful submission:

> The papers that I see that get accepted are more of direct to the point. Also not varying
> their important findings and other things so really keeping the focus of what they want to
do with their whole paper…being clear with their stories…and then well conclusions
> that clarify what was important and highlighting the relevant points and questions for the
> future, etc.

In summary, clarity of expression appears to be both a main challenge facing MEX U scholars
when producing research articles (as highlighted by scholars themselves and AWC instructors)
and a potential barrier to achieving publication of their academic research articles in peer-
reviewed indexed scientific journals, according to scientific journal editors. What many
participants refer to as *clarity* appears to be a combination of grammatical, rhetorical, and
structural factors, including achieving the expected concise expression of research objective,
purpose, and importance. How these challenges are described positions the intercultural genre
differences between Spanish and English scientific writing at the fore when considering the potential of this challenge as a barrier to publication. How much of this lack of what participants describe as *clarity* is due to (normative and ideological?) conceptions among the centre instructors/editors is difficult to say, but their perceptions certainly support the notion that English language expression is natural and (more) conducive to reporting scientific research. That clarity of expression is perceived by gatekeepers as a central challenge for Spanish L1 scholars is unsurprising and supports previous studies investigating Spanish L1 scholars’ writing for publication challenges (Englander, 2009; Gea-Valor et al., 2014; Martin et al., 2014; Perez-Llantada, 2007; St. John, 1987). A larger question is how much of the challenge of clarity of expression has to do with knowledge related to the particular genre of a scientific research article vs. intercultural differences between Spanish and English scientific writing? The following section highlights scientific research article genre concerns as central to participants’ ERPP challenges.

**Lack of genre and disciplinary knowledge.**

After *accuracy* and *clarity*, the third category of potential challenge to effective ERPP is *genre*. When considering challenges to effective ERPP, disciplinary writing knowledge or genre knowledge is central for graduate students with little experience writing in the genre of English language scientific research article. When speaking to course participants post-course they often expressed surprise at how little they knew—or thought they knew—about the codes and conventions of writing a scientific research article. While some stated the difficulties stemmed from intercultural differences, others disagreed, stating that the main problem was a distinct lack of genre knowledge and understanding stemming from lack of experience with scientific research article writing. Janet, a course instructor and designer, states her opinion on the main challenges for MEX U scholars in achieving effective science writing in English:

> I'm clarifying my thinking about this. There's academic English—learning to write in the genre and in a second language. So, learning to write English and understanding how to write a scientific paper...Some of my students in previous classes there wasn't actually a big problem with their English, just minor issues. The big problem was that they couldn't write in the expected structure of a scientific paper in a clear expository fashion. So [in the academic writing course] we're sneaking in how to write a scientific paper under the guise of English lessons. You could write a better paper in Spanish, too, if you knew all these rules, I think.

Janet is quite clear that she believes genre understanding to be a central issue facing MEX U
scholars. Several scientific journal editors and course instructors agreed with Janet and were adamant that improving writing of a research article for MEX U scholars should include a major focus on “genre and structural understanding while language should be in the background” (Ruth, Biomedical sciences editor). George, an editor in the veterinary sciences agrees, and expresses his empathy for those attempting to write for publication in an L2: “Well I think that it is always very difficult for someone to write anything in a language that is not their own. Then superimposed on that is the constraints of scientific writing, like structure and concise communication, etc.”.

Evelyn, an instructor who taught the course both in Canada and Mexico, asserts that the main problem doctoral students faced was concision; however, not necessarily because of intercultural linguistic differences but rather due to lack of genre and disciplinary knowledge, something she found was applicable to graduate students in any post-secondary setting, regardless of context:

I think the main concern for them was deciding what was relevant. For some of them it was making it clear what the goal was overall that and that’s normal with grad students that’s not language…it takes one a while to sort of set the scope even when you’re writing a paper for some of them it was how big a piece do I write about because it’s their PhD project but a paper is much smaller more focused. So there was a lot of discussion around the scope even though most of them had a paper ready. I don’t think the biggest challenge even with the more advanced group was language.

Evelyn seems to suggest that doctoral level course participants at both the CEFR B1 and B2 levels were similarly struggling not solely with intercultural or linguistic difference issues but more with a lack of understanding of the genre expectations surrounding scope of a research article, something she suggested was endemic to emerging scholars regardless of L1.

**Introduction and discussion sections of the IMRaD article.**

One of the biggest areas of concern for both graduate students and faculty when writing a research article in English was the structure of a scientific research article, namely what should and should not be included in each section (introduction, methods, results, and discussion) as well as the appropriate length of the section. Several instructors suggested there was a great deal of confusion on the part of graduate students as to what belongs in the introduction and discussion sections. Jane (instructor) explains, “discussion is a little bit like the introduction…sometimes they lost the main focus in all the detail…they don’t know when it’s enough” (Jane, instructor). According to several instructors, part of both emerging and
established scholars’ challenge with these sections was producing writing that met the expectations of staying focused and within the expected scope of an English-language scientific research article. Introductions produced by MEX U scholars tended to be too extensive and broad in scope while discussions went beyond a discussion of results to unexpected areas—a move unpopular among instructor and editor interlocutors.

Some editors suggested that the lack of focus in the discussion section and occasional mixing of discussion and results—when that was not the expected norm of the journal—could lead to an article being rejected. To illustrate the import of understanding these section-specific norms when attempting to achieve publication of a scientific research article, George (Veterinary Sciences journal editor) chose to make this issue central when providing tips to course participants,

Making sure that your results are results, unless it is a journal where it combines results and discussion, keeping the discussion out of the results, and making sure that you start off with the important points and highlight the important findings. Making sure that the discussion is not a review of the literature and drawing conclusions that are consistent, justified by the data, not trying to overreach in the conclusions we make. I would say those are some of the highlights that I tried to present.

Overall, editors and instructors cited a lack of genre understanding as a key challenge to MEX U scholars achieving not only clear, effective writing in English but also a potential barrier to achieving publication of research articles in scientific journals. This finding is in line with previous studies that highlighted various genre features as problematic for (particularly) emerging and established NNES scholars both in periphery (Bazerman et al., 2012; Burgess & Cargill, 2013; Duszak & Lewkowicz, 2008; Flowerdew, 2001; Sheldon, 2011) and centre (Casanave, 1998; Cho, 2004; Swales, 2004) contexts. Exactly how important a barrier lack of sufficient genre understanding is in terms of scientific writing is difficult to say but what is clear is that this knowledge or understanding appears to affect emerging scholars much more than established ones, though it is not irrelevant for experienced MEX U scholars either. This leads to questions surrounding the nature of these perceived genre challenges and whether they are in fact due to scholars’ lack of exposure to and experience with writing research articles and/or related more to the intercultural structural and rhetorical differences between Spanish and English scientific research articles. These findings further suggest the potential importance of attending to genre and discipline-specific features of English language research articles when providing ERPP instruction, something suggested by several leading ERPP researchers (Burgess & Cargill,
Trouble managing intercultural differences.

Another major challenge (very much inter-related to the accuracy, clarity, and genre challenges appears to be that of understanding and managing the cultural and linguistic differences between Spanish and English as well as between Spanish and English scientific research articles.

Underlying L1 academic writing proficiency.

In transitioning to discuss in detail the potentially large role that L1-L2 transfer plays in producing challenges to effective L2 writing, I first introduce another potential challenge to achieving clear and effective L2 writing of a research article mentioned by various participants: MEX U scholars’ lack of L1 writing proficiency/knowledge. A common topic of complaint among faculty supervisors and scientific journal editors is the deteriorating nature of L1 writing overall and particularly that of graduate students. According to Emiliano, an experienced researcher and faculty supervisor, “The main thing when you're writing papers is the clarity in your ideas. If you have clarity in Spanish you can have clarity in English. There are many students who write horribly in Spanish and so they do the same in English”. Emiliano, along with several other researchers, is quite critical of graduate students’ overall writing proficiency and knowledge these days. Providing a language teaching perspective, Antonia, head of the MEX U language learning centre, is familiar with faculty concerns with student writing. However, she queries why we assume that students have an elevated writing proficiency in their mother tongue when admitted to MEX U graduate studies:

Why is it that at the beginning it’s taken for granted that university students know how to write in Spanish? This is absolutely important to know when considering their English writing…I was involved in a research [study] for four years [where] we studied the level of linguistic competence [of] students [who] entered undergraduate university programs and it was like 50% lower than what was expected. They don’t know how to put 5 sentences together in Spanish! So they are always chasing from behind to catch up with their writing…in Spanish as well as English.

Marta, an editor and faculty supervisor in veterinary studies is likewise critical of the overall writing skills of graduate students at MEX University. When asked about challenges authors face in producing publishable articles to her journal, she states, “Well yes many of the doctoral students, especially in science, do not even write correctly in Spanish. So reviewing thesis or
articles written in that way is also pain in the neck and it gets you very upset”. Marta suggests frustration in dealing with what she considers sub-par student writing and suggests a lack of focus on linguistic form and structure in the L1 as an issue when students attempt to write both in Spanish and in English. She is adamant that, along with instruction on how to write in the L2, students receive support with their L1 writing skills.

**Linguistic and cultural transfer.**

Understanding and managing linguistic differences are posited by many participants (scholars, instructors, and journal editors) as one of the central challenges to achieving effective writing and a potential barrier to these scholars’ achieving publication of English language research articles in peer-reviewed scientific journals (summarized in Table 17).

Table 17
*Three Categories of Transfer Errors Most Commonly Reported on by Scholars*

<table>
<thead>
<tr>
<th>Challenging L1-L2 transfer issue</th>
<th>Lexico-Grammatical</th>
<th>Structural</th>
<th>Rhetorical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex vs. concise (sentence, paragraph, section)</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstract</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Definition/repetition vs. re-definition (nouns, verbs, notions/ideas)</td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Passive vs. Active</td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Linking words and phrases</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verb tense use in given sections</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Clear statement of purpose, relevance, importance of research</td>
<td></td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Strength of claim</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Clear and consistent authorial voice</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
</tbody>
</table>

The main theme throughout the participants’ discourse surrounding linguistic transfer as a writing challenge and impediment to publication is that of clarity. As seen in the previous section, concise writing seems to be the most difficult task for writers to achieve, though it is expected in the scientific genre of writing of research articles. Graduate students in particular (but not solely) complain that L1-L2 differences inhibit their expression when attempting to
work with a previously written text in Spanish and translating it into English, as Maria explains, “Well in Spanish I think I’m very good but sometimes it’s difficult to translate to English because I want to write similar to Spanish and it is difficult in English which is less complex at the structure of the sentence”. Managing these L1-L2 differences appears to be a challenge to achieving clarity of expression and a potential barrier to achieving publication, particularly for those scholars who are working from a text originally produced in Spanish, a practice common among emerging scholars.

Janet, a course instructor and one of the architects of the AWC, speaks to potentially deeper issues leading to linguistic transfer challenges:

English NNSs have a lot of problems but Spanish in particular I think there are a whole bunch of false cognates. The syntax is different in a very particular way and they have a lot of difficulty with that. I think the culture is also a big thing. The history of Catholic style education with long explanatory, in-depth background sections to papers and books; the rule about not being able to repeat words—that they’ve had to unlearn; a tendency to talk in a long elaborated way…the sentences and paragraphs and introductions and the paper are all too long. Those are the very specific Spanish L1 problems.

Janet speaks to linguistic transfer affecting vocabulary use, grammatical structures, and concision of writing in general. She is not the only one who sees the problem as more than just a linguistic one, however, Antonio, the former head of MEX U-Canada, speaks to how the transmission of ideas is intricately connected to the cultural background of the writer:

Knowing the culture of scholars working in English; it's a cultural problem, it's not a grammar problem but it's a kind of problem of structure—the way you transmit your ideas. Spanish is a language (Mexican Spanish) in which you can talk like in circles and it's a very baroque kind of language and scholars sometimes think that's the way to write…but it is not the way to write in English. In Spanish it passes and you can publish in Spanish like that, writing it as a novel or as a piece of literature instead of a scientific paper, but not in English.

Findings pointing to the centrality of L1-L2 linguistic and cultural transfer as an ERPP challenge and potential barrier to achieving publication for MEX U scholars support previous studies from the field of intercultural rhetoric in highlighting specific challenges for Spanish L1 scholars (Englander, 2006; Martin et al., 2014; Moreno, 2012; Ruiz-Garrido, 2010; St. John, 1987). These findings suggest a potentially central role for instruction and support catering to scholars with a particular linguistic repertoire (see Chapter 8 for further discussion and pedagogical implications). Findings suggesting difficulties encountered by emerging scholars attempting to
publish L2 texts from L1 theses have been suggested by previous researchers (e.g. Kwan, 2010) and suggest the potential import of instruction aimed at scholars based on not only working from large texts (thesis) to small ones (research article)—something all scholars contend with regardless of L1—but also on the particular challenges related to working inter-linguistically in a way specific to these emerging scholars in this semi-periphery context. Findings indicating differing perceptions on the centrality of challenges, from lexico-grammatical to genre to rhetorical raise questions as to how these potential challenges should be addressed in ERPP support, both in terms of content and which type of professional(s) should be involved in the delivery of such support (language versus content). For example, if emerging scholars are working with Spanish language theses when attempting to write English language research articles, would it not be advantageous to have support not only from discipline-specific content experts and English language experts but also from those who have intercultural rhetorical knowledge of scientific writing in both languages?

Overall, discursive ERPP challenges highlighted by participants are many and I divide them into four categories, accuracy, clarity, genre, and L1-L2 linguistic/cultural transfer (see Table 18). This table is useful in highlighting many of the discursive features that are problematic for these Spanish L1 scholars when producing ERPP. These categories are arbitrary and, as shown in Table 18, all contain elements of what I label as L1-L2 cultural/linguistic (or intercultural) transfer. This is not meant to be a definitive list of the most salient discursive challenges but rather a list of features that were identified by scholars, ERPP instructors, and editors as central challenges in producing effective scientific writing of research articles in English. While some of these discursive features appear to be potential barriers to MEX U scientists’ achieving publication of research articles in international scientific journals, equally or more important are the non-discursive features outlined in the following section.
Table 18

Potential Discursive Challenges in Achieving Effective English Academic Writing

<table>
<thead>
<tr>
<th>Writing Challenge</th>
<th>Accuracy</th>
<th>Clarity</th>
<th>Genre</th>
<th>L1-L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb tense and aspect</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>S-V agreement</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Relative clause use</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Article use</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Passive versus Active voice</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Punctuation: commas, semi-colons, and colons</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Discipline-specific vocabulary</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Length of sentences, paragraphs, sections</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consistent use of term or expression</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Express purpose, relevance, and importance of research early and clearly</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Logical flow of ideas: linking expressions and transitions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clear author voice</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Consistent author voice</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Appropriate elements of introduction</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Appropriate elements of discussion</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Non-discursive ERPP challenges and potential barriers.

Highlighting the perspectives of multiple representative voices from various participant groups (see Table 19), the following section outlines several potential barriers to achieving publication of research articles in indexed journals I refer to as non-discursive: lack of ERPP exposure and opportunities; trouble navigating the submission and review process; lack of time; and insufficient institutional and/or departmental writing support. Like the discursive categories listed above (clarity, genre, managing intercultural transfer), these categories have been named in response to participant perceptions and, while some could be considered discursive in nature (particularly navigating the submission and review process), I argue that all four fall into the
category of non-discursive challenges due to their connection to unequal and/or uneven access to material and/or physical resources available to these MEX U emerging and established scholars.

Table 19

Non-discursive Challenges to Achieving Publication in International Scientific Journals

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>&quot;I remember [when I was an undergrad] that even at undergraduate courses were involve write new papers...you have [had] to write a report in the form of a scientific article with the IMRAD structure almost for every course...at least in Biology and Chemistry and Physics, and the students from the beginning were trained to do that...In Spanish, of course and then in English...Overall], there is no such good efforts for the students to learn this writing now...then when they want to do a Master’s or a PhD, then they start to think that English is important...It’s a little bit late and they have great difficulties to write an article in English&quot;. (Humberto, senior faculty)</td>
<td>&quot;The most important thing is to have time...We have 50 students in each group so you need to grade and do all the teaching activities and also the administrative activities and I have my own lab - I am the main investigator at my lab so I need to write proposals for funding, write reports etc. There are so many things I have to do and sometimes I think it would be nice for me to have three weeks to concentrate on a paper&quot;. (Jesús, faculty supervisor and department head)</td>
<td>&quot;The problem is that I've seen them [course participants] say, 'oh my paper got rejected' and I told them 'your paper's gonna get rejected' and they don't really understand that this is normal...they are very discouraged when they are rejected. I've told them it's normal. I've seen this time and again they get rejected and then they're down in the dumps. If you get rejected you go to the next journal on the list. It's a long slog and I try to tell them that they send it in and if rejected they revise and so on and it often takes 3-4 journals before it gets accepted. That's part of the problem&quot;. (Janet, instructor)</td>
<td>&quot;We don't have nobody to help us with English writing...ok we have the advisor [supervisor] but what if they don't know? I look for help and I do everything I can and I find help from other people outside the university but inside [the university] we don’t have nobody to help with the English part...not even with the Spanish part!&quot; (Juana, PhD)</td>
</tr>
</tbody>
</table>

Lack of ERPP production opportunities.

While it may seem simplistic to the point of deserving omission, I include the lack of exposure to ERPP opportunities as an obvious challenge to achieving effective L2 writing and an apparent barrier to achieving publication of research articles. Learning trajectories of MEX U scholars are varied and those doctoral students and faculty who have not studied abroad in a country where English is a dominant language of instruction or writing have largely had insufficient exposure to English (and sometimes Spanish) academic writing opportunities while studying at the elementary, secondary, post-secondary, and graduate levels.

Many doctoral students interviewed over the course of this project reported a lack of confidence in writing research articles in English. This is unsurprising as the vast majority of graduate students report little exposure to or practice at writing genre-specific texts in English until
reaching the Master’s or (often) Doctoral level of study, as this excerpt from a focus group discussion with Veterinary Science doctoral students demonstrates:

**Daniel:** I think my biggest challenge is that I don’t have experience in talking and writing in Spanish and less in English. I’m doing research for around seven years and I only [do] the part of fieldwork and like lab technician or like helping other people but not writing. I only have experience of writing a paper that has been published last semester. That’s my experience.

**Fernando:** Yeah, I’m agree with that. I have no practice in doing the writing in English and now we have to do it and my writing is not strong so that’s why I take this course.

While there is obviously wide variability among graduate student writing proficiencies, it is clear that many graduate students simply lack the practice of producing academic texts similar to or related to the one they must produce in order to meet graduation requirements in their specific programs. Those faculty supervisors with great experience in the manuscript production of a research article process—from writing to reviewing—and who have seen many graduate students come and go lament the lack of exposure to academic writing opportunities at both the undergraduate and graduate levels at MEX University. Without such exposure to discipline-specific writing opportunities in either English or Spanish, many faculty spoke to how students are woefully ill-prepared for science article writing for publication once they reach the doctoral level:

I think in science we are focused more on doing the actual experiment than writing so I think graduate students are more confident in doing the science than writing…most of them have never done it [write an academic research article] before so they are restricted or not very confident...[Writing a research article] is something you learn: of course it can help some if you read a lot because you are able to do it quicker because you have read and seen it a lot of times but I think when you get experience doing it and it goes wrong you kind of put a finger on that. If you make this process a conscious process then you can put the steps together and a lay out how you should be approaching this and the more you do it, it becomes easier and easier. Although always you know, it takes much effort even for me still (Raúl).

Raúl’s insights are significant as he lays out the process—from his extensive (teaching) writing for publication experience—of learning through experience that takes place when attempting discipline-specific writing, experience that seems to be limited for many graduate students until faced with a new task at the end of their doctoral programs. While MEX U scholars are exposed to heavy quantities of reading of scientific texts and articles in English at the undergraduate and Master’s levels, there is little if any practice at writing such texts or pieces of texts until it
becomes a necessity for graduation at the doctoral level. There are exceptions, however, with some doctoral students suggesting collaborative ERPP opportunities provided by their MSc and PhD supervisors. These students appear to be in the minority, however, and overall, graduate students (and some faculty) appear to have not received adequate writing opportunities in order to facilitate production of manuscripts without extensive writing support.

This lack of exposure to ERPP production opportunities appears to be a potential barrier for MEX scholars in achieving publication of research articles in desired indexed journals. This finding supports assertions by researchers from a Mexican post-secondary contexts that a lack of writing research articles combined with lack of ERPP instruction can pose significant barriers to achieving publication of research articles (Carranza & Kent, 2009; García Landa, 2006) and is particularly concerning when considering the uneven and unequal exposure to ERPP opportunities provided for emerging scholars. While uneven exposure to ERPP opportunities may be an issue for emerging scholars globally, this finding bolsters the argument of a potentially unequal playing field or market where (many of) those multilingual scholars in periphery contexts are at a disadvantage compared to their centre counterparts, especially for those who have had little ERPP exposure, either at home or abroad. This finding also suggests the potential centrality of ERPP exposure in developing the genre expertise to be able to succeed in achieving publication and therefore become (a greater) part of periphery scholars’ desired international discourse communities. The lack of opportunity for these scholars to do science in English, whether by writing up research (or smaller pieces) or presenting research, is troubling and likely a main barrier to their increased connection to their desired discourse communities.

**Trouble navigating submission and review process.**

From in-depth interviews with participants, particularly scientific journal editors, it became apparent that one potential barrier to achieving publication for MEX U scholars was navigating the submission and review process. While many more experienced faculty spoke to their confidence identifying appropriate journals, meeting author guidelines, and working with editors and reviewers on revising the submitted article, several graduate students noted that they were “walking blind in this way…because we just follow the supervisors and others who supposed to know what to do” (Teresa, PhD). In the opinion of many of the journal editors and course instructors, neither doctoral students nor their supervisors seemed to have sufficient experience with navigating the submission and review process, particularly with respect to effectively
interpreting/responding to journal (editor/reviewer) feedback, identifying appropriate journals for the submission, and following author guidelines for submission.

Students and faculty spoke time and again about receiving negative feedback suggesting extensive revisions or consultation with a native English speaker or editing service to bring the language quality up to the expectations of the journal. While this type of response may be completely legitimate, many MEX U scholars reported being frustrated at this vague, unspecific type of response given the time and effort they had put into preparing their submissions. By far MEX U scholars’ biggest bone of contention is that their submissions have been rejected because of some inherent bias in the system against Mexican or Mexican scholars and/or their institutions (see Chapter 5 for further findings and discussion). This assertion, while widespread among graduate students and faculty who took the intensive AWC, was categorically denied by each and every editor, with many suggesting that indeed the opposite is true. Many editors spoke to the multiple reasons submissions are rejected and the often helpful feedback given to authors, with some stating that when it is apparent the submission is coming from an emerging scholar and/or a scholar with less than native-like writing proficiency in English they take particular care to give the author(s) guidance. As George (editor) explains,

If the science is good and the message intelligible, we make our best effort to work with the author to make it work; however, if the language requires improvement and it would be too much time for us to do that ourselves, we suggest that you either seek assistance of a colleague who is proficient in the use of scientific English or use a commercial service available to assist in editing this, and it is always done in the spirit of being helpful it never is insulting or disparaging. You do get the occasional reviewer who is harsh and unreasonable, quite independent of the author’s language—this happens even when talking about papers by people who are native English Speakers.

Paul (ES editor) corroborates George’s claim, suggesting the goal of disseminating important scientific findings is everybody’s ultimate goal, from the editors down the line:

The important thing I think to remember on this is that theoretically everybody has the same goal: we want to have the best papers we can…so that’s what the editors are trying to do…When talking to the group of scholars here (MEX U intensive AWC) I tried to express that they mustn’t be too sensitive about this, they really have to get themselves in the mindset of taking advantage of what people have said and is not enough just to put the paper away and never look at it again…to just get mad and say ‘what does that person know?’ I think people [MEX U scholars] think the paper got rejected because they’re from Mexico as opposed to perhaps the paper got rejected for other reasons…they should carefully read our feedback because perhaps they don’t read all the words or they miss some of the answers.
Other instructors and editors mentioned further reasons why a submission could be rejected at the initial submission stage, with the main ones being a lack of adherence to author guidelines as stipulated on the journal website and/or submissions of articles to inappropriate journals. While many of these suggestions would likely be similar for scholars (particularly emerging ones) from both centre and periphery contexts regardless of L1, many instructors and editors suggested an urgent need for more experience with and ability to navigate the submission and review process for these particular semi-periphery scholars in order to improve likelihood of achieving publication of research articles.

Ultimately, difficulty navigating the submission and review process—including identifying appropriate journals and effectively interpreting and responding to editor/reviewer feedback—appears to be a potential barrier to both emerging and established MEX U scholars achieving publication of research articles in their desired scientific journals. This finding supports previous research into periphery scholars’ challenges with navigating the ERPP process, including that which focuses on interpreting and responding to NES editor/reviewer feedback, both among emerging (Burrough-Boenisch, 2006; Li, 2006; Huang, 2010) and established scholars (Lillis & Curry, 2013; Englander, 2006; Flowerdew, 2001). The apparent pervasiveness of this potential barrier suggests the importance of attending to these practical ERPP skills when providing support for emerging and established scholars while pointing further to potential systemic inequity disadvantaging those NNES periphery scholars who have had little opportunity to navigate these potentially difficult interactions. These findings suggest the potential necessity of greater exposure not only to ERPP instruction focused on honing these skills but that based on building connections with a wide range of what Lillis and Curry (2010) call literacy brokers as well as gaining authentic exposure to and interaction with revision of scientific texts (see implications in Chapter 8 for further discussion).

Managing time demands and meeting increasing publishing expectations.

Evidence that (lack of) time is a major challenge to MEX U scholars’ effective L2 writing and publication of research articles comes from both post-course survey data as well as individual interviews with doctoral students and faculty supervisors. Almost to a person, students and faculty complained that writing research articles in English took up a disproportionate amount of their time. In an excerpt from a focus group discussion with doctoral students, Juana explains:
“[Writing a research article] is not easy so it takes me more time so I dedicate more time that maybe I could spend in my experiments, or reading or doing other things”. Other students complained about the arduous process of writing a research article in general, and the added time burden of doing it in an L2:

It’s a problem because it takes me a long time as it is necessary to plan everything before start writing and [then] you have the idea and you develop everything all your methods and you get all your results and you have the background knowledge to discuss these results the problem is in how to present that results and that is when the writing process sucks and for me it has been very difficult to start writing…for me it is very hard and it takes me weeks sometimes to get the first sentence to develop the entire idea or the entire paper (Javier, PhD).

Responding to a prompt about what her main ERPP challenge is, Yolanda (post-doctoral student) says: “It takes too much time to write a paper…if you are not a native it takes the double…I’m lucky because my co-authors are English so they add to the English but if I have to write that in English myself it’s going to take more than one year”. Yolanda feels fortunate to have co-authors at the university who are taking responsibility for much of the English revisions when producing a particular research article. However, not all doctoral students are so fortunate and many complain of too little time to accomplish what they see as a herculean task given the resources available to them.

Time as a potential limiting factor to publishing research articles in English is one of the salient topics throughout discussions with all levels of periphery scholars, from graduate students to junior faculty to senior faculty to department, research, and institute heads. Ricardo, a junior faculty member with a heavy teaching load explains: “Time is my main constraint, definitely, especially because this is not a research position and we have a lot of teaching hours. It's a big nuisance to find time to do this writing. It requires a quiet environment and you need time to do this”. It appears that senior faculty also feel the crunch in terms of finding enough time to produce research articles for publication, on top of all of their other duties. Jesús, a department head with a heavy teaching and research load, explains the demands writing in English places on his time and the relief he felt during the course at how much time he could (more or less) exclusively dedicate to his writing: “Time is the main frustration. I would say I have been able to dedicate 90% of my time to my manuscript during this course. It's nice because I can sit down and think about the paper and all the information and how to arrange it and so on”. This is in stark contrast to the regular state of affairs where he is busy with many other teaching,
researching, and administrative tasks that limit his time to focus on writing for publication. Time as a limiting factor to achieving academic publication appears to be salient across faculty levels as well as disciplines. However, the demands on those faculty who must juggle heavy teaching and researching loads (e.g. those in an applied area like Veterinary Sciences) appears to be particularly acute. The potential barrier of time needed to produce research articles for publication is an issue for scholars across contexts, but these findings appear to point to the particular saliency of this challenge for these periphery scholars, adding qualitative nuance to Hanauer and Englander’s (2011) quantification of the burden of producing these texts in an L2.

When asked about time demands in relation to publishing expectations, many established scholars spoke of the increasing expectations of publishing research articles in English language journals and how this expectation that has grown rapidly over the past few decades. For graduate students, the expectations are simple: (co) publish an article in an indexed scientific journal in order to fulfill your program graduation requirements. This expectation has not always been there, however, and many faculty spoke to the evolution of these publishing expectations for graduate students and faculty over the past thirty years. “I think the main change has been to get a publication from the students in an international journal. Before a person could get his or her PhD without publishing—even in Spanish—they could get the thesis done and approved by the committee and he/she would get the degree”. This emphasis on publishing in English, according to Emiliano (senior faculty advisor), has grown alongside expectations of increased publication rates of faculty at MEX University and is directly connected to what Emiliano labels the Anglo-Saxon, neoliberal model of post-secondary scientific knowledge production.

The pressure to publish in English started in the 90’s and it got fixed in the early 2000s. The model it follows here in Mexico is that you get all these changes at first at MEX U and then it goes everywhere. At MEX U 50 years ago, professors and assistant professors could be hired without a PhD. Now, if you want to be hired at MEX U you have to have a PhD, three years of Post-doc, and you have to have several publications.

At MEX U there are different type of faculty positions—some that are teaching-heavy and others that are research-heavy—and these positions, depending on the department, have differing expectations for publishing. Faculty in positions where they are expected to publish at an increasing rate appear to be feeling the most strain, with faculty consistently stating increased production and subsequently reduced time as major challenges to achieving publication.

The ramifications of these changing publishing expectations appear to be clear to journal editors.
As several editors from international and domestic indexed journals noted, the quality of submissions from authors has decreased as production has increased. As one editor from Environmental Sciences notes, the tortilla production has increased at MEX U and across research institutions in Mexico, with the result of “poorer quality submissions because researchers are threatened with termination of employment if they don’t increase their production” (Linda, scientific journal editor). This drop in quality of submissions by researchers, be they experienced or novice ones, has also been noted by international editors: “My sense is unfortunately that more and more authors are not spending the time and having others look over their work before submission. This is because of institutional pressure to publish. It’s the same in my department [at a US university]” (John, editor).

The upshot of the new publishing norms for researchers at research-intensive Universities like MEX U appears to be that the time demands placed on those faculty tasked with producing this research could be a potential barrier to both faculty (logically) and graduate students (through lack of mentorship and supervision) in achieving publication of their research in indexed journals. These findings add to a growing body of literature suggesting time demands as a central non-discursive challenge for periphery scholars (Curry & Lillis, 2004; Duszak & Lewkowicz, 2008; Hyland, 2015) and those highlighting the inequity of growing English language publication expectations for periphery scholars across global contexts (Curry & Lillis, 2014; Englander & Uzuner-Smith, 2013; Salager-Meyer, 2014). Simple time demands alone dictate that, even those MEX U scholars with elevated L2 writing proficiency will suffer an additional burden when expected to publish in English. This fact alone supports an argument that, while the NES-NNES dichotomy may be problematic and there is no such thing as a native speaker of academic writing (Mauranen, Hynninen, & Ranta, 2010; Swales, 2004), NNES periphery scholars are at a distinct disadvantage when competing or playing the game alongside NES counterparts. Findings pointing to time as a central barrier to MEX U scholars achieving publication of research articles suggest the need for interventions aimed at scholars of varying proficiency levels to better equip them to compete in a market skewed in favour of those who have better access to resources enabling acquisition of linguistic and social capital necessary to survive and flourish in this particular economy of knowledge production and exchange.

**Lack of writing support.**

What is also abundantly clear from interviews with all levels of participant is that there is a stark
unevenness in writing for publication support across departments and a dearth of writing (for publication and otherwise) support across the university as a whole. The message was similar from students, faculty, and department/institute heads that, although many felt it was the responsibility of the scholars themselves to produce and edit their manuscripts for publication, more support was desired at the supervisory, departmental, and institutional levels.

During semi-structured interviews, course participants at all levels, but particularly doctoral students, complained that they were not receiving adequate writing support from supervisors, departments, and MEX University as a whole. While some doctoral students praised their supervisors for excellent mentorship and supervision, others were critical of both their supervisors’ level of academic writing proficiency as well as their apparent lack of understanding of the codes and conventions of academic writing for publication in English. While many graduate students and faculty mentioned the various ways in which they receive writing support, whether it be facilitated by MEX University, like the AWC under investigation, department-level courses or tutors or faculty supervisors, professional services like editors or translators, or peer support from colleagues or native English speakers, a great many reported on the limitations of such supports and cited the lack of sufficient support as a perceived barrier to their writing for publication.

While teaching various iterations of the intensive AWC offered in Canada and Mexico, I was often surprised to hear doctoral students discuss their lack of writing support from their supervisors. After taking the intensive AWC, Javier explains his consternation at the writing (lack of) expertise displayed by his supervisor:

My advisor [supervisor] has been publishing in English for a long time but now I realized that he doesn’t know really how to write and it is very shocking for me because I didn’t know how to write it and he always told me you have to focus on the problem and you have to tell us a story about it but actually he writes like if the paper would be in Spanish; using a lot of words and he likes to use a lot of synonyms instead of using same word things like that and I thought it was the same, at the beginning I thought it was the same writing in Spanish or in English…but now I know it is not.

Javier had an elevated level of writing in English coming into the course and his level improved significantly following the course, potentially leading to his questioning of much of the guidance he had previously received from his supervisor. This example is indicative of what appears to be a systemic lack of support for writing for publication at various levels at MEX University. The potential lack of effective supervisory mentorship offered to students and even lower level
writing proficiency faculty seems widespread and some see it as a major barrier to writing outcomes for MEX U scholars. At the departmental level, writing support appears to be highly uneven with some departments having faculty with extensive experience running workshops on academic writing (Veterinary medicine) to other departments providing little support. Reports from faculty citing the perception of a lack of consistent writing support from autonomous departments suggests a potentially systemic institutional issue:

I don’t think there is much writing support courses or specialists around at MEX University. Maybe there are some efforts but there are not public. I know for example there are some courses in the faculty of chemistry or could be in some other places but…it doesn’t go beyond specific fields or specific institutes. So maybe in our institute for example I’m very sure nobody knows outside the Institute of Geography that we have Gloria helping with this…but her email would explode (Jaime, Department Head).

This widespread lack of support is more than a little bit problematic given the requirement of students to publish an article in English in order to graduate and the growing pressure on faculty to publish in English in order to achieve academic advancement. As several faculty supervisors who took the intensive AWC admitted (and instructors corroborated), they were indeed there to improve not only their own publishing outcomes but also their supervisory support skills. Janet (instructor and course designer) explains her view on one of the main challenges emerging scholars face when attempting to produce publishable manuscripts in English:

There are some professors who understand how to write a paper in English and are passing it on but in other situations it’s clear that the supervisors and colleagues and research groups cannot provide an author with directions because they themselves have not written papers that meet the conventions of scientific publishing in what is called the Anglosphere…In North American science faculties, people learn how to write a paper in an informal sample and mentorship kind of way. They read a lot of papers, attempt writing one and their supervisors and colleagues discuss how to write a good paper and go over their papers with them to show them how to approach the paper. In this way, the knowledge of the standard conventions for a scientific paper are passed on in the academy but that is not happening at MEX U in all situations or even most situations.

Janet seems to suggest that there is a systemic lack of exposure to academic writing opportunities and support at MEX U and that, while some faculty supervisors appear capable of imparting the knowledge necessary to facilitate writing research articles for publication in English language journals, many are not. Raúl, a senior faculty member who teaches an AWC in the Veterinary Sciences department, agrees that many colleagues are not capable of providing the necessary support: “I think what is lacking is to teach the students the methodology of writing so I would
say that very few professors are actually transferring that knowledge to their students perhaps because they don’t even know it”. Raúl’s AWC offered (in Spanish) in the Veterinary Sciences faculty is optional and open to all graduate students and faculty. Like the MEX U AWC, Raúl’s AWC appears to be an anomaly at the university and there are few outlets where students can find the necessary support for their writing for publication (see Chapter 7 for further discussion).

Aside from the MEX U AWC under investigation—a novel but limited option—English academic writing (for publication) support options across MEX U are limited. Beyond supervisory support, there is one online graduate student English writing course offered by the Language Learning Centre and the occasional workshop offered by specific departments (e.g. Raúl’s AWC offered in Spanish to Veterinary Sciences graduate students). The lack of sanctioned (English) writing support often leads students and faculty to pursue support from colleagues who are either identified as Native English speakers or whose academic writing proficiency in English is superior to that of the author. This support is sometimes quite helpful; other times, according to many students and faculty, it is limited due to the time demands on faculty. The lack of ERPP support available to students and faculty at MEX U often results in scholars searching (without guidance) for support from official and unofficial sources outside the university, such as editors and translators. This support often comes at a high financial cost (e.g. official services marketed on journal websites) and/or is at times provided by those without the appropriate linguistic knowledge and/or disciplinary background knowledge.

The overall lack of writing support at the supervisor, department, and university levels appears to be a significant barrier to MEX U scholars achieving publication of academic research articles in English. This finding supports previous studies’ highlighting of the lack of ERPP support for periphery scientists, both emerging (Huang, 2010; Kwan, 2010; Flowerdew, 2001) and established scholars (Englander, 2009; Perez-Llantada et al., 2011). Building on findings from previous studies pointing out the importance of writing for publication mentorship (Belcher, 2007; Burrough-Boenisch, 2003; Casanave, 2002) for these scholars (especially emerging ones), this study suggests the problem is intensified without mechanisms to compensate for such deficient support. As Lillis and Curry (2010) have argued for some time, there is a need to provide scholars with the necessary resources (access to literacy brokers and networks) in order to properly equip them to compete; findings from this study point to uneven access to such support mechanisms, potentially exacerbating the deficit position(ing) of these scholars. The overall lack of writing support is yet another indicator of the dearth of non-discursive support in
periphery contexts, providing further evidence of an unequal playing field where periphery scholars are at a distinct disadvantage. The potential non-discursive barriers to publication highlighted in this chapter are troubling and suggest highly asymmetrical relations of power in the production and exchange of scientific knowledge and the need for greater attention to equity and diversity in these areas (Curry & Lillis, 2013; Hyland, 2015; Salager-Meyer, 2014). A greater understanding of these potential barriers to publication of research articles facing emerging and established scholars at MEX U would suggest the need for interventions to address the need for increased linguistic and social capital within markets of exchange where MEX U scholars are positioned as illegitimate producers of scientific knowledge. Exactly what type of intervention(s) are necessary and to what ends are greater questions and are addressed both in Chapters 7 and 8. Chapter 8 also includes a more in-depth discussion of the barriers to publication facing emerging and established MEX U scholars in light of a critical conceptual lens for interpreting these findings.

**Main Barriers to Publication: PhD vs. Faculty**

From a combination of perspectives gathered through survey and semi-structured interview data it appears that many of the challenges in achieving effective ERPP are similar for emerging and established scholars. Of these challenges, several appear to be potential barriers to achieving publication of research articles in international scientific journals. I argue that the main ones affecting emerging MEX U scholars appear to be both discursive and non-discursive in nature: a) lack of exposure to academic writing (for publication) opportunities and limited development of genre knowledge; b) insufficient L2 writing support; c) trouble achieving clarity of expression; d) managing linguistic/cultural transfer; and e) managing the article submission and revision process. For established MEX U scholars, the main challenges are similar to the doctoral students with some notable differences. First, MEX U faculty supervisors appear to struggle more with managing time demands and increasing publishing expectations while not struggling as much as emerging scholars with genre knowledge and exposure to ERPP opportunities. It should be noted that there is wide variability among participants from the two sub-groups in the challenges to achieving effective English academic writing as well as potential barriers to publication; however the barriers listed above and presented in Figure 13 provide a broad answer to this study’s second sub-research question. A greater understanding of these discursive and non-discursive challenges provide a contribution to the field in that it may guide policy and
pedagogical interventions aimed at addressing these scholars’ ERPP challenges, particularly when considered in tandem with findings related to the perceived efficacy of pedagogical interventions of the MEX U AWC (see Chapter 7).

Figure 13. Potential barriers to achieving publication of research articles. From interviews with participants from all sub-groups, six distinct challenges to achieving publication in international scientific journals are highlighted, with one challenge more specific to emerging and one specific to established scholars, with four relevant for both scholar groups. The bolded challenges represent the non-discursive challenges I argue are equally if not more central as potential barriers to scholars’ achieving publication.

Chapter Summary

Chapter 6 outlined the myriad English academic writing challenges and potential barriers to publication encountered by emerging and established scholars who participated in an intensive AWC offered by MEX University-Canada in both Canada and Mexico between 2011 and 2013. Discerned from multiple perspectives gained through various survey and interview data collection tools, findings from this chapter point to several major perceived challenges facing emerging and established scholars when attempting to produce effective academic writing in English. Several of these challenges appear to be potential barriers to achieving publication of scholars’ research articles, including those I label discursive: lack of clarity of expression, insufficient genre knowledge, and trouble managing cultural/linguistic differences. Further findings point to several main barriers to MEX U emerging scholar-scientists achieving
publication in desired journals I label non-discursive: limited previous exposure to academic writing opportunities, trouble managing the submission and review process, trouble managing time demands, and an overall lack of institutional/departmental writing support. I argue that the non-discursive barriers for these semi-periphery scholars are indicative of the disadvantaged position of these scholars in relation to their centre counterparts. Findings point to emerging and established scholars sharing several of the main ERPP challenges and potential barriers, with some exceptions including genre and lack of ERPP exposure posing a greater challenge to emerging scholars while established scholars appear to struggle more with the time demands associated with L2 writing and have trouble managing the submission and review process (particularly editor and reviewer feedback). Discussion of these challenges and potential barriers to publication—including the suggestion of certain barriers suggesting an asymmetrical system of scientific publishing where writing from NNES periphery scholars such as those at MEX U is de-legitimized—was briefly discussed in this chapter and is further explored in Chapter 8.
Chapter 7
Evolution and Efficacy of an Intensive ERPP Course

While considering the overarching question of MEX U scholars’ experiences with English as a language of scientific communication, this chapter draws on both statistical data derived from post-course surveys along with data gleaned from document analysis, classroom observations, and semi-structured interviews with various participants in addressing the third dissertation sub-question: How do participants perceive the efficacy of the MEX University-Canada ERPP course (MEX U AWC)? Prior to outlining findings related to the perceived efficacy of the AWC, this chapter provides a section on the evolution of the MEX U AWC from its beginnings in July 2011 until June 2013, including changing course duration, enrollment, instructional elements etc. The rest of the chapter provides participant perspectives on the efficacy of the AWC in meeting the ERPP needs of the emerging and established scholars taking the course. As with the previous two findings chapters, brief discussion is embedded with respect to the limited previous research into the approaches to and perceptions of teaching of ERPP to periphery NNES scholars, paving the way for an in-depth discussion and interpretation of findings in Chapter 8.

Evolution of the MEX U-Canada AWC (2011-2013)

This section includes a description of the changing nature of the MEX U AWC as delivered between its first iteration in 2011 and its seventh iteration in June, 2013. While traditionally incorporated into the introduction chapter of a thesis, this additional contextual data is included here as an extension of the background information provided in Chapters 1 and 4. The inclusion of this extended look at the ERPP course is imperative for understanding the perceptions of participants regarding the efficacy of the course in addressing MEX U scientists’ ERPP challenges and the potential and limitations of such interventions for semi-periphery scholars.

Motivation and rationale.

As stated previously, the AWC was designed by MEX U-Canada at the behest of various departments (all under the umbrella of the Biological Sciences Graduate Studies Unit) in an attempt to improve the publishing outcomes of both doctoral students and their faculty supervisors at MEX U. This thrust was reportedly in response to the a combination of the increasing expectations for academic publishing of research articles in English combined with a
relatively low number of indexed (i.e., English) articles published by MEX U scholars. Originally, the course was imagined by the academic liaison and academic director of MEX University-Canada, who were from the fields of Environmental Geography (Francisco) and History (Antonio) based on their experiences as authors of research articles in English as well as supervising students engaged in English for research publication purposes:

I came to the conclusion that this course was important because I've seen and I've faced myself the problems that a Spanish writer has when confronting English...and the challenges of building a manuscript, preparing it for submission, and getting it rejected due to English proficiency (Francisco).

The course was originally designed to cater to participants from both the natural and social sciences. However, between 2011 and 2013 the course evolved to take the shape of a science writing course as opposed to an AWC, taking on the character and shape of those driving it, Francisco (Environmental Geography) and Janet (Biomedical science writer and editor) as well as the MEX U health and life sciences research centres, institutes, and departments\(^\text{12}\) responsible for providing much of the funding for course delivery.

Many MEX University departments and institutes have implemented policies that require doctoral students to publish a research article stemming from their doctoral research in an indexed English language scientific journal in order to achieve graduation. This policy was introduced—depending on the department —over the past two decades and has spread as an impetus for emerging scholars to gain experience with scientific writing for publication in English, a necessary tool for MEX U scholars in many disciplines but particularly those in the natural sciences. The Graduate unit of Biological Sciences at MEX University has had this policy since the early 2000s. This department, comprised of eight institutes (Biology, Marine Biology, Ecology, etc.) under one umbrella, has over 1,300 MSc and PhD students. As one of the largest graduate departments, Biological sciences has also been both the contributor of much of the funding for the MEX U AWC as well as the main provider of course participants, with over 75% of course participants between July 2011 and June 2013 hailing from this graduate unit. Although the policy of mandatory publication in order to graduate has been in place for over a decade, graduation rates and program duration averages have not met departmental goals. Longer

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\(^{12}\text{Biological Sciences Graduate Unit: Biology, Biomedical research, Biotechnology, Cellular physiology, Ecology, Geology, Neorobiology. Research centres: Environmental Geography, Ecosystem Research. Other departments: Veterinary Sciences.} \)
PhD programs and lower graduation rates are both negative outcomes for the university and Mexico in general as MEX U graduate students are fully funded throughout their degree programs (personal communication, Laura, Biological Sciences graduate unit director, November 2014). According to Laura, the incentivizing of doctoral students to achieve publication in order to graduate has not been as successful a policy as desired by the department or the institution, providing ample incentive for a course such as the MEX U AWC. Over the past several years, there has been an even greater incentive for an intervention such as the MEX U AWC in that meeting certain indicators provided by the Mexican Science and Technology council (CONACYT) allow departments to receive additional grant monies. Francisco (course designer and senior faculty) explains:

So, in other words our university is public and free and everyone who studies gets a scholarship so it's rather unique because it is paradise for a student—you get it all. But in order to keep that you need to fulfill certain indicators and the council of sciences for Mexico (CONACYT) has a new platform that indicates that if you have outstanding students scientific production you would get twice the support that you were getting. The students wouldn't get more scholarships but the program would get computers, logistics, labs, trips abroad, possibly to present papers at conferences, things like that. That was amazing and we all wanted to do that but in order to fulfill those indicators you have to make sure your students can accomplish their PhDs in time by publishing articles.

Francisco goes on to explain that the average PhD at MEX University takes seven years but that the Biological Sciences graduate department has managed to decrease it to approximately 6 years. If they manage to decrease it even further to 5 years, they will be able to maximize funding potential from CONACYT (personal communication with Francisco January, 2014). Since 2011, the MEX U AWC has been delivered in response to this perceived need for improved publishing outcomes and decreased degree duration among emerging MEX U scientists.

**Building a teaching team.**

While the impetus for the course stemmed from a combination of the personal and professional experiences of the MEX U-C academic director (Antonio) and academic liaison (Francisco), design of the course was achieved through the combined effort of these two administrators along with substantial input from a scientific writer and editor (Janet). Janet was recommended to Antonio by the Canadian National Research Council of Journals as a person who could advise on design of a course aiming to improve publication outcomes of Mexican academics. After
recruiting Janet to aid with the design of the course, Francisco and Janet designed an initial syllabus and, with additional assistance from two other administrators responsible for pedagogical and logistical matters, a pilot course was offered to doctoral students and faculty from both social and natural sciences in July 2011. Following the pilot course, a re-designed version of the course was prepared and delivered as a full course for the first time in January of 2012. The course has since been in high demand from MEX University, and offered numerous times in Canada and (mostly) in Mexico.

As the course was divided into three relatively distinct sections, with no individual instructors seeming to have all the required knowledge bases, separate instructors were recruited to teach one section each. Janet, the science editor expert, was responsible for teaching the section entitled *principles of academic publishing* between 2011-2013. The other two sections were staffed using MEX U-C staff and occasionally others from University of Ottawa and University of Toronto (myself). Unlike the *principles of academic publishing* section, the *academic style and structure* and *academic grammar* sections were intermittently taught by a rotating group of instructors—mostly from MEX U-C—who were available and willing to teach these intensive courses in either Canada or Mexico. In addition, a North American-based editor-in-chief of a major scientific journal conducted an on-site or virtual seminar entitled, *what editors want* during each iteration of the course as offered between 2011 and 2013. These guest lecturer-editors were from the same disciplinary area as the students (e.g. editor of Veterinary medicine journal for course with participants mostly from MEX U Veterinary medicine faculty in June 2013).

After being recruited by Janet to teach the *academic writing style and structure* component of the course in 2012, I subsequently taught this section as well as the *academic grammar* section during three separate iterations of the course in 2012, two of which were in Mexico and one of which was in Canada. While my teaching experience was fruitful—I always argue that I learn much more from these scientist-scholars than they learn from me—I was struck by several things that inspired me to conduct an in-depth case study of the intensive AWC: i) doctoral students (and some faculty supervisors) were anxious and frustrated at their lack of publishing success; ii) some course participants were able to make significant progress on their articles during the course while some were not; iii) faculty and doctoral students seemed to benefit from both similar and different content foci and pedagogical interventions. After teaching a course at the end of 2012, I resolved to carry out a case study of the course as a window into the experiences of these scientists with English as an international language of scientific communication.
Objectives and delivery.

Originally, the AWC was designed to be delivered as an intensive study abroad course for doctoral students and some faculty supervisors in order to a) improve doctoral student English academic writing; b) improve course participants’ ERPP outcomes; and c) improve the capacity of MEX U faculty supervisors to deliver ERPP support to doctoral students attempting to (co) publish in English in order to meet their program graduation requirements. Of note is that the course objectives appear to be malleable and understood differently by different participants. Often the objectives were subject to the funding MEX U department and participant profile of those participating and were positioned differently depending on the audience. Overall, there was a potential discrepancy between certain participants’ understanding of the objectives of the course and the funding parties’ understandings of the objectives, as Antonio explains:

The main objectives are to give the participants confidence in writing and explaining complex ideas of their own field in a more structured way…of course the aim of the institution—the university—is to increase the amount of scientific publications from different scientific fields, but this is a long or medium-term objective.

Not all participants understood the process-based goals of improved writing and confidence however with many seeing the course as producing students and faculty with publishable manuscripts by course end. Further, as the course evolved through different phases (see Figure 14), the course attended more or less to certain objectives.

<table>
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<tr>
<th>Phase</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
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<td>2011: Pilot course offered only in Canada to a mixture of faculty and doctoral students</td>
<td>2012: 90% doctoral students 10% faculty offered once in Canada and twice in Mexico</td>
<td>2013: 80% doctoral students 20% faculty offered only in Mexico</td>
<td>2014: 50-50 split between doctoral students and faculty-focused courses with introduction of teacher training courses</td>
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*Figure 14. MEX U AWC evolution. The changing nature of participant makeup through four phases of course offerings.*

Objectives changed somewhat in Phases III and IV, with a greater emphasis on offering the course in Mexico and an attempt to transfer knowledge from MEX U-C to MEX U. To do this, the objective of improving the capacity of faculty supervisors and department leaders to not only
lead by example and improve their personal publishing outcomes but also to gain a greater knowledge of how to effectively supervise their graduate students’ writing in English gained an added thrust: a teacher training course meant to prepare departmental leaders to deliver the course in Mexico at some point in the near future (see Epilogue for further description).

The MEX U AWC was designed to evolve in three phases (see Figure 15): phase one (2011) was a piloting phase that included only 9 participants (mostly MEX University faculty); phase two (2012) included 36 participants (90% MEX University doctoral students); and phase three (2013) included 56 participants (80% MEX University doctoral students and a growing number of faculty supervisors). This study includes a descriptive focus on phases one to three; however, an understanding of the evolution of the AWC would be incomplete without description of recent developments in the evolution of this course. A fourth phase (beginning in January 2014) included an emphasis on the transfer/mobilization of teaching academic writing knowledge from MEX U-Canada to MEX U, where the course is currently jointly coordinated and offered by a combination of the MEX U School of Graduate Studies and MEX U-C. This new phase includes the continuing delivery of the course almost exclusively in Mexico with the ultimate objective of inspiring institute and department-specific courses around MEX U (see Epilogue for further discussion). Courses offered in Phase IV have been offered to graduate students and faculty of departments across MEX U including both the natural and social sciences. This study, however, is focused on the course as offered from July 2011-June 2013 (Phases I – III). MEX University offered the intensive AWC seven times in various locales (see Figure 15) between 2011-2013: three times in Canada (natural, health, and social sciences) and four times at various MEX University campuses in Mexico (natural and health sciences).

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<tr>
<td>Canada I 2 weeks</td>
<td>Mexico I 2 weeks</td>
<td>Canada II 3 weeks</td>
<td>Canada III 2 weeks (Faculty only)</td>
<td>Mexico II 3 weeks</td>
</tr>
<tr>
<td>January 2013</td>
<td>June 2013</td>
<td>January 2014</td>
<td>Course offered 5 additional times over the course of 2014</td>
<td></td>
</tr>
<tr>
<td>Mexico III 2 weeks</td>
<td>Mexico IV 3 weeks</td>
<td>Mexico 2 weeks (Teacher training course)</td>
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*Figure 15. MEX U AWC 2011-2014. The MEX U AWC as offered between 2011 and 2014 with courses falling within the scope of this case study in bold.*
The course content was largely identical, with the main difference(s) related to context in which the course was offered. First, in Canada, students were encouraged to take advantage of being in an immersion situation where they can simultaneously improve their written and spoken English. Second, participants were completely isolated in Canada while in Mexico they were at times still close to work and family. A further difference between the course as offered in Canada and Mexico is that the participant population was often more homogeneous in terms of discipline (e.g. MEX 4 had 90% participants from Veterinary Sciences) in Mexico whereas in Canada there was a greater variation of participants from multiple disciplines.

The AWC was originally designed for delivery to a cross-disciplinary group of doctoral students and faculty; however following the piloted version of the course, a decision was made that the course would be delivered largely to students and faculty connected to the sponsoring department(s). Subsequent courses were co-sponsored by various Life and Health Sciences departments and institutes and therefore included students and faculty largely from Environmental Geography and Ecological Sciences departments (MEX II), Biological and Biomedical Sciences (MEX I, MEX III), and Veterinary Sciences (MEX IV). As of the second iteration of the course in January 2012, the course gained a greater disciplinary-specific focus and became more of a scientific writing course as opposed to an academic writing course, particularly when offered in Mexico.

When first designed, the AWC was meant to cater to MEX U scholars who were between a Common European Framework Rating\textsuperscript{13} (CEFR) of B2 and C1. Following the first iteration of the course, it became evident to administrators and instructors that the average proficiency level was closer to B1 and that many participants—especially doctoral students—were not arriving with fully-prepared articles but were working with articles at a more nascent stage, many with substantial sections written in Spanish. Overall, expectations ultimately became that each participant, regardless of English writing proficiency, make what was deemed \textit{significant progress} on their manuscript during the course. The lower actual proficiency of participants meant not only that objectives and expectations be modified but also instructional approaches were tweaked to meet the lower proficiency reality of course participants.

Before each course began, pre-course assessment and editing took place at MEX U-C, with

\textsuperscript{13} CEFR ratings are from A (beginner) to C (advanced) with two levels, 1 and 2, for each graded level. Course participants were between B1 and C1, with the vast majority of participants falling in the B1 to B2 range.
participants being granted or denied entry into the course based on their writing proficiency as obtained from a brief survey (see Appendix Q) and interview via Skype. Next, accepted participants’ English language manuscripts were briefly reviewed by the prospective course instructors (or available MEX U administrators) with a focus on internal consistency, structure, style, and grammar. The screening and editing process evolved over time to include a designation to either lower (B1) or higher (B2) proficiency groups which were divided to work with separate instructors for large portions of each day for Weeks 2 and 3 (Week 1 was delivered to all students together). This separation of groups was in response to instructor and participant requests to do so in order to accommodate more effective content delivery. While this process of pre-course screening and editing was carried out in good faith by MEX U-C, certain departments nominated candidates to take the course at the last minute, often when the candidates themselves had not volunteered, did not meet proficiency requirements, and/or did not have a working manuscript in English. Those who attended the course without a working manuscript often did not make significant progress on their manuscripts and at times created difficulty for instructors. Nevertheless, these highly motivated doctoral students often worked extremely hard at producing an outline and various sections of their papers on the fly during the course and still appeared to benefit from an increased knowledge of the genre of scientific research article writing, general EAW, and principles of scientific publishing.

![Figure 16. MEX U AWC three pillars of content. The three pillars of the course content focus in the MEX U AWC.](image-url)
Course content and duration.

Since its inception in July of 2011, the AWC has been delivered as either a two- or a three-week course, at minimal cost to the student and faculty participants, covering the three pillars of knowledge deemed necessary by course designers to aid emerging and established scholars with successful ERPP (see Figure 16). Following the second iteration of the course in January, 2012, and due largely to feedback from doctoral student participants and course instructors, MEX U-C re-aligned the course to include an extra week of instruction as well as additional time for in-class writing and editing. As is noted in the following section, these changes led to far greater student satisfaction with the course as it allowed for far greater supervised individual manuscript production and revision time. As a two-week course, the structure was identical to the three-week course but with the grammar focus interspersed in Weeks 1 and 2, providing for limited time available for individual manuscript focus. Table 20 provides an overview of the course elements, broken down into weeks one to three.

Table 20

| Weekly Breakdown of Content Offered in a Three-week Academic Writing for Publication Course |
|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Abstracts | Overview of structure | Parts of Speech |
| Ethical issues | Introduction | Word Order |
| Readership and Audience | Literature Review | Verb tenses and aspect |
| Citation and influence | Methods | Sentence structures |
| Citations | Results/Discussion Conclusion | S-V agreement |
| References and bibliographies | Concision and coherence | Active versus Passive Voice |
| Submission cover letter | Figures and Tables | Punctuation |
| | Summarizing, paraphrasing, synthesizing | Common sentence errors |

The first week of the course, entitled Principles of academic publishing included topics related to the codes and conventions of publishing an article in English-medium scientific journals: principles of English-language academic (scientific) publication; abstracts; ethical issues in academic (scientific) publishing; measures of readership; citation and influence; citations; references and bibliographies; understanding the submission and publication process; and the cover letter for submission.
The second week, entitled *Style and structure of an academic article*, focused on structural and stylistic elements of an scientific article: general introduction to the structure of the academic (scientific) article; introductions; materials and methods; results; figures and tables; discussions; conclusions; paragraph construction; concise writing techniques; summarizing, paraphrasing, and synthesizing; coherence and cohesiveness; formal registers; and academic word lists.

The third and final week of the course entitled *academic grammar* focused on the syntactic elements of the article, particularly common grammatical errors produced by Spanish L1 writers: parts of speech; word order; verb tenses and aspect; subject-verb agreement; sentence structures (phrases, clauses, sentences); common sentence problems; active versus passive voice; and punctuation. In addition, as the course evolved over time, all three weeks (particularly the third) included allocated time for writing and editing time in class where students were able to work on their manuscripts while instructor(s) circulated fielding questions and concerns.

Evaluation of participant progress was given at the end of each course. During MEX 1, a qualitative, in-person meeting was used at course end. Eventually, a combination of an oral presentation with instructor feedback combined with a rating meant to simulate an academic journal response to submission (reject; accept with major or minor revisions; accept) was given as feedback (see Appendix R). Finally, although students were not graded on the presentations, the final day(s) of the course were dedicated to participants’ oral presentations on their research topic and what they had learned during the course. Some instructors provided extensive feedback on these presentations while others did not. Finally, all participants who attended the course consistently and made *significant progress* on their manuscript received a certificate of course participation.

While the course was originally designed and delivered by a central body (MEX U-C), it has never been offered in exactly the same manner. As Janet explains, “Every time we give the course there are changes in how it is given…there has been constant tinkering – some of that has come from me, from MEX U-C staff and from the requesting faculty/departments. It has never been given the same way twice.” (Janet) The course was constructed to meet the needs of graduate departments across MEX University but Biological Sciences can be seen as the major driving force behind course modification(s). As mentioned previously, the course evolved from an academic writing for publication course to a *scientific* writing for publication course based on participants from the umbrella of the Biological Sciences department. The following section
highlights various participants’ perceptions of the efficacy of the course as delivered between 2011 and 2013.

**Perceived Efficacy of MEX U AWC Sections**

This section begins with a presentation of findings related to participant perceptions of the main sections of the course, followed by a description of what were viewed as particularly effective and ineffective pedagogical approaches and interventions, concluding with findings of the perceived efficacy of the course in relation to meeting perceived overall emerging and established scholars’ writing for publication needs.

**Improved confidence and decreased anxiety.**

Post-course survey numbers point to increased confidence and overall satisfaction of faculty and graduate student participants with the intensive AWC, with a 92% strongly agreeing or agreeing that the course improved their chances of achieving publication of their research articles in indexed English-language journals (see Figure 17).

![Figure 17. Perceived efficacy of MEX U AWC on scholars’ ERPP. Post-course survey responses showing strong agreement with the statement, “The MEX U AWC improved my chances of publishing in an international scientific journal.”](image)

Student after student expressed surprise that there was so much to learn in order to improve their writing and achieve publication while lamenting the fact that they had only then realized a steep
learning curve: “I cannot believe how much I have learned and how much [there] is to learn…I feel good now to structure my paper and any paper really in the future…I think I can do it now and maybe help the others” (Miguel, PhD). Many faculty also spoke to improved confidence stemming from participation in the course:

I used to write more intuitively; I would find a paper similar to a topic that I'm working on and I would write something similar to that paper to make sure I didn't make mistakes. Now I have several tools and I have become conscious of how to write and it's not the same anymore. I feel very confident with my English now…even more confident than before the classes [course]… If I would compare my confidence in the manuscripts I had written before the course to the ones I'm writing now, it's much higher. I feel more confident (Ricardo, junior faculty).

Beyond improved confidence, many emerging scholar participants also reported less anxiety stemming from having to produce manuscripts in English following participation in the course: “I feel less nervous to writing my article now…I know now what I should do even if sometimes I do it a different way…I know what the reader is expecting…and I am more confident to find the journal and send to the journal my article” (Manuel, PhD). Many faculty, both junior and senior, also mentioned that they felt a net result of the course to be a reduction in their anxiety around ERPP and time constraints. According to Vitoria, “before this course a paper could take me between seven months to a year to produce a manuscript. My expectation after this course is that I can cut this time to three months” (Vitoria, faculty). Further, numerous faculty supervisors spoke to increased confidence not only in achieving publication of their research articles but also in potentially better directing their graduate student ERPP as a result of the course: “I think we can really improve as a department from this…especially my colleagues…I did not expect the course to be so effective and what I see interesting is the people is really happy [with the course]” (Raúl, senior faculty). Raúl seems to suggest that he was pleasantly surprised with the overall efficacy of the course in potentially helping improve both his colleagues’ ERPP production and supervision.

The overall perception of improved confidence is an important finding, one that supports the findings of the limited previous research on the efficacy of such doctoral student ERPP interventions with both emerging (Kwan, 2010; Romesburg, 2013) and established scholar populations (Bazerman et al., 2012; Cargill & O’Connor, 2006). Of note is that established scholars report improved confidence both with their ERPP and their ability to supervise their students’ ERPP. To what extent this apparent boost in confidence is related to the course
instruction is unclear and far from definitive; however, these findings potentially position the MEX U AWC as an ERPP intervention with the capacity to empower participants to overcome (to an extent) their multiple ERPP challenges and participate more fully in their desired discourse communities. While these findings appear to show a potential for improving emerging and established periphery scholars’ ERPP confidence, which interventions were successful in producing this apparent improved confidence and decreased anxiety and which scholar group(s) benefited from which course components? The following section includes perceptions of the efficacy of each course section (see Table 21).

Table 21
Overview of Perceived Efficacy of Three Main MEX U AWC Sections

<table>
<thead>
<tr>
<th>Section</th>
<th>Principles of Academic Publishing</th>
<th>Style and Structure of an Academic Article</th>
<th>Academic Grammar</th>
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<tr>
<td>Perception(s)</td>
<td>“The first thing that comes to mind is that the course allowed me to understand that publishing—specifically in English—is about having a clear story and selling it. Why I say that is because the first part of the course—focused on how to write an abstract and cover letter etc. is about focusing, identifying the main issue of your paper and then trying to sell it without saying things that are not true. You have to identify what you can say, what's new in your paper, and try to sell it because it is relevant in some context…this was the best thing I learned in the course”. (Miguel, PhD)</td>
<td>“O sea como que aprendí en este curso fue que la sección de introducción debe contener ciertos puntos de énfasis y un cierto orden lógico, ¿no? Y tenemos que hacer el énfasis en la gap y cómo llenarlo con su investigación es algo que no había visto antes. [What I learned in this course was that the introduction section must contain certain points of emphasis and a certain logical order, and emphasis on the ‘gap’ and how you will fill it with your research is something I had not seen before]”. (Miguel, PhD)</td>
<td>“My English grammar has improved of course…when I started to write my manuscript I didn't have a lot of connection between sentences or paragraphs and here in the course we saw a lot of words and expressions to improve that. I think the way to improve grammar is to write and write and write; here in this course they gave me some tools to do that and some documents to review later so I think it's good because I have that for the future”. (Rafael, PhD)</td>
</tr>
<tr>
<td>Overall participant rating:</td>
<td>Highly effective instruction with high participant uptake especially among faculty course participants. Relatively effective in meeting participant needs (especially faculty) and course objectives.</td>
<td>Effective instruction with high participant uptake especially among graduate student participants. Relatively effective in meeting participant needs (especially graduate students) and course objectives.</td>
<td>Relatively ineffective instruction with uneven uptake among participants. Relatively effective in meeting low EAW proficiency participant needs and course objectives while ineffective in meeting higher EAW proficiency participant needs.</td>
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Principles of academic publishing.

Drawing on extensive semi-structured and focus group interviews with course participants, instructors, and guest lecturers, findings point to this being the most popular and effective section
of the course. This section, which generally included an overview of the publishing process—from article submission to article publishing—followed by discussion of important steps in the process including how to identify an appropriate journal and how to write an effective abstract and cover letter, was seen as effectively addressing many of the challenges graduate students and (especially) faculty face when attempting to achieve publication of research articles. Participants repeatedly mentioned this section as being the one that contained the most pertinent information for improving ERPP, with faculty in particular lauding this section for providing tips and insider information about how to effectively achieve publication at international scientific journals. During classroom observations it was evident that these highly motivated scholars were gaining valuable knowledge in this course section and that they were highly satisfied with the content and instruction, with much excited discussion between participants and instructors following lectures.

**Understanding the submission and review process.**

Graduate students, who often reported that their supervisors and co-authors had taken care of navigating the task of submitting and attending to editor and reviewer feedback, reported and displayed little knowledge of these processes during the course. Graduate student participants appeared to be satisfied and, at times, relieved that they would now be able to take greater control of the overall submission and review process given the knowledge they obtained during the intensive AWC: “I took the course because I wanted to know the ‘backstage’ of publication. I think that they give us a lot of very good tips about process of submission that I don't know because my tutor [MSc supervisor] did that part. That was the part that I liked best” (Juana, PhD).

Although faculty supervisors had a good understanding of the submission and review process—and often extensive experience in dealing with these tasks—instructors and editors identified these areas as ones in dire need of improvement following their experiences with course participants. The instructor responsible for teaching the *principles of academic publishing* section of the course was particularly struck by the inability of faculty (supervisors) to attend to first, identifying appropriate (i.e., realistic) journals to which to apply and, second, managing often critical feedback from editors and reviewers. Many course participants reported to being dismayed at two types of responses from journals. First and foremost, they were demotivated by the blanket response coming from editors that they should seek English language assistance and
re-submit. Second, they were demotivated with what they considered harsh or critical reviewer comments. The course did not address these issues other than some encouraging personal comments from instructors aimed at boosting morale of participants. Omission of instructional focus on effectively dealing with and incorporating editor and reviewer feedback is problematic when viewed in light of this study’s findings pointing to this as a potential barrier to scholars achieving publication. Considering this study’s findings as well as previous research pointing to the potential centrality of dealing with gatekeeper feedback in the process of achieving publication of research articles (Flowerdew, 2001; Huang, 2010; Lillis & Curry, 2010), greater attention should be paid to this in ERPP interventions aimed at these semi-periphery scholars.

**How to identify an appropriate journal.**

This section of the course included broad presentations on citation and influence, readership, and potential audience. These presentations included discussions of how to identify the most prestigious journals in one’s area, how to identify a journal’s impact and h-factors, how to use electronic and university resources to gain information on a journal, how to identify who a particular journal’s readership is, and how to identify the most appropriate journal given the audience one wants to connect with. While much of the information was well known to the faculty supervisors, there was overwhelming satisfaction with these informational lectures, particularly from graduate student participants. Many doctoral students spoke to the virtues of being explicitly guided through a search for appropriate journals given their research and intended audience. Many faculty supervisors also spoke to the benefits not only to their students but also to themselves as supervisors and researchers in learning how to identify particular journals of interest in their sub-fields as well as those of their students. Instructors and editors agreed that this part of the course was essential for participants as many graduate students and (surprisingly) faculty had been widely misinformed and/or unrealistic about their expectations regarding which journals were appropriate for them to target in terms of achieving publication of research articles. After speaking to course participants, editor guest lecturers pointed out that they had not expected to cover this point during their lectures but it became apparent that it was necessary as so many participants were struggling with the process of journal identification.

**Writing effective abstracts and cover letters.**

Participants repeatedly mentioned the utility of focused instruction on writing an effective
abstract and cover letter. Countless doctoral students praised the lectures and mini-workshops on writing an effective abstract and cover letter as the best feature of the course as a whole. Instructors (including myself) also commented on the perceived progress achieved in a short time with focused instruction on these manageable chunks of academic text, ultimately providing the instructor and the participant a much clearer idea of their research objectives, results, and the implications for participants. As mentioned in Chapter 6 on barriers to publication, editors often highlighted the importance of clarity of expression, something reportedly missing from MEX U scholars’ abstracts and cover letters. As one of the main complaints of MEX U scholars was that they often received rejection notices from the editor requesting they seek professional help with their manuscript before re-submitting (see Chapter 5), improved abstracts and cover letters that clearly stated the purpose and importance of their research may help these scholars’ articles make it to the independent review stage and potentially publication. An genre-based approach on specific elements such as abstracts (see Swales & Feak, 2009; 2012) appears to have been effective with both emerging and established scholars, particularly in such a limited (albeit intensive) period of time.

**Guest lecturer: What editors want.**

One small part of the *principles of academic publishing* section was both highly regarded by participants and seen as effective from all participant perspectives: guest lectures by editor-in-chiefs of scientific journals. Rather than a full week-long session, this section generally lasted a half-day with a presentation by the guest lecturer—a distinguished scholar and experienced editor in chief of a scientific journal in the area of the majority of the course participants—followed by a question and answer period. This section was very popular among course participants, who spoke to the benefits of hearing *straight from the horses’ mouth* what editors are looking for from authors’ submissions. Many participants, particularly faculty supervisors, were pleased to get this insider information from a gatekeeper in their field: “It was very nice to hear the advice from the actual editors of journals where I and my students send our work. I believe it was good for the students to see and for me too as an author.” (Emiliano, senior faculty). The session seemed to put many participants more at ease as the guest lecturers often spoke to the importance of spending increased time identifying appropriate journals, adhering to instructions to authors on journal websites (several journal editors navigated their own journal websites and had students follow suit), prioritizing the submission cover letter and abstract, and attempting to dispel rumours that journals were biased against articles coming from Mexican
institutions or those written by Mexican authors. The session appears to have been successful in instilling an improved confidence among doctoral students and faculty. Particularly effective was the question and answer session where, although mostly faculty spoke up with their questions, both doctoral students and faculty seemed to internalize the guest lecturer’s main message that if the research is solid and the article written in a clear and concise manner, authors will find a journal willing to publish their research. The guest lecturer session also potentially helped challenge the notion that there is an inherent bias among editors in chief against Mexican authors as editor-lecturers reiterated that their journal welcomes submissions from NNES authors and does its best to facilitate publication of all research that is of interest to the journal’s readership regardless of author background and/or institutional affiliation. As is shown in Chapter 7, despite word from scientific editors to the contrary, widespread skepticism regarding equity and equality at scientific journals remained among scholars.

Overall, the principles of academic publishing section of the course was well received by course participants and appears to have potentially attended to many of both doctoral student and (particularly) faculty needs in terms of improving their chances at achieving publication in desired English-language scientific journals. The focus on the pragmatic elements of navigating submission and review present in this section of the course have been suggested as an effective instructional focus by previous researchers (Romesburg, 2013) and in tandem with a genre-based pedagogy focused on particular sections of a paper (Cargill & O’Connor, 2009; Swales & Feak, 2012) such an approach appears to have been effective with MEX U scientists. Indeed, the overall perception among participants of the benefits accrued from attending this portion of the course point to the potential of an approach focused on addressing both discursive, genre-based challenges (e.g. effective abstract writing) as well as non-discursive challenges (e.g. identifying appropriate journals; situating one’s research in the field). However, the lack of focus on dealing with reviewer and editor feedback is one area in which this section appears to have failed in addressing what appears to be a serious challenge for both emerging and established scholars’ achieving publication of research articles in their desired journals. Further, while such a pragmatic approach appears to have been effective to an extent, a lack of critical discussion of inequity in scientific publishing and strategies aimed at overcoming such inequity (Curry & Lillis, 2014; Perez-Llantada, 2012; Salager-Meyer, 2014) was conspicuously absent and, as I argue later in this thesis, could ultimately provide greater benefit to MEX U scholars.
Academic writing style and structure.

Through findings gleaned from extensive semi-structured and focus group interviews with course participants, instructors, and guest lecturers (as well as personal classroom teaching experiences), the academic style and structure section of the course appears to have been popular and potentially effective in meeting student needs, particularly among graduate students. This section of the course, which generally occurred in Week 2, included an overview of a standard IMRaD paper followed by daily focus on one section (introduction, methods, results, discussion). Also included in this section was a discussion of expected formatting requirements when submitting an article to a scientific journal (inserting figures, graphs, tables, in-text citations, etc.). Finally, this section attended to certain academic style conventions such as achieving concise writing and expressing strong yet appropriate author voice.

Structure of a scientific paper.

This section of the course included daily lectures providing overviews of each section of a traditional IMRaD paper, including specific focus on one section per day and what reader expectations were for each of these sections. Participants, especially graduate students, found this section of the course helpful and spoke to how important it was for them to learn the expected parameters of each section. For those students who were at approximately a B1 level of writing proficiency and/or for those who had less experience writing a scientific research article in English, this section appeared to be invaluable: “It has been a very good course. I’ve learned a lot; mainly in the first part about the structure of a manuscript and all the parts from introduction to discussion to conclusion how to write better those parts of the manuscript” (Rafael, PhD).

Rafael seems especially pleased with the section-by-section approach, highlighting the perceived benefits of an increased understanding of the traditionally problematic introduction and discussion sections. Many instructors agreed that this section was especially useful for highlighting the differences between Spanish and English academic/scientific writing of introduction and discussion sections. Faculty also praised this section of the course, especially those who had a lower EAW proficiency level. As Alejandra explains, this type of explicit instruction as to what should and should not be contained in each section was helpful even to those (i.e., faculty supervisors) who had ERPP experience and broad academic writing knowledge: “Previous help and guidance with academic writing was not the same, not enough compared to what I learned in this course—it is more detailed about IMRaD structure and what
belongs in each section” (Alejandra, faculty). From my teaching experience as well as feedback from emerging and established scholars and course instructors, participants appeared to benefit not only from explicit description of genre expectations (i.e., IMRaD) of a scientific paper but also from explicit instruction regarding rhetorical and structural differences between scientific research articles written in Spanish vs. in English, a topic which instructors were able to broach only superficially, if at all, it seems.

**Formatting and style.**

Instruction for scientific journal article formatting was based on demonstrating why, when, and how to use tables, graphs and figures in a scientific text. The instruction of formatting appears to have been well received by doctoral students, especially those who were less familiar with when and why these methods of displaying results should and could be used. As an instructor, I noticed that participants took note of the instructional content more so when I chose formatting elements from journals specific to their discipline. This also seemed to be effective as a way to demonstrate overall formatting used by the journal and to re-emphasize that authors should always refer to the author guidelines provided by each journal when preparing a manuscript for submission. As a side activity, I asked students to identify two journals in which they would like to get their research published and highlight the similarities and differences in terms of instructions to authors from each journal website. This stimulated excellent in-class discussion and provided an opportunity for graduate students to peruse the specifications on each journal website and have their questions answered by the instructors, faculty supervisors, and/or colleagues around them.

According to AWC instructors, instruction relating to style was minimal, with two main points covered unevenly: author voice and concise writing. Many participants appeared to have difficulty coming to terms with the use of the use of active voice when describing data collection but later spoke to the benefits of re-configuring their manuscripts to include a methods section where active voice was used to increase the readability of their paper. Several instructors mentioned finding instruction regarding author voice (passive vs. active; strength of claim) particularly effective among faculty supervisors who had a more nuanced understanding of the research article and a greater foundation (and confidence) on which to build the use of tempered claims and other insertions of first person author voice use throughout their papers, but particularly when stating the importance of their findings/results in both the article abstract and
discussion or conclusion sections. While participants spoke to the perceived benefits of a focus on improving the concision of their writing, instructors lamented the inability of participants to produce results in the short time designated for the intensive AWC. Nevertheless, both graduate students and faculty spoke to the utility of this instruction and how the course helped them improve on this aspect of their writing. Given the potential importance of concision in achieving clarity of expression (see Chapter 6), this focus appears well placed but could need longer-term focus beyond the confines of an intensive course.

Overall, the style and structure of academic writing section was widely popular (particularly among graduate students), was perceived to have largely met participants writing needs and helped increase the chances of these participants achieving positive publication outcomes. Doctoral students in particular appear to have gained much more from this section than did faculty supervisors with far greater disciplinary knowledge concerning the structural elements of a scientific research article and how these differed from a Spanish language scientific research article. However, both groups appeared to benefit from the explicit focus on style, particularly those of author voice and concise writing. While this section (and indeed the entire course) was designed in a discipline-neutral (broad science focus) way in order to meet all participants’ needs, it evolved over time to be a life and health science focused section. The perceived efficacy of the genre-based pedagogy employed in this section suggests support for a Swalesian (Burgess & Cargill, 2013; Hyland, 2010; Swales, 2012; Tardy, 2009) approach to increasing emerging scholars’ understanding of genre conventions as a way of leading to improved academic writing outcomes. However, the uneven uptake of stylistic elements suggest a need for consideration of an intercultural approach that includes dialogue between instructors and course participants concerning the parameters of scientific English(es) (see Mauranen et al., 2010; Seidlehofer, 2011) and how these periphery scholars could balance attending to discipline-specific norms while asserting their individual and collective Spanish L1 voices. The rigid understanding of acceptable English forwarded by the instructors and journal editors suggest ideological understandings of proper scientific English and, while most emerging and established scholars were most interested in adhering to normative language use, their frustrations at attending to various rhetorical, structural, and stylistic conventions should be addressed in an explicit manner.

**Academic grammar.**

Through findings gleaned from personal classroom teaching experience combined with extensive
semi-structured and focus group interviews with course participants, instructors, and guest lecturers, the grammar section of the course appears to have been popular among graduate students and some faculty but was widely perceived as the least useful course section. This section covered both lower level grammar features such as S-V agreement and verb tense/aspect as well as advanced grammatical structures known to trouble Spanish L1 scholars such as relative clauses, articles, and prepositions.

Many doctoral students expressed satisfaction with the grammar section, including the discrete points covered in this week of the course as well as the resources provided to participants for future use when writing. During early iterations of the course, however, many faculty (and some doctoral students) complained about the elementary nature of the grammar instruction and the lack of connection between the grammar lessons and their academic writing for publication. As of the third offering of the intensive AWC in July 2012 (Canada 2) a decision was made to separate the course into two groups for the 2nd (academic writing structure and style) and 3rd (academic grammar) weeks of the AWC based on participant ERPP proficiency. This decision did not entirely resolve the issue however, as some participants then complained that the grammar points were covered too quickly and that they did not have adequate time to process the information: “I think I need to take another course, but an English course. I think that grammar helps me feel confident...I think I need more grammar and that would help me take advantage better of the writing course…anyway it was good for me” (Teresa, PhD).

A further problematic nature of this section was that instructors were language teaching professionals who rarely had disciplinary background of the course participants. This led to difficulty in communication (particularly when instructors lacked disciplinary knowledge and Spanish language proficiency) and, according to some participants, potentially resulted in poorer overall student learning outcomes. While the units delivered were well designed in that they addressed grammar points traditionally problematic to Spanish L1 authors, the lack of Spanish L1 knowledge of instructors was perceived by some scholars to have decreased the effectiveness of instruction. While participants widely saw knowledge of Spanish and disciplinary knowledge as useful for instructors, many felt that English should be used almost exclusively in the classroom, at least by instructors. According to administrators, finding ideal instructors

14. My preferred resource is the Purdue University OWL site. I find this resource effective for my academic writing students at all levels, but especially for graduate students.
candidates who share disciplinary knowledge, linguistic knowledge, grammatical (ELL teaching) expertise, and academic writing knowledge was a difficult task and therefore instructors were found who had knowledge related to the particular section they were teaching, with additional knowledge bases seen as bonuses.

While praised by many graduate students—who indeed wanted more (some even spoke of a separate course focused strictly on grammar)—the more advanced students and faculty supervisors were not satisfied with this section and advocated for more time either for learning more nuanced strategies for improving their writing and publishing outcomes or to spend more writing and editing time during the course focused on their manuscripts. The fact that many of the participants wanted to take another course focused solely on grammar is telling and indicative of overall findings suggesting a broad desire for greater overall institutional and/or departmental EAW and ERPP support.

Overall, the grammar-focused course section was perceived as effective in meeting many graduate student and B1-level writing proficiency participants’ writing needs but arguably the least so of any of the sections. The desire of many graduate students to have a full course dedicated to grammatical focus of EAW is indicative of the lower proficiency level of many of the course participants, some of whom simply were not at a high enough proficiency level in to benefit fully from the more nuanced instruction throughout the course—a discrepancy that could be addressed in future course planning. The perceived failure of this section to meet many course participants’ needs raises questions about an approach focused on discrete lexico-grammatical points rather than on elements of research articles that have been shown to be problematic for Spanish L1 authors. An approach that integrates a lexico-grammatical focus within a broader range of rhetorical and structural challenges facing this population could be more effective (e.g. Burgess & Cargill, 2013; Cargill & O’Connor, 2009; Tardy, 2009), particularly if taking into account the specific intercultural issues facing Spanish L1 scholars (Gea-Valor et al., 2014; Martin et al., 2014; Moreno, 1997; Moreno et al., 2012; Mur-Dueñas, 2011).

**Perceived Efficacy of Pedagogical Interventions**

Several instructional practices perceived as particularly effective or ineffective stood out when considering perspectives on the efficacy of the course in meeting emerging and established scientists’ academic writing for publication needs (see Table 22). This section highlights
representative participant group perspectives on these instructional practices or interventions.

Table 22
*Perceived Effective and Ineffective MEX U AWC Instructional Practices*

<table>
<thead>
<tr>
<th>Instructional approach or practice</th>
<th>Effective for emerging scholars?</th>
<th>Effective for established scholars?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive delivery</td>
<td>Very</td>
<td>Very</td>
<td>Daily, focused attention to L2 writing deemed effective by administrators, instructors and participants</td>
</tr>
<tr>
<td>Isolation/Immersion</td>
<td>Very</td>
<td>Very</td>
<td>Deemed highly effective by administrators, instructors, and participants.</td>
</tr>
<tr>
<td>Supervised individual manuscript production and revision</td>
<td>Very</td>
<td>Very</td>
<td>Preferred part of course for many established scholars and deemed effective by all participants</td>
</tr>
<tr>
<td>Instruction explicitly marking L1-L2 and SW1-SW2 differences</td>
<td>Very</td>
<td>Very</td>
<td>Focus on Spanish-English linguistic and genre differences deemed highly effective by instructors and participants</td>
</tr>
<tr>
<td>Mixed-level instruction with peer-peer and supervisor-supervisee editing</td>
<td>Very</td>
<td>Moderately</td>
<td>High level of satisfaction among emerging scholars with moderate satisfaction among established scholars</td>
</tr>
<tr>
<td>General academic grammar focus</td>
<td>Moderately</td>
<td>Ineffective</td>
<td>Many participants desire separate course for grammar instruction</td>
</tr>
<tr>
<td>Cross-disciplinary content focus</td>
<td>Moderately</td>
<td>Ineffective</td>
<td>Greater satisfaction among participants with increased genre and discipline instructional focus</td>
</tr>
<tr>
<td>Pre- and post-course writing support</td>
<td>Ineffective</td>
<td>Ineffective</td>
<td>High level of dissatisfaction among participants with post-course writing support</td>
</tr>
</tbody>
</table>

**Supervised individual manuscript writing/editing time.**

From its inception the MEX U-C AWC had supervised time allotted for individual attention to writing and editing participant manuscripts; however the majority of production and revision work on manuscripts was to be done at night following all day participation in the course. Following the second iteration of the course in 2012 (MEX 1), course participants requested more individual time for attention to writing and editing within the course itself. The administration, at the behest of students and instructors, subsequently allotted greater and greater amounts of time for in-class writing and editing and, by the time the course was delivered for the seventh time in June 2013 (MEX 4), every day of the course had at least a small amount of time allotted for this purpose. Pedagogically, instructors found this individual time to be effective in...
multiple ways. First, giving participants time to synthesize what had been presented in the morning workshops and then apply it at different speeds during the individual work time produced uptake at all proficiency levels. Susan, an academic grammar section instructor, explains why she allowed more and more individual writing time as she gained more experience with the course:

I would prefer knowing that they understand what is going on, rather than me just talking…if I can see that they can produce it a little bit then I feel like they would be able to apply these concepts to their papers in the future…I don’t want them to have to take this class again every time they have to write a journal article. Basically I think it is important that they like go through this class and figure out how to write and edit a journal article and then they can just do it in the future and it will become easier for them and they don’t have to rely so much on editing services or things like that.

Susan’s sentiments are directly in line with the unofficial objective of this course, to produce more autonomous scientists able to manage English manuscript production and revision.

In general, the individual work time, where one or two instructors would circulate and attend to students questions and queries, was also found to be an effective teaching tool as it allowed for, i) participant queries that were common to be subsequently brought to the attention of the entire class; ii) participants to work at their own pace; and iii) participants to receive individualized attention from instructors, something deemed valuable by both instructors and scholars. Indeed, during classroom observations of MEX 4, I saw numerous examples of general and specific uptake by both graduate student and faculty participants when there were two instructors circulating in a room with approximately 15 students. As an instructor supervising this manuscript production and revision time, I was able to witness the uptake among participants and to better understand where their strengths and weaknesses lay as a group. Other instructors agreed that this individual attention is invaluable for emerging scholars:

I think individual attention to a young researcher’s particular paper is the best way for them to learn how to write…and after we attended to and got through each abstract and the introductions of those papers I could tell we were really having an impact on the publishability of those papers (Stewart, journal editor and instructor).

Overall, the addition of this pedagogical practice appears to be perceived by multiple participants as highly beneficial to course participants and instructors and appears to be a practice suited to helping participants achieve improved publishing outcomes while improving their scientific writing skills in a supportive environment. It appears that a set time each afternoon is beneficial
for those attempting to both find time to dedicate to writing in English—a major concern for both graduate students and faculty—and improve the quality of this writing. This finding suggests the benefits of mentored individual attention from disciplinary and language experts when revising manuscripts. Given this periphery context where ERPP opportunities and support are highly uneven, this type of intervention is potentially even more important for emerging scholars who have been seen to benefit from such meaningful interaction with literacy brokers in both centre (Aitchison et al., 2010; Casanave, 2002) and periphery (Bazerman et al., 2012; Cargill & O’Connor, 2006) contexts.

**Instruction focused on linguistic/cultural differences.**

From feedback collected from instructors and participants combined with my own MEX U AWC teaching experiences, explicit instruction focused on differences between Spanish and English academic/scientific writing appears to have been perceived as an effective approach. While teaching the academic structure and style section of the course, I immediately recognized the utility of using shared knowledge of L1-L2 rhetorical and structural academic writing differences in my teaching as an approach that led to student uptake. I frequently pointed to the differences between Spanish and English and between Spanish language scientific articles and English language scientific articles in terms of scope, author voice, punctuation, concise writing etc. Several other instructors agreed that highlighting linguistic and genre difference was useful and effective in teaching not only in the *academic style and structure* section of the course, but also the other two main sections. Instruction in the *academic grammar* section appeared to be more effective when the instructor drew on L1-L2 differences when teaching as well. Participants agreed, identifying bilingual academic writing and discipline-specific knowledge as ideal qualities for an AWC instructor. Even for Janet, who taught the *principles of academic publishing* section, it appears that knowledge of genre differences between science writing in Spanish versus science writing in English led to effective instructional practice when explicitly identified during instruction.

Given the perceived efficacy of explicit instruction on rhetorical and structural differences between Spanish and English research articles, it would potentially benefit both instructors and scholar-participants to have increased background knowledge of discipline-specific genre variations in English and Spanish scientific research article writing. This could facilitate greater instructional focus on rhetorical moves and other genre-related differences outlined by
researchers in the field of intercultural rhetoric (Connor & Rozycki, 2013), specifically when working with Spanish L1 scholars (Moreno, 1997; Mur-Dueñas, 2011). Further, such bilingual expertise could be particularly useful in promoting and aiding a bilingual publishing approach for these multilingual scholars (Gentil, 2005), something they report to be an integral part of their scientific lives.

**Intensive delivery.**

Through semi-structured interviews with former course participants, it is clear that an intensive format of academic writing for publication instruction has been popular among both graduate students and faculty. Scholars have spoken to the benefits in terms of knowledge transfer but even more so in terms of addressing the issue of lack of writing time, identified by participants as one of the main barriers to achieving publication of research articles. Jesús (department head) explains how the course has allowed him to focus on his writing, something he simply has not consistently been able to accomplish on his own:

> There are so many things I have to do, you know? So for me to have three weeks to concentrate on a paper is nice. Without the course, I would not be able to do that, you know. Time is the main frustration. I would say I have been able to dedicate 90% of my time to my manuscript during this course. It's nice because I can sit down and think about the paper and all the information and how to arrange it and so on.

Jesús is not alone in his praise for the intensive structure of the course, structure that is intensive and demanding but rewarding for these scholars who appear to have difficulty finding or making time for writing for publication. Instructors also spoke to the benefits of intensive delivery in terms of building relationships, immediate student uptake, ability to witness progress, etc. “It’s nice to be able to see right away if the students are getting it. If I see they are not we can then review as a group or I can help that student then and there. I don’t think I could do that if we only had one or two hours per week” (Evelyn, instructor). Overall, intensive course delivery, though not the only potentially effective manner of delivering the MEX U AWC appears to be widely perceived by participants as an effective pedagogical approach. The popularity of such an intensive approach is unsurprising given previous research suggesting the efficacy of such an approach with scholars globally; however this course is the longest such intervention noted in the literature and may provide an alternative to more traditional two or three-day intensive workshops (Bazerman et al., 2012; Lillis et al., 2010) or those delivered over the course of a semester or academic year (Cargill & O’Connor, 2006; Romesburg, 2013).
Isolation and immersion: Canada versus Mexico.

While it appears the intensive nature of the course was well received by participants at all levels, the ideal location of the course was more debated. What became clear was the perception among several participants of the potentially decreased effectiveness of the course when delivered at the host institution when compared to delivery in Canada or at a satellite campus away from scholars’ work demands. Having been part of the MEX U AWC instructional team as the course was delivered in Canada and Mexico, I witnessed firsthand the benefits an intensive delivery away from the constant academic, social, and familial demands of life at home. When questioned about their satisfaction with the course, many participants who took the course away from their home institution—either in other parts of Mexico or in Canada—spoke to how they benefited from being able to exclusively focus on their EAW without attending to other demands.

Administrators also expressed a clear belief of the superiority of delivery of the course in either an immersion or isolated setting away from work: “The context of the country, I don't think it really matters. The important thing is to be able to get the participants out of their duties and everyday life so they can really concentrate on their manuscript/work” (Carmen, administrator). Other administrators, instructors, and participants spoke to the perceived advantage of taking the course abroad in Canada, stressing that language is a cultural practice and therefore better attended to where the target language is omnipresent and where they are more able to flip the switch from Spanish to English:

Okay I think there’s a problem about the context when you take a course in foreign language in your native country you don’t use it for example when we were in Canada I was forced to speak in English all the time to take the bus, to go anywhere, with the family I was staying and that I feel that it keeps your mind in a different frequency thinking all the time in the language I think it helps a lot. For example, when in Canada you say something directly because you know that people or English native speakers are expecting that and that helps a lot when you start writing so the context is very important (Javier, PhD).

Javier seems to speak to the benefits accrued from oral expression in English with improved written communication, specifying the benefits of direct oral expression on written expression, where this cultural convention also exists. A surprising finding was that even those who did not take the course in Canada spoke to their desire to do so as they believed it would benefit them, suggesting these beliefs are somehow rooted not in experience but particular ideologies of language teaching and learning. Overall, although taking the course in Canada has become less
and less viable for funding reasons, it appears that participants perceived benefits of an immersion environment even though there is no evidence to support its superiority when compared with delivery in Mexico. The greatest benefit appears to be for participants taking the course away from their home institution, whether in Mexico or Canada.

**Mixed classroom: Supervisor-supervisee and peer-peer editing.**

As described in the overview of courses offered 2011-13, the course has always had a mixture of graduate students and faculty. These mixed classrooms have received mostly positive feedback from participants and instructors and doctoral students in particular appear to have significantly benefited from interaction with more senior academics during the course. Many students spoke to the affective and cognitive benefits of interacting not only with their supervisors but also other faculty during the course: “It’s good for us because we get to hear from them [faculty] and from each other…this is good for me because I never get these answers before from nobody and now I get from everybody so is good and now I can tell my colleagues” (Rafael, PhD). Raúl, a senior faculty supervisor also feels the mixed classroom benefits not only doctoral students but also faculty: “I think is quite advantageous to have different levels because you know you can get the professors helping the students and this makes the professor know more too”. Not all participants were happy with the mix, however, especially those who had a higher ERPP proficiency and were more interested in nuanced topics related to academic writing for publication: “Maybe it can be changed, I mean, maybe prepare a course for faculty and another course for students because maybe you can go further in other advanced issues because we already know something and the students don’t know anything” (Jesús, department head).

Overall, a certain amount of peer-peer and supervisor-supervisee interaction seems to have been perceived as beneficial for (mostly) emerging and established scholars. As an instructional approach, creating space for peer feedback appears to benefit both mentors and mentees in several ways, including potentially improved ability to accept critical feedback (a potential barrier to achieving publication), improved confidence of mentee writing and of mentor supervising, and potentially improved overall understanding of the structure of a scientific research article. The benefits of modeling and normalizing peer mentoring could extend beyond the course to enable greater academic citizenship, as John (scientific journal editor) points out: “Most of us along the way have relied on the goodwill of an awful lot of people to get a manuscript out. Most of us should spend both more time helping others and asking others to help
us get our work in better shape”. Findings related to this peer mentoring are in line with previous studies that have suggested the efficacy of approaches providing time and space for interaction between emerging scholars and their more experienced peers (e.g. Cargill & O’Connor, 2006; Kwan, 2010) and suggest the potential of ERPP approaches that involve meaningful peer-peer interaction and building genre knowledge through developing what Tardy (2009) refers to as “genre networks” (p. 250) when supporting the scholarly writing of research articles. These findings also suggest the potential of such an approach at improving the supervisory capacity of those tasked with overseeing such scholarly writing in their departments in graduate programs located at research-intensive institutions in the global periphery.

**Grammar taught in isolation.**

As mentioned in the description of how the academic grammar section met (or did not meet) course objectives and participant writing needs, many B1 level participants found the grammar focus helpful and some even would have preferred a greater focus on discrete grammar points (or a separate course focused solely on academic grammar). In terms of delivery of grammar instruction as part of the intensive AWC, the pedagogical approach was seen as disconnected from the reality of broader scientific writing concerns. Many participants spoke to their frustration at a focus on discrete grammar points without a concurrent focus on the larger rhetorical and structural issues in their manuscripts. In interviews, both graduate students and faculty at a higher proficiency level reported frustration with the basic nature of the grammar instruction while those with lower proficiency levels reported rapid instruction not allowing for student comprehension and, most importantly, time to connect discrete grammar points with their research articles. As suggested earlier, this finding suggests the potential of an approach that concurrently focuses on discursive issues related to the multiple rhetorical, structural, and lexicogrammatical issues facing this particular population of scholars while simultaneously attending to the apparent lack of genre knowledge displayed by many emerging scholars (Hyland, 2007; Tardy, 2009) rather than one that attempts to artificially isolate discrete grammar issues.

**Instructor knowledge bases: Genre, discipline, and language teaching.**

Originally the course was designed to cater to participants from disciplinary backgrounds across the academic spectrum, from the social sciences to the natural sciences. As the course evolved, it
became clear that participants sought a greater focus on discipline-specific writing and as the sponsoring units and majority of course participants were from the life and health sciences, as of the third iteration of the course a greater instructional content emphasis was given to the pragmatic codes and conventions of science writing. This was particularly the case for courses offered in Mexico as these courses included participants from one or two specific health or life sciences disciplines. Throughout my conversations with former course participants, it was evident that both emerging and established scholars were looking for support related to not only the genre of academic writing but discipline-specific writing connected to their scientific field. Given the findings from Chapter 6 pointing to a lack of genre-specific and discipline-specific writing knowledge as a potential barrier to achieving publication success, it would be advantageous for these scholars to have writing courses that address the disciplinary specificities particular to scientific sub-disciplines. However, instructors did not always possess both the genre and/or disciplinary knowledge to satisfy course participants. While the instructional approach was based on a team teaching effort with instructors having particular expertise in one or more of categories such as ESL, scientific writing, and academic writing, course participants perceived a lack of genre, sub-discipline-specific, cultural, and/or linguistic knowledge on the part of the instructors delivering both the academic structure and style and, particularly, the academic grammar sections:

An understanding of Spanish and Mexico is necessary otherwise they are not going to understand why these Mexicans behave like this and then they are going to be shocked—why are they doing that? They are laughing at this or they are getting late or doing this or that. You need somebody who knows the behaviour of people in this particular society. Cultural and linguistic knowledge. Also, if they don't have a background in biological sciences they are not going to help us. We prefer not to have the course if the person is not with this particular emphasis in the area (Jesús, department head).

Along with a desire for linguistic, cultural, and disciplinary knowledge, there was a stated desire from participants for Native English-speaking teachers (NESTs). Some even went as far as suggesting native speakerness as taking precedence over broad academic publishing knowledge or specific disciplinary knowledge. However, many also tempered this desire for a NEST by stressing other traits as more important than native speakerness:

The advantage for Native English speakers (NES) is that they are NESs. They know their language very well and it's very difficult for a Mexican to learn English and be as good as them...[but] perhaps the Mexican would have the advantage in knowing better the problems that face the Mexicans when they write in English—that would be an advantage to being Mexican. Perhaps a combined staff would be ideal, with NES and NNES
instructors (Emiliano, faculty).

Emiliano suggests an ideal instructor base, one with mixed NEST and NNETs but still hints at his preference for instructors with Native or native-like English proficiency.

While the course designers and administrators attempted to provide an instructional team with many instructional knowledge bases, it appears to have been simply too difficult: “It was very difficult to find qualified instructors who had experience with language teaching, teaching academic writing, and had experience with writing an article…we did our best but it was one of the most difficult parts of delivering this course” (Janet). Although it appears a daunting task to provide a teaching team staffed with instructors who each meet all the participant desires in terms of diverse knowledge bases, it would be potentially advantageous to both instructors and participants if instructors were required to familiarize themselves with sub-disciplinary specific texts, participant manuscripts pre-course, as well as have a working knowledge of participants’ L1s. These seem reasonable expectations on the part of MEX U scholars in order to increase the chances of the course meeting MEX U scholar ERPP needs. Nonetheless, the course provided instructors that, as a team, included many of the desired knowledge bases, support that previous researchers have lauded as beneficial to both emerging (Cargill & O’Connor, 2006) and established (Lilllis et al., 2010) scholars attempting to write research articles for publication.

Findings regarding perceived efficacy of instructors point to the potentially ideological understandings of language (Lilllis & Curry, 2010) and language teaching and learning (Phillipson, 1992) among course participants. This would suggest the potential utility of providing course participants with an explicit rationale for the composition of the teaching team while explicitly addressing language teaching and learning myths surrounding native speakerness (Cook, 2001; Corcoran, 2011). Addressing these ideologies in an explicit manner at the beginning of such an ERPP course could be done alongside discussion of inequity in scientific publication and could form a vital component of a critical ERPP approach as recently suggested by several ERPP scholars (e.g. Curry & Lilllis, 2013; Hanauer & Englander, 2013).

**Minimal focus on oral presentation skills.**

From post-course survey and semi-structured interview data, it became clear that academic publishing in English was even more important than doing so in Spanish for most MEX U scholars. Further, 96% of these same scholars strongly agreed or agreed that presenting research
in English was important to their careers (see Appendix S), even more important than doing so in Spanish. Data also showed that many course participants did not feel they were strongly connected to the international discourse community in their particular discipline or sub-discipline and only 41% agreed that the course helped them achieve a stronger connection with their desired communities (see Appendix T).

With the goal in mind of increasing MEX U scholars’ ability to connect with and participate (more fully) in their international discourse communities, the MEX U AWC pilot course included a sizeable oral presentation skills component. This component was subsequently scaled back, however, as the content load was deemed too heavy by administrators. While most iterations of the intensive AWC still included a final presentation of participants that included five minutes on what they had learned during the course and five minutes giving an overview of their research, time spent preparing for these presentations was negligible and at the whim of the grammar component instructor(s), who often times had little experience with academic presenting. Many course participants (both doctoral students and faculty) felt that they would have been well served by a greater focus on oral presentation skills. As Raúl states, there was widespread recognition that the focus on presentation skills during the course was insufficient in meeting participants’ needs: “I think what we have now [in the course] is really short. You should have at least half a day talking about presentations and giving do’s and don’ts … I don’t see that they are going to be able to give much input to the presenters since it’s the last day”.

In general, scholars felt that the MEX U AWC did not necessarily help them become a greater part of their desired international scientific discourse communities and that a lack of attention to skills useful to making connections with said communities at international conferences was partly to blame. While it may be true that expectations among course participants were unreasonable (Chapter 8 for further discussion), it is not unreasonable for these scholars to expect guidance in both writing for publication and oral presentation skills, both sets of skills potentially crucial to connecting to both domestic (in Spanish) and international (in English) scientific discourse communities. While publishing an article is the key component of connecting with one’s international scientific discourse community (Hyland, 2015; Lillis & Curry, 2010), it would potentially be advantageous for the course to provide some guidance and tips on other ways (e.g. conference presentation skills; email communication skills; etc.) to participate in and connect with their desired discourse communities that lie outside the Spanish-speaking milieu. Given the findings from Chapter 6 highlighting the non-discursive challenges to achieving
publication of research articles and previous research pointing to the importance of facilitating periphery scholars’ (elusive) connections to various networks of researchers and discourse communities (Canagarajah, 2002; Curry & Lillis, 2004; Lillis & Curry, 2010), this type of course component seems a logical fit in a Mexican higher educational setting. Further, while it is not the mandate of the course, guidance on effective oral presentation skills would likely provide emerging scholars with useful tips on presenting in both English and Spanish in order to facilitate connection to regional, national, and international discourse communities. This type of skill set could be particularly useful for emerging scholars who are attempting to break in to these communities via dissemination (in any manner) of their research findings.

**Writing support pre- and post-course.**

While the MEX U AWC was well received by almost all participants as an extremely useful measure of writing support in and of itself, such support appears to be minimal outside the allotted weeks of the course. Many course participants simultaneously praised the instructors for their high level of individual attention and writing support during the course while critiquing the course for providing little to no writing support pre- and (especially) post-course:

> I do not want to seem spoiled but there was nothing, absolutely nothing after the course finish[ed]…why can we not send our papers for another check up with the instructors or something? This was the bad part…but the course was very good when it happened (Adriana, PhD student).

Adriana was not alone in her critique. After experiencing the extensive support and various perspectives provided by AWC course instructors, many participants asked course instructors for ongoing support in preparing their manuscripts for publication. According to many emerging scholars, this support was simply not available from either MEX U-Canada, their MEX U department, or anywhere at MEX U. Other participants, including administrators, were not unaware of the lack of support provided by the course, but suggested a lack of human resources at MEX U-Canada to be able to deal with such demand:

> We are not in a position to give more feedback because we are really busy here and we have just a few personnel and our staff is so small…Of course they would like more rounds of editing and suggestions but we do not have the capacity to do this. I think that the first step is to provide them with the tools to publish but the second step is always the researcher responsibility (Antonio, senior faculty and school director).

Antonio goes on to suggest individual-led and department-level initiatives that may better
provide ongoing writing for publication support for doctoral students and faculty: “The other thing is there should be some sort of continuing English club where faculty people help each other—where students are welcome too—with their papers. They could work on a particular issue a lot of them are having”.

Through semi-structured interviews with course participants combined with personal teaching experience in the AWC, it is clear that the level of writing support provided by the course is perceived as insufficient in meeting participant writing for publication needs and must be augmented in order to meet MEX U emerging and established scholars ERPP needs. Frustration among participants is widespread and, while tempered by satisfaction with the course in general, highlights a glaring need for more interventions aimed at emerging periphery scholars (Carrasco & Kent, 2011; Kwan, 2010). Viewed with a wider lens, understanding these scholars’ frustrations at inequity in scientific knowledge production as well as initiatives to address such inequity reflects a growing recognition among scientists and ERPP scholars for increased ERPP instruction and support for multilingual scientists working in the global periphery (Flowerdew, 2013; Hyland, 2015; Lillis & Curry, 2010; Perez-Llantada, 2012).

**Meeting MEX U PhD and Faculty Writing Needs**

In this section, I attempt to frame the perceived efficacy of the MEX U-C AWC in terms of meeting the two distinct scholar-participant groups’ ERPP needs.

**Meeting emerging vs. established scholars’ ERPP needs.**

Despite some notable perceived design and delivery shortcomings, the MEX U intensive AWC was perceived a successful measure both in terms of improving graduate students’ overall confidence with ERPP as well as in elevating emerging scholars’ understanding of the genre expectations associated with writing a scientific research article (see Table 23). Many emerging scholars appeared to benefit greatly from the *academic style and structure* section while other lower-proficiency EAW graduate students appeared to benefit equally from the *academic style and structure* and *academic grammar* sections. The course was perceived to have benefited these scholars’ general and specific academic literacy and appears well positioned to be able to meet many of this scholar groups’ ERPP needs, especially for those with a B2 or higher CEFR proficiency level. This study’s findings add to the limited literature pointing to the perceived
efficacy among periphery emerging scholars of interventions aimed at improving their ERPP confidence and skills in centre (Romesburg, 2013), periphery (Kwan, 2010) and semi-periphery (Carranza & Kent, 2009) contexts such as MEX U. However, findings also suggest the limitations of such an approach and the need for attending to challenges associated with developing greater genre knowledge and networks (Tardy, 2009) while at this important developmental stage in their careers. Much further research is necessary in order to understand the potential of such interventions at addressing what appear to be a wide variety of discursive and non-discursive challenges facing scholars such as those at MEX U. However, this study contributes knowledge in the field with suggestions of perceived efficacy, strengths, and limitations of an ERPP approach with emerging scholars.

Through data collected from the post-course survey as well as interviews with multiple groups of participants, the MEX U AWC was also perceived to have met many of the established scholars’ academic writing needs (see Table 23). The course was perceived by multiple groups of participants not only to have met most faculty writing needs but also concurrently provided them with the tools to become better supervisors of doctoral student writing (for publication), both potential predictors of greater publishing success for emerging and established scholars at particular departments. Established scholars perceived and were perceived to have gained greatly from the principles of academic publishing section of the course, suggesting the potential efficacy of an approach focused on attending to the normative and pragmatic codes and conventions of academic publishing for this scholar group. As discussed previously, the course seems well positioned as a potential mediation for these periphery scholars in terms of providing the conditions for them to improve their ERPP outcomes and therefore become greater participating members of their desired international research communities. The perceived success of this intervention supports previous research pointing to the perceived efficacy at ERPP interventions aimed at this scholar group (Bazerman et al., 2012; Cargill & O’Connor, 2006; Lillis et al., 2010). However, findings also indicate the potential limitations of the MEX U AWC in attending to many of the previously highlighted non-discursive challenges such as overcoming time and publishing demands, overcoming lack of institutional and departmental writing support, and dealing in a more effective way with literacy brokers and gatekeepers.
### Table 23

**Perceived Efficacy of the MEX U AWC in Meeting Emerging Versus Established Scholar Needs**

<table>
<thead>
<tr>
<th>Emerging and established scholar need</th>
<th>Met for emerging scholars?</th>
<th>Met for established scholars?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved understanding of scientific publishing codes and conventions</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved understanding of structure and style of academic research article</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved grammatical knowledge and use</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Greater autonomous writing and editing skills</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved general English literacy skills</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved clarity of expression</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved understanding of intercultural rhetorical differences</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved confidence in academic writing ability</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved ability to navigate an article submission and review process</td>
<td>Potentially</td>
<td>Yes</td>
</tr>
<tr>
<td>Improved ability to deal with critical feedback from editors and reviewers</td>
<td>Potentially</td>
<td>Potentially</td>
</tr>
<tr>
<td>Improved oral academic presentation skills</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Perceived potential of the AWC in meeting all scholars’ ERPP needs.**

Overall, this course was perceived as successful in meeting the academic writing for publication needs of many emerging and established scholars. However, participant expectations as to what objectives and needs could be met through such a course potentially need to be re-framed in light of what realistically can and cannot be accomplished in an intensive AWC. There appears to be a potential disparity between the perceived needs of course participants (doctoral students and faculty) and the stated objectives of the course. As observed from data collected through interviews with primary participants as well as from personal teaching experience and classroom observations, it was apparent that many doctoral students were in need of extensive general English skills in addition to significant support with improving overall EAW skills. While the intensive MEX U AWC was perceived as a success in terms of improving both general academic writing and ERPP knowledge and practice, there was insufficient time and resources to be able to realistically provide the comprehensive support these students needed. Expectations for what this course could achieve were potentially unrealistic at the administration level, the University level, and from scholar-participants themselves, as highlighted in Janet’s observation:
The course is not there to make sure the paper is done; that's on them. Some of them we've told they're still going to need some help with the English. They've got to understand that this course isn't the be all and end all but rather the beginning of a journey...the course can't do everything.

The goals of this course were lofty and ambitious. While the course should be seen as a progressive measure full of successes, expectations should be tempered as to what can and cannot be accomplished in an intensive course. Significant time and effort must be given to providing doctoral students and faculty with the resources and support necessary in order to provide the conditions for MEX U scholars to improve and eventually thrive as autonomous producers and editors of their own scientific research writing in English (see Chapter 8 for more implications to this end). Overall, expectations for this course should be tempered by all participants; it should be seen as a potentially excellent measure of ERPP support capable of achieving particular short-term goals and—with an increased level of departmental and institutional academic writing support—potentially medium-term and long-term goals that would meet many participants needs and objectives. Nevertheless, a more critical yet pragmatic (e.g. Lillis & Curry, 2013) approach to addressing scholars’ ERPP needs in a way that takes into consideration their multilingual publishing practices, bilingual literacy development (Gentil, 2005; 2011; ), and challenging position(ing) as semi-periphery multilingual scholars is essential to providing these scholars with the comprehensive multilingual writing for publication support they need in order to attend to and challenge asymmetrical relations of power they face in the global market of scientific knowledge production.

Chapter Summary

This chapter provided an overview of the perceived efficacy of the MEX U academic writing for publication course in meeting emerging and established scholars’ ERPP needs. Findings highlighted widespread satisfaction with the course among both emerging and established scholars as well as increased confidence and decreased anxiety across scholar groups. Further findings included perceptions of particularly effective course sections that met different scholars’ needs, with the course section entitled Principles of Academic Publishing meeting many of the more experienced (faculty) scholars’ needs and the section entitled Academic Structure and Style meeting many of the less experienced (graduate students) scholars’ needs. This chapter also outlined instructional approaches that were perceived by instructors (including myself), editors, administrators, and course participants as effective during the course including a guest lecturer
(editor-in-chief) session, daily course time dedicated to supervised manuscript production, and intensive instruction over several weeks, among others. Findings also pointed to dissatisfaction among instructors and participants with several course elements including the Academic grammar section, a lack of pre- and post-course writing support, an occasional lack of genre-specific instruction, and an inability to facilitate participant connection with their desired international discourse communities through lack of instructional focus on oral presentation skills. Overall, the intensive AWC designed and delivered by MEX U was widely perceived by multiple groups of participants to have met many scholar-participant writing for publication needs, increasing participants’ writing for publication confidence and ability, reducing anxiety surrounding writing for publication, and potentially enabling better time management surrounding this writing. However, the course was perceived of greatest benefit to those graduate students and faculty with at least a CEFR B2 proficiency, a level not met by some doctoral students and faculty who took the MEX U-C AWC. Chapter 7 concluded with author and participant perceptions of potentially unrealistic expectations as to the potential of an intensive academic writing for publication course such as the MEX U AWC in addressing all scholars’ ERPP needs. When considered alongside perceived attitudes towards EILS and potential barriers to achieving publication in international scientific journals, findings suggest not only the need to include and increase a genre-based pedagogical ERPP approach but also the need for greater intervention(s) aimed at explicitly addressing (perceived) structural inequity in scientific knowledge production as well as a greater focus on mitigating the non-discursive challenges facing these semi-periphery scholars.
Chapter 8
Discussion, Implications, and Conclusions

This chapter presents my interpretation of the main study findings in relation to literature previously reviewed (Chapter 2) and through my particular conceptual lens outlined in Chapter 3. This chapter provides a comprehensive discussion of the study findings in relation to MEX U scientists’ experiences with English as an international language of science, including i) the attitudes of MEX U scientists’ towards English as a language of scientific communication; ii) the main English for research publication purposes (ERPP) challenges facing Mexican scientists; and iii) the perceptions of the efficacy of an academic writing course in addressing scientists’ ERPP challenges. Following an integrated discussion of study findings, this chapter includes a description of the implications of study findings for researchers, practitioners, policy makers, and scientists. The chapter concludes with explicit reference to how this study contributes to knowledge in the field of Applied Linguistics followed by some concluding thoughts on the potential roles of critical research and practice in effecting change in the name of equity and diversity in global scientific knowledge production.

Multilingual Scientists’ Attitudes Towards EILS

Questions regarding perceptions of English as an international language of scientific communication led to findings highlighting reasons (motivators) why emerging and established scholars choose English and/or Spanish when writing for publication. Findings point to mainly extrinsic motivators for English (e.g. graduation requirements, evaluation for remuneration) and mainly intrinsic motivators for Spanish (e.g. moral obligation) as well as a clear perception of unequal status relationship between the languages (English = higher status). These findings are in line with other studies investigating attitudes and perceptions of English versus expanding circle languages for academic publication (Lillis & Curry, 2010; Gea-Valor et al., 2014; Gonzalez-Trejo, 2012; Martin et al., 2014; Muresan & Perez-Llantada, 2014). In addition, findings suggest writing and publishing practices (or imagined future practices for some emerging scholars) that include balancing publishing in English and Spanish in order to fulfill multiple and at times divergent goals in connecting with different discourse communities. These findings support previous research looking at European and Asian multilingual established scholars’ publishing practices (Curry & Lillis, 2004; Curry & Lillils, 2014; Li & Flowerdew, 2009; Muresan & Perez-
Llantada, 2014); however the findings also suggest similar understandings and planned publishing behaviours among *emerging* scholars. That these attitudes appear consistent throughout the scholarly population speaks to the pervasive nature of EILS within and across scholar populations at MEX U and adds to the little research available on perceptions of multilingual periphery scientists who are entering academia (Huang, 2010). How acutely emerging scholars seem to perceive the pressures related to English language production is perhaps unsurprising given the departmental and institutional policies aimed at elevating the visible scientific production (i.e. in English) among this scholar group.

Findings regarding motivation to publish in English versus Spanish suggest an understanding among these multilingual scholars of the growing reality of academic survival and professional satisfaction and/or recognition requiring (increasingly unequal) bilingual publishing practices aimed at these desired discourse communities within what Bourdieu referred to as a linguistic market, one where there is an asymmetrical relationship of power between the legitimate language (English) and a lesser one (Spanish). Borrowing once again from Bourdieu it is clear that MEX U scholars accrue a great amount of symbolic power and social capital from choosing English as their main language of publication. The fact that even emerging scholars must make decisions to attempt to publish their research in a language with which they often have insufficient proficiency suggests linguistic forces at work, where systems of evaluation leading to academic advancement for scholars are heavily effecting publishing practices and processes. As is evidenced in the findings displayed throughout this thesis, there is a perception of pressure to publish in English apparently spurred on by what scholars deem an important and inequitable system of evaluation in place at MEX U and the CONACYT (Mexican National Science and Technology Council), two of these scientists’ main funding sources. Findings demonstrating the increasing pressure felt by emerging and established scientists to publish their research in English language international scientific journals are not unique and appear to be in line with findings from other studies investigating this growing pressure (Curry & Lillis, 2014; Englander & Uzuner-Smith, 2013) and subsequent motivation of scholars to connect with their desired international discourse communities within a market dominated by particular “neoliberal ideologies of a knowledge economy” (Uzuner-Smith & Englander, 2015, p. 62) that privileges the status of English within this economy of exchange. These findings suggest systemic neo-linguistic imperialist forces at work serving to reify the unequal relationship between English and Spanish in academic publication in *semi-periphery* contexts such as MEX U. That the
evaluation systems employed by MEX U value English language publications so highly is evidence of the influence of what Lillis and Curry (2010) refer to as “powerful evaluation systems of academic knowledge production based in the Anglophone centre…directly and indirectly supporting the privileging of English” (p. 156) in contexts in the global periphery. The pervasive nature of the influence of evaluation systems suggests these mechanisms are part of what Phillipson referred to as the project of Global English, where ideological commitment to evaluation systems support the use of the product (English), thereby facilitating the normative project of the use of English as an international language of scientific communication.

Findings from my study suggest a similar situation of evaluation serving as the main motivator for language choice of multilingual scholars at MEX U as those highlighted in other recent studies into multilingual periphery scholars from not only the natural sciences but also social sciences (Curry & Lillis, 2014; Englander & Uzuner-Smith, 2013), one potentially sustained by internalization of particular ideologies of language. I would suggest this study’s findings point to the need (as suggested by Curry and Lillis among others) for a re-calibration of institutional evaluation rubrics that unfairly reward English language publications and elevate English at the expense of other languages (in this case Spanish) in a classic example of Phillipson’s (1999) linguistic imperialism. What is clear is an unjust system of evaluation stimulating a more monolingual state of scientific knowledge production; what is less clear are what can or should be done to stem the apparently hegemonic tide and who exactly should do it. As I suggest in this chapter, a critical approach to ERPP pedagogical intervention could be one form of answer.

In analyzing scholars’ reported experiences with EILS and ERPP it appears that the pressures felt by these scholars are both fueled by (and fuel) institutional policies of evaluation that result in what Lillis and Curry (2010) refer to as “ideological distinctions” (p. 138) between local (Spanish language) and global (English language) publications as well as what counts as (more) legitimate scientific knowledge. These systemic and linguist forces apparent in this market of linguistic exchange appear to have been internalized by many scholars, both established and emerging, as evidenced by their positioning of English as a natural language of science. In analyzing scholars’ perspectives on EILS, it is clear that there is widespread acceptance of particular “ideological tenets” (Phillipson, 1992, p. 185) of language and English language teaching as they relate to scientific knowledge production. These language myths that Phillipson connects to certain ideologies are on display when considering widespread acceptance among participants (scholars, ERPP course instructors and designers, and scientific journal editors) of
the natural ascension of English as a *lingua franca* of scientific knowledge exchange to its current hegemonic status within this market. Scholar perceptions of English as a rational, functional, and naturally placed language of knowledge exchange work to propagate its status at MEX U in terms of its natural place as the high status code of linguistic exchange as well as its inevitable legitimacy as *the* language of scientific communication. This *commitment* to the project of *Global English* is highlighted in the use of the *product* as the legitimate means of scientific production and exchange. However, before positioning these scholars as passive actors in a game of global economic and linguistic production and exchange, it is important to consider the ways in which these scholars appear to contest the norms imposed by the market, including those of scholarly evaluation. Scholars’ overall attitudes of grudging acceptance of English as an international language of scientific communication seem to suggest both the pervasive nature of particular ideologies of language as well as these multilingual scholars’ linguistic adaptability in the face of substantial challenges or barriers, particularly on the part of emerging scholars who have yet to achieve the proficiency necessary to produce viable manuscripts in English. While some may interpret these emerging scholars’ attitudes of acceptance of English as a clear sign of a future where the hegemony of English is pervasive and unchallenged, findings also point to the agency of scholars in resisting a monolingual publishing landscape, one where they use English for certain publication purposes (academic advancement) while using Spanish for others (connecting with local communities).

Perhaps most surprising given previous studies into NNES scholars’ attitudes towards English was not the previously well-documented grudging acceptance to the growing pressure to publish in English but the pervasive, widespread findings from this study pointing to perceptions among emerging and established MEX U scholars of perceived bias and inequity in the international scientific publishing world. Through semi-structured interviews with emerging and established scholars it appears that these perceptions are deep-rooted and widespread across emerging and established scholar sub-groups. While previous studies have pointed to perceptions of inequity in academic publishing among established (Belcher, 2007; Ferguson et al., 2011; Gibbs, 1995; Lillis & Curry, 2010; Perez-Llantada, 2012) and emerging scholars (Flowerdew, 2007; Huang, 2010; Li, 2006; Tardy, 2004), my study’s findings suggest this perception is pervasive across scholar groups at MEX U. The perception of bias across scholar groups suggests an awareness among multilingual periphery scholars of the unequal field on which they are playing, one where they are positioned as deficit scientists when attempting to compete and connect with others in
the international discourse community. While these attitudes seem to be similar to other studies of established Spanish L1 academics (Ferguson et al., 2011, Martin et al., 2014), what is surprising and novel in these findings is twofold: i) the vigor of scholars’ suggestions of bias against them; ii) these perceptions were equally expressed by emerging scholars. Further research into this widespread scholar perception of personal and institutional bias is necessary across contexts and scholar groups.

This systemic bias described by MEX U scholars is refuted by international journal editors-in-chief who claim that while journals may not be able to attend to all authors’ needs given the mass of submissions, NNES author submissions (including those from Latin America) are increasingly welcomed and supported. While editors hail the growing equality at international journals, their ideological positioning of English as the apolitical, natural language of science potentially belies this stance. Evidence from this study does not provide sufficient answers to the validity of scholars’ claims nor does it imply the complicity of editors in the de-legitimization of multilingual scholars; however findings do suggest the need for a more nuanced understanding of such potentially ideological perceptions of *non-standard* English(es) by scientific journal editors. Valid or not, the perception of bias against them exists among these scientists. Given the growing cacophony of voices from the periphery suggesting inequitable and exclusionary practices at international journals (Clavero, 2011; Hamel, 2007; La Madeleine, 2007; Meneghini & Packer, 2007; Salager-Meyer, 2014), how long can the apparent trend of ignoring or discounting these scholars’ perceptions continue before measures are enacted to counter these perceptions in the name of advancement of scientific knowledge? The disparity in perceptions of EILS between multilingual periphery scholars and scientific journal editors suggests a need for greater initiatives aimed at bridging this gap. Pedagogical initiatives aimed at increasing the awareness of what editors are looking for (such as the one part of the MEX U AWC) are promising. However, given the apparently pervasive nature of ideological conceptions of English as the language of science highlighted in this study and others (e.g. see Lillis & Curry, 2010 discussion of textual ideologies), should the onus not be as much on centre scientific journal gatekeepers to develop intercultural awareness as it is on scholars to conform to the proscribed normative conventions? This question is inextricably linked to the growing debate surrounding the legitimacy of *English as an academic lingua franca* (Jenkins, 2014) in different disciplines, including the health and life sciences. While it is beyond the scope of this thesis, surely there is need for further discussion within and between international scientific communities regarding the
(perceived) rigidity of English language research article norms.

**Multilingual Scientists’ ERPP Challenges**

Through an analysis of interviews with multiple participants, post-course survey data, and classroom observations, there appear to be multiple challenges faced by MEX U emerging and established scholars as they attempt to achieve publication of indexed scientific research articles. Some of these challenges appear more significant than others in terms of posing barriers to achieving publication and some appear more important for emerging scholars as opposed to established ones. While these scholars report publishing practices in both Spanish and English, scholars alluded to overcoming the various English writing for publication challenges facing them as an integral part of their scientific lives.

Findings highlighting discursive challenges appear to support previous studies into academic writing challenges experienced by Spanish L1 scholars, including particular grammatical, lexical, and rhetorical features of writing of research articles (Gea-Valor et al., 2014; Englander, 2009; Martin et al., 2014; Moreno et al., 2012). While findings pointed to a perception among scholars of grammatical and lexical challenges, instructors and journal editors pointed to clarity of expression and intercultural issues related to rhetoric and structure of a research article as potentially more salient challenges. Inability to clearly and concisely express research purpose, importance, and relevance is unsurprising for emerging scholars who do not have the same genre experience with scientific writing of research articles for publication but it is perhaps telling that established scholars appear to experience the same intercultural challenges with clarity and concision. Findings from this study indicate that abstracts, cover letters, and introduction and discussion sections are the main structural elements where this lack of clarity is posing a potential barrier to achieving publication of research articles. These findings appear to be in line with previous research highlighting introductions and discussions as problematic for Spanish L1 authors (Gea-Valor et al., 2014; Moreno et al., 2012; Martin et al., 2014, Sheldon, 2011; St. John, 1987). The exact rhetorical features that are the most challenging is beyond the scope of this study (see Moreno & Suárez, 2008; Mur Dueñas, 2008; Pabón Berbesí & Domínguez, 2008 for greater discussion of intercultural challenges facing Spanish L1 scholars). However, this study’s findings suggest the potential centrality of intercultural rhetorical challenges with the genre of a scientific research article. Corpus-based studies will undoubtly shed further light on these rhetorical differences; however further investigation of which particular rhetorical elements
produce the greatest intercultural communicative challenge(s) (what editors in this study refer to as problems with clarity) for gatekeepers assessing and reviewing multilingual scholars’ work could assist in providing greater awareness for scientists, journal gatekeepers, and ERPP pedagogues. More interesting to this study is a consideration of these discursive challenges with genre and linguistic/cultural transfer. MEX U scholars appear to struggle conforming to particular discursive norms, resulting in what is perceived by interlocutors (editors and instructors) as a lack of clarity of expression. Achieving this desired linguistic capital is essential for these scholars to gain further social and symbolic capital through publication of indexed research articles. These discursive challenges were addressed effectively by the MEX U AWC; however (as is discussed in the following sub-section) greater focus on advanced rhetorical and structural challenges with writing health and life science research articles appears necessary. Further, while discursive challenges with achieving the expected norms associated with English language scientific research articles are potential barriers to these scholars achieving publication, study findings suggest non-discursive challenges are connected to discursive challenges and are of equal if not greater importance.

Central among non-discursive challenges is an overall lack of exposure to the genre of scientific article writing in English, including a wide lack of awareness of structural and rhetorical conventions as well as, primarily, opportunities to produce this genre-specific writing, appears to be a salient challenges and significant barrier to emerging scholars achieving publication of their research articles. Genre understanding as key to effective academic writing (for publication) has been well documented in literature surrounding (teaching) academic writing of graduate students (Flowerdew, 2013; Hyland, 2015; Swales & Feak, 2012) and findings from this study provide more support for the potential centrality of genre understanding as important for academic writing for publication of research articles. Findings pointing to the lack of ERPP opportunities afforded to these emerging MEX U scholars coupled with a distinct lack of ERPP support and mentorship suggest these non-discursive challenges as perhaps the most salient barrier to emerging scholars achieving publication of their research articles. With reports of uneven (and even non-existent) ERPP support for emerging scientists, it is apparent that this semi-periphery location exhibits many of the non-discursive barrier components suggested by Canagarajah’s (1996; 2002) description of periphery scholars in Sri Lanka and Lillis and Curry’s (2010) description of challenges facing multilingual European scholars from semi-periphery non-Anglophone contexts. For emerging scholars, a lack of effective supervisory support appears to
be a main challenge and these findings support previous empirical studies highlighting the potential importance of a supervisor in guiding and mentoring doctoral students’ writing for publication (Belcher, 1994; Flowerdew, 2007). A lack of adequate supervisory support could be detrimental to these emerging scholars as they attempt to publish their research and hence form greater connections with their desired international research communities through this publication. This lack of institutional ERPP support is further evidence of a context where multilingual periphery scholars are in a deficit position when compared to their centre counterparts at Anglophone institutions. If these scholars are not exposed to the genre-specific rhetorical and structural norms, how can they be expected to adapt to them and produce research articles acceptable to international scientific journal gatekeepers? MEX U scholars, particularly emerging ones, appear to be in a position where they are facing pressures to publish in English without being provided with the tools to do so, a situation which places them in a position of dependency in the market of global scientific knowledge production and exchange. While this study’s findings do not suggest an intended plan of imperialist domination or subjugation by centre interests, the situation highlighted by this study’s findings very clearly points to a semi-periphery context at MEX U where the imperialist and linguicist project of *global English* suggested by Phillipson (2008) is resulting in particular asymmetrical relations of power and systemic barriers for these scholars. This is particularly acute for those scholars who have not had the opportunity to gain significant exposure to ERPP writing opportunities during their educational trajectories, the case for most MEX U emerging scholars as well as some established ones.

These findings point to the clear need for institutional measures to address not only PhD scholar writing for publication but also faculty writing support. Established scholars—even those with long records of English language publication—also lament a lack of writing support available to them, including a lack of NES colleagues (and/or reputable editing services) available to review their papers pre-submission. While findings clearly point to the need for greater support for academic writing for publication at the institutional and departmental levels, exactly in what manner these mediations can be effectively delivered is still very much an open question. Perceptions of the efficacy of one model of such mediation is analyzed in Chapter 7 and discussed in more detail below.

Further findings point to the time demands of writing articles in English for publication as one of the main challenges and the increasing publication demands on established scholars as one of the
potential barriers to achieving publication in international scientific journals. These findings add to similar findings regarding periphery scholars and the reported burden of writing for publication in English on top of all other researcher responsibilities (Curry & Lillis, 2014; Duszak & Lewkowicz, 2008; Li & Flowerdew, 2009). Of note is that these findings provide qualitative nuance to findings from Hanauer and Englander (2011) citing a quantitative burden of having to publish in English in addition to Spanish for established Mexican scientists. Given these findings pointing to the increasing pressure perceived by scholars to publish in English and the perception of increasing time and publication demands as a potential burden to achieving said publication, it would seem that either lessening this burden to publish in English and/or providing further time and support for these scholars would be advantageous for the scholars themselves as well as the institution they represent when writing for publication. As is the case with all of the potential barriers labeled non-discursive, findings highlighting these challenges to achieving publication bring into focus asymmetrical power relations within the global arena of scientific knowledge production, where periphery scholars are systemically disadvantaged by, in this case, the added linguistic burden of not only navigating the expected scientific research article genre expectations but also doing so in a second or additional language. In what appears to be a battle for linguistic, social, and symbolic legitimacy waged by even the most experienced of these MEX U scholars, the burden of increasing expectations in terms of written output places them in what appears to be a challenging, deficit position when attempting to connect with their desired international and domestic discourse communities.

Another perceived challenge highlighted by both emerging and established scholars was the difficulty of navigating the submission and review process. This potential publication barrier is both discursive and non-discursive in nature as it is both connected to a lack of access and exposure to necessary resources as well as a lack of ability to synthesize and effectively adapt to suggestions for textual modification of research article manuscripts from gatekeepers. While emerging scholars cited submission (e.g. identifying an appropriate journal) as a challenge, established scholars referred to managing the revision process as the most challenging, with multiple editors, instructors, and scholars themselves positioning both the identification of appropriate journals and uptake of editor and reviewer feedback as potential barriers to these scholars achieving publication of their research articles. These findings are in line with previous research suggesting the importance of learning to appropriately and effectively deal with what Lillis and Curry (2006) describe as literacy brokers (Burrough-Boenisch, 2006; Flowerdew,
Findings from this study suggest the complexity of these negotiated tasks when producing and revising texts for publication and how “practices of brokering and text production are affected by unequal power relations” (Lillis & Curry, 2006, p. 30). While my study did not analyze multilingual scholar interactions with such brokers, perceptions of scholars point to a lack of awareness of broker resources and frustration at editor/reviewer feedback. How much of this frustration is due to what Lillis and Curry (2010) refer to as the “ideological orientations” (p. 163) of centre literacy brokers is unclear. However, it is clear that these scholars are in need of guidance in how to better navigate these interactions, thereby increasing their chances of achieving publication of research articles. Considering the apparent desire of the MEX U scholars in connecting with their desired international discourse communities through publication, identifying strategies for effectively dealing with reviewer and editor feedback should be central to any instruction focused on improving (particularly established) scholars’ ERPP. Such a focus was not a central (or sufficient) part of the ERPP instructional support provided by the MEX U AWC. What appears to be uneven (and unequal in comparison with their centre colleagues) access to these brokers (particularly disciplinary specialists with elevated ERPP proficiency) is yet another example of the uneven distribution of resources and resulting lack of linguistic and cultural capital for these periphery scholars, ultimately positioning them in a dependency position. Advocating for greater access to these (and other) resources would seem key to MEX U scholars improving their chances when competing on this uneven playing field.

While much literature has focused on the cross-disciplinary genre expectations facing all scholars, both NES and NNES, centre and periphery, when attempting academic writing (Casanave, 2002; Cumming, 1989; Swales, 2004) and scholarly writing for publication (Hyland, 2015; Mauranen et al., 2010), findings from this study point to the need to recognize the distinct challenges facing periphery scholars within an unequal market of scientific knowledge production. These challenges include discursive and non-discursive challenges to achieving greater symbolic capital and legitimacy within particular discourse communities (in this case international discourse communities) where deeply entrenched and pervasive ideologies of language result in asymmetrical relations of power. Even if we recognize the validity of arguments highlighting the fact that academic writing is the native language of nobody and scientific writing even less so, recognizing the distinct challenges of multilingual scholars (particularly those in periphery contexts such as MEX U) is important when considering
interventions aimed at greater equity in scientific knowledge production. I suggest these necessary changes should be effected at various levels, including by those centre interests responsible for gatekeeping roles as well as by periphery institutions and scholars responsible for adapting to the norms set by centre interests and actors.

**Perceived Efficacy of the MEX U AWC**

One such intervention aimed at mitigating MEX U scholars’ challenges within a global market of scientific knowledge exchange, the MEX U intensive AWC was perceived a successful measure both in terms of improving scholars’ overall confidence with ERPP as well as in elevating scholars’ understanding of the genre expectations associated with a scientific research article. Findings pointing to increased post-course ERPP confidence from this study are in line with some recent investigations into ERPP interventions aimed at graduate students in centre (Romesburg, 2013) and periphery contexts (Cargill & O’Connor, 2006; Kwan, 2010), including Mexico (Bazerman et al., 2012). Given the sparse research available in this area (Flowerdew, 2013; Hyland, 2015), these findings are an important contribution to understanding the enculturation of PhD students in Mexican higher education institutions; however much research is necessary into if and in what way(s) these pedagogical interventions improve emerging scholar ERPP confidence (Kwan, 2010) and build what Tardy (2009) describes as *genre knowledge* and *genre networks*. As for the more established scholars who took the course and also reported increased confidence, these findings suggest the potential of both broad and specific ERPP interventions at increasing the confidence of emerging scholars’ ERPP as well as established scholars’ ERPP production and supervision.

Findings clearly indicate higher satisfaction among emerging scholars for interventions aimed at building broad genre knowledge related to scientific research articles whereas established scholars appear to have benefited more from nuanced instruction surrounding the meeting editor expectations and navigating the codes and conventions surrounding scientific publishing. Findings pointing to the perceived efficacy of the course for established scholars are important given that a nuanced understanding of the rhetorical features of discipline-specific ERPP appears to be crucial in achieving publication of research articles in international scientific journals (see Chapter 6). Attending to these potential barriers to publication may allow these established scholars—many of whom already report to participating *peripherally*—to connect more fully with their desired international research communities through developing the linguistic capital
necessary to sustainably produce the necessary writing for publication. This is something that seems a greater reality for established than emerging scholars given previous research into the import of advanced genre knowledge in achieving fuller connection with these communities (Englander, 2009; Lillis & Curry, 2010). One wonders if, when considered alongside findings from Chapter 6, if more experienced scholars may be better served by ERPP intervention focused on their particular needs and elevated genre and proficiency knowledge. For example, instruction focused on overcoming potential challenges in relation to interactions with literacy brokers and pedagogy otherwise focused on strategies for amassing and maximizing available resources when attempting to achieve connection with various discourse communities (see Lillis & Curry, 2013 for such suggestions).

The issue of providing instruction aimed at improving the potential for established scholars’ to effectively mentor both their own students as well as departmental colleagues is important to consider when viewing these findings with a critical, ethical and sustainability lens. Given the unequal distribution of resources available for periphery scholars in global scientific knowledge production (as highlighted in this study), enabling a cadre of senior scholars with extensive records of publications in both English and Spanish would be advantageous for their colleagues as well as emerging scholars who could benefit from their experience. This study’s findings, when considered alongside previous research into the importance of supervisory mentorship and support in graduate student writing for publication (Belcher, 2007; Casanave, 1998), hint at the potentially invaluable role this instruction could play in addressing what appears to be a dearth of ERPP proficiency and support across departments at MEX U. Given the apparent success of this instructional model at MEX U, it is not inconceivable that widespread use of this AWC model—along with centralized departmental or institutional writing for publication support could provide a sustainable mediation aimed at addressing equity concerns using domestic human resources (MEX U faculty) as opposed to strictly international ones (MEX U-C instructors). This is not to suggest that MEX U-C scholars are imperialist agents working at the behest of centre interests and the project of the spread of global English to the benefit of the American empire; however it is necessary to address this issue given study findings pointing to particular ideologies of language and science which journal editors and instructors hold (primarily that English is naturally placed to be a lingua franca of knowledge production and dissemination). This finding highlights the need for collaboration between ERPP professionals with cultural and linguistic knowledge of Spanish and English as well as those supportive of multilingual publishing aims of
MEX U scholars.

Conversely, for graduate students, who appeared to benefit greatly from the broad-based genre instruction related to lexico-grammatical, structural, and rhetorical features of scientific research articles (and even of English academic writing more broadly), ERPP instruction aimed at an exclusively emerging scholar audience would perhaps be beneficial. Building on the findings from this study, this intervention should include opportunities for these emerging scholars to do science by both writing and presenting their research in English. Further, while the MEX U AWC was perceived as successful in meeting many graduate student writing needs, it was perceived as unsuccessful in meeting the broader needs of some lower proficiency (CEFR B1 level) course participants. Many of these lower proficiency students could potentially have benefited from courses aimed at their general English proficiency—including EAW—prior to the AWC. These findings suggest the potential of Spanish as a language of instruction for such students during their MSc or PhD, perhaps en route to improving their English language writing knowledge and eventually benefiting more fully from an AWC such as the MEX U AWC. While there is little research investigating such L1 instruction aimed at facilitating L2 writing, there is significant literature pointing to the potential efficacy of the L1 in facilitating scaffolding of L2 learning (Anton & DiCamilla, 1998; Cummins, 2008). Further, given this study’s findings that managing linguistic transfer is a major challenge and potential barrier to achieving publication of research articles in international scientific journals, this type of intervention should be considered by MEX U departments.

Findings regarding perceived efficacy of particular course sections and instructional approaches support suggestions of the potential efficacy and limitations of a broad genre-based pedagogy (Hyland, 2007; Swales & Feak, 2012). Given the potential centrality of discursive challenges related to (lack of) disciplinary and sub-disciplinary genre awareness, one wonders about how such an approach could better incorporate corpus-based analysis of intercultural rhetorical differences between the L1 and L2 when dealing with scholars who all share an L1 as well as using authentic discipline-specific texts when highlighting such differences (Burgess & Cargill, 2013; Cargill & O’Connor, 2009; Romesburg, 2013). However, as Swales (2001) hinted at and Bazerman et al., 2012 and Curry and Lillis (2004) have stated more strongly, a purely genre focus is likely insufficient when looking to improve scholar ERPP outcomes. In order to attend to the multiple discursive and non-discursive challenges facing periphery scholars, ERPP pedagogy must address these scholars’ abilities to connect with differing discourse communities
by increasing their ability to deal with literacy brokers and identify/maximize potential ERPP support. While the course does not appear to have addressed all of these areas sufficiently (nor does it appear possible to do so through pedagogy alone) this bodes well for the potential of this AWC model to provide one level of what appears to be necessary support for emerging and established scholars at MEX U.

Findings regarding perceived efficacy of the MEX U AWC point out potential benefits of this approach with respect to an intensive approach including individual attention to manuscript as well as instruction focused on potential genre challenges related to intercultural rhetorical differences between English and Spanish scientific writing of research articles. However, potential flaws in writing support at MEX U including the MEX U AWC with respect to attending to a need for greater expert-novice interaction (Flowerdew, 2007), the importance of supervisor ERPP guidance (Belcher, 2007), and, most glaringly, instruction focused on improving scholars’ ability to interact in a more effective and appropriate way with literacy brokers and gatekeepers (Lillis & Curry, 2010; Flowerdew, 2007; Li, 2006) while attending to scholars’ affective concerns of bias (Burrough-Boenisch, 2006; Cho, 2004; Ferguson et al., 2011; Huang, 2009). In particular, as other initiatives focused more on interaction between authors and literacy brokers (see Lillis et al., 2010) have demonstrated, long-term ERPP support potentially has the ability to produce greater publishing outcomes than intensive support without follow-up. Ideally, however, comprehensive support would involve both short-term intensive ERPP support combined with long-term support aimed at developing sustainable multilingual publishing practices, which appear to benefit greatly from authentic and meaningful interaction with literacy brokers and networks of those with resources to sustain such practices.

Findings highlighting particular ideologies of language and language teaching were evident in participant responses regarding the efficacy of the AWC. These responses, alluding to the natural (and unproblematic) place of English as the lingua franca of science best taught by NESs who can highlight the proper features of English language scientific research articles are evidence of an uncritical stance on the part of some course participants, instructors, and designers towards scientific knowledge production. These stances, I argue, help reify notions of legitimacy of particular actors in the market of knowledge production, those Bourdieu theorizes are authorized to speak (in this case write) and the illegitimacy of other unauthorized actors. When considering the pedagogical interventions aimed at improving visible knowledge production at MEX U, participant perceptions are important in potentially understanding how a course such as the MEX
U AWC is taken up by global periphery scholars who, on the one hand, are desperate to attain the social capital accrued by adopting the normative codes and conventions of scientific research articles but, on the other hand, contest their position as illegitimate or deficit scientists. These findings should give pause to course designers when considering a potentially more critical approach to delivering such language instruction, one that includes a problematization of the illegitimate place of peripheral scholars in the global market of scientific knowledge production and openly discusses the political nature of scholar language (and variety) choices when writing for publication.

Warts notwithstanding, interventions such as the MEX U AWC appear potentially well-positioned to address and (to an extent) mitigate the potential writing for publication barriers suggested in Chapter 6, allowing for emerging scholars to achieve publication of their research articles in international scientific journals, thereby more fully connecting to some of their desired international discourse communities. Further, this potential mitigation appears to be well-positioned to counter what so many NNES researchers (including some scientist-participants in this study) have referred to as an unequal playing field for NNES scientists (Clavero, 2010; Curry & Lillis, 2014; Salager-Meyer, 2014), providing scholars with what Curry and Lillis (2014) describe “strategies and tactics” (p. 1) for achieving sustainable bilingual literacy practices (Gentil & Seror, 2014) of research articles amid competing demands and expectations.

**Integrated Discussion**

Descriptive findings of scientists’ experiences with and attitudes towards English as an international language of science suggest a perceived and actual disadvantaged position of MEX U scholars in the production and dissemination of scientific knowledge. A critical interpretation of findings regarding scholars’ attitudes towards English as the language of scientific communication in a hegemonic market where English and Spanish hold asymmetrical power positions suggests that these scholars, while grudgingly acceptant of the (increasing) need for publishing in English, sense their lower power position and lesser legitimacy in comparison to NES centre scholars as well as a lack of connection with this international discourse communities of scientists with whom they desire to interact. This apparent sense of illegitimacy is highlighted in findings of not only scholars’ perceptions but also an investigation highlighting the multiple challenges facing these emerging and established scholars when attempting to converse with their desired discourse communities through publication of their research in
international scientific journals. Further, the apparently overwhelming influence of institutional evaluation on these scholars, even those I label *emerging* who are not yet subject to the same rigorous institutional evaluation, appears to be stimulating what Lillis and Curry (2010) call “ideological orientations” (p. 163) leading to a “performance culture that robs faculty [all scholars I would argue] of their professionalism. “ (Uzuner-Smith & Englander, 2015, p. 62)

Findings from this study indicate that while some of the ERPP challenges experienced by these scholars are similar to those experienced by scholars globally, including native English speaker ones, several challenges appear distinctly as a result of scholars’ geolinguistic status as *semi-periphery* scholars. Findings indicating the potential centrality of non-discursive challenges including uneven access to ERPP opportunities and support combined with perspectives suggesting ideological orientations towards EILS provide clearer understanding of these scholars’ actual and perceived positioning in the market of scientific knowledge production. However, through detailed investigation of scholars’ attitudes it becomes clear that they are not powerless actors subject to the whim of the global winds of linguistic hegemony in scientific knowledge exchange. Scholars in this study are actively seeking out ways to become better multilingual scientists who are able to disseminate their findings to a wider audience while balancing competing pressures to publish in (mostly) English and Spanish, findings in line with global research into NNES periphery scholars’ publishing practices (Curry & Lillis, 2014; Englander & Uzuner-Smith, 2013; Li & Flowerdew, 2009).

While a host of implications based on equity and diversity concerns are suggested later in this chapter, it is worth noting that study findings seem to highlight the need for differentiated instruction and broad writing support aimed at scholars at different stages of their academic journey. How exactly to provide such support, including the curriculum components, human and physical resources needed, and pedagogical instructional techniques used can be better understood in light of this study’s findings but are certainly open for debate. However, study findings from each sub-question point to the need for not only a practical approach aimed at providing MEX U scholars with the linguistic and cultural capital to achieve publication (and the resulting symbolic capital) but also a *critical* approach to providing the conditions for empowering these multilingual scientists. In essence, findings point to the need for a critical yet pragmatic ERPP approach (Harwood & Hadley, 2004) with a distinct focus on attending to critical components often missing from such interventions (Burrough-Boenisch, 2006), one focused on addressing scholars’ perceived and actual positioning within a systemically biased
market of scientific knowledge production. Given this study’s findings, such an approach should consider providing scholars with the cultural capital they desire by providing suggestions for genre expectations and rhetorical features traditionally contained in scientific research articles. While this was done with some success in the MEX U AWC, for example, such instruction should also include a discussion of alternative rhetorical features of Spanish-speaking L1 scholars (Englander, 2014; Moreno et al., 2012) and how such features relate to the evolving conceptions of *English as a lingua franca* (Jenkins, 2014; Perez-Llantada, 2012; Seidlhofer, 2011). This critical, pragmatic approach could also include overt discussion of the unequal playing field these scholars find themselves on and highlight the multiple strategies and tactics (see Curry & Lillis, 2014) scholars may employ to both survive within this linguistic market as well as challenge their positioning as deficient L2 scientists. Ultimately, such a pedagogical approach would balance scholar desires to better achieve symbolic capital and connection with varying discourse communities by helping them adopt accepted ERPP norms with making clear the ideological orientations of various actors in the game of scientific knowledge production in order to allow for scientists to take a stance (or not) that challenges normative, de-legitimizing practices. Such critical, pragmatic support should also be directly in response to Mexican scholars’ concerns and challenges as outlined in this study as well as by others studying Latin American scientists (Englander, 2014; Salager-Meyer, 2014). However, although findings from this study clearly indicate the need to counter the inequitable position of multilingual scholars within this linguistic market (and the MEX U AWC is potentially well-positioned to do so) this type of pedagogical intervention is clearly only part of a larger pedagogy *and* policy shift necessary.

**Implications**

This section includes implications emerging from the findings of this study into Mexico University emerging and established scientists’ experiences with academic writing for publication. Implications are separated into those for each particular sub-group of context-specific actors connected to Mexico University including MEX U policy makers, MEX U AWC course designers and instructors, and MEX U scientists (see Table 24). The following implications are, of course, context-specific to Mexico University itself; however institutions and professionals connected to the design and implementation of academic writing for publication initiatives as well as those involved in the production, revision, and adjudication of such
scholarly writing for publication may well find utility in these implications when relating them to other contexts. While these implications may read like recommendations, they are not meant as a prescriptive recipe for solving equity and diversity issues in global scientific knowledge production but rather emergent implications that may guide policy and pedagogy while also raising new questions and suggesting future avenues for research.

Table 24

*Context-specific Implications for Various MEX U Groups*

<table>
<thead>
<tr>
<th>Mexico University</th>
<th>Mexico University AWC pedagogues</th>
<th>Mexico University Multilingual scientists</th>
</tr>
</thead>
<tbody>
<tr>
<td>More general English courses offered to MEX U graduate students</td>
<td>Critical approach that addresses the politics of language choice while encouraging individual responsibility for quality control</td>
<td>Advocate for greater academic writing support</td>
</tr>
<tr>
<td>More ERPP and OPS courses and workshops for MEX U graduate students and faculty</td>
<td>Course content focused on codes and conventions</td>
<td>Argue for re-consideration of institutional evaluation schemes</td>
</tr>
<tr>
<td>Re-consideration of institutional evaluation schemes</td>
<td>Continue course instruction from those with genre-specific and pedagogical knowledge</td>
<td>Advocate for bilingual publications and publishing opportunities</td>
</tr>
<tr>
<td>For credit English and/or Spanish writing for publication course for graduate students</td>
<td>Include content focus on negotiating gatekeeper feedback</td>
<td>Greater awareness of available ERPP resources</td>
</tr>
<tr>
<td>Increased ERPP support through mentorship</td>
<td>Encourage greater interaction with <em>literacy brokers</em></td>
<td>Minimum language proficiency requirements</td>
</tr>
</tbody>
</table>

**Mexico University (MEX U).**

**More (English) academic writing courses available to graduate students.**

Given this study’s findings pointing to low levels of general English language, ERPP, and overall writing for publication proficiency among many graduate students and some faculty along with the potential benefit of the MEX U AWC on a population with a Common European Framework for Language Reference (CEFR) B2 or higher English language proficiency, it is suggested that MEX U provide greater English language learning support, both general and writing-specific, to its graduate students. This would require an expansion of MEX U Language Learning Centre courses available to graduate students. These general English proficiency courses could provide the base level for students—many of whom have had limited or uneven
exposure to English—to succeed in courses aimed at improving their specific academic English abilities, such as writing for publication and oral presentation skills courses.

**Expand ERPP courses and introduce OPS courses.**

Given this study’s findings in relation to the efficacy of the MEX U AWC in building emerging and established scholar confidence with ERPP, MEX U should consider, first, continuing to support and indeed expand (see epilogue) course offerings such as the MEX U AWC to departments across the university, especially those where ERPP is increasingly an expectation among graduate students and faculty. Next, given the overall perception of lack of connection to scholars’ desired international scientific discourse communities, MEX U should develop a series of course and/or workshop offerings—both English for research publication purposes (ERPP) and English oral presentations skills (OPS)—aimed at both graduate students and faculty across departments. Indeed, for graduate students, consideration should be given to offering these classes (in Spanish and English) at the Masters and (most importantly) PhD levels early in students’ programs in order to better position students for academic success later in their programs, including achieving publication of a research article in an indexed journal, a prerequisite of many PhD programs at MEX U. Drawing on study findings in relation to the evolution of the MEX U AWC, expanding course offerings/workshops on academic writing for publication will likely require both mobilizing existing and investing in new human resources in an integrated manner, continuing to draw on expertise from departments at MEX U interested in improving the academic writing and speaking for dissemination proficiency of their students and/or faculty, the extension school in Canada (MEX U-C), the MEX U Foreign Language Learning Centre, and the MEX U School of Graduate Studies. Integration of financial and human resources could result in more efficient and effective design and delivery of these courses aimed at improving MEX U scholars’ publishing and conference presentation outcomes, leading to greater perceived and actual connection with their desired international *and* domestic scientific discourse communities. Suggestion of expansion of such ERPP support mirrors that suggested by other researchers investigating ERPP in Asian (Cargill & O’Connor, 2006; Kwan, 2010), European (Burgess & Cargill, 2013; Curry & Lillis, 2013; Perez-Llantada, 2012), and Latin American (Bazerman et al., 2012; Englander, 2014) contexts. As with instruction in the MEX U AWC, care should be taken to provide culturally and linguistically relevant and sensitive instruction that promotes bilingual or multilingual publishing practices.
Re-consideration of institutional evaluation schemes.

This study has not attempted to fully evaluate the SNI and PRIDE evaluation systems employed by MEX U; however it is clear that remuneration from these evaluation systems—which value greatest publications in English language scientific journals—are the main stimulus for established scholars choosing to disseminate their findings in English. When considering the actual ERPP proficiency level of MEX U scholars combined with a broad national and institutional responsibility to promote Spanish language publication, it seems both prudent and ethical for the University to re-consider the SNI and PRIDE evaluation systems in light of the incentives and disincentives they create for scholars when choosing a language for disseminating their research findings. A potentially minor change in the SNI and PRIDE to elevate the points awarded for Spanish language journal publications combined with an expansion of bilingual department-level journals at MEX U (e.g. Veterenaria México) could potentially create a more equitable market in which MEX U scientists have (or are better able to obtain) greater legitimacy as multilingual producers of scientific knowledge. Such policy recommendations reflect some of those suggested by Hanauer and Englander (2013) and Salager-Meyer (2014) but fall short of widespread policy suggestions as they would fall beyond the scope of this study’s findings.

Credit writing for publication course.

Given study findings indicating a widespread need among graduate students for writing for publication support across departments at MEX U and an increasing necessity for these emerging scholars to publish in English in order to achieve graduation and find subsequent employment, making an academic writing for publication course mandatory for those engaged in doctoral studies seems a reasonable suggestion. Such a course could provide the needed writing for publication support for those who have proficiency levels sufficient to benefit from such a course offering, potentially resulting in improved publication outcomes for these doctoral students. Improved publication rates among doctoral students would necessarily result in quicker graduation, thereby providing benefit to the University as a whole in terms of status and money as students who graduate no longer require federal funding. The parameters of such a course or workshop(s) could be negotiated at the departmental level. Study findings show the efficacy of an intensive approach and the course could be offered in an intensive manner for a minimum of three weeks once per semester to upper year doctoral students who have finished their coursework and data collection and who are in the process of writing up their dissertation.
findings. The content of such a course would ideally include similar sections as the MEX U-C AWC, including *Principles of Academic Publishing* and *Structure and Style of Academic Writing*, addressing scholars’ discursive and non-discursive challenges outlined in this study via a critical approach providing scholars with knowledge of standard scientific research writing codes, conventions, and practices while encouraging tactics aimed at challenging the normative, uncritical, ideological elevation of English within knowledge production at MEX U. Such a course would also do well to consider not only the findings of this study but also the recent boon in ERPP research suggesting consideration of corpus analysis technology and authentic genre analysis for ERPP support of multilingual scholars (Burgess & Cargill, 2013; Flowerdew, 2013). As with the MEX U AWC, there is a need for a minimum English proficiency level of B2 European Common Framework rating in order for emerging scholars to achieve optimum learning outcomes in such a course. For those with below a B2 proficiency level, the course could (and should) be offered in Spanish.

**Increased mentorship and leadership.**

Given this study’s findings regarding the potential benefits of individual mentorship, departments across MEX U—particularly those with high expectations for publication of scientific articles in English-language journals—should implement mentorship measures aimed at increasing publishing outcomes in their departments. This could be done, at least in part, by utilizing their available human resources, namely established scholars with records of successful publication in indexed scientific journals, and connecting them with those scholars with less exposure to (English) academic writing for publication. This could be done through writing for publication workshops, ideally offered in both Spanish and English, writing for publication writing groups, and support for supervisors and supervisees on how best to support/benefit from supervision of doctoral students. An ability to provide and receive such support would likely benefit both emerging and established scholars and develop abilities for scholars to better interact with academic literacy brokers (see Lillis & Curry, 2013). Further support could be offered at the individual scholar level, with more established emerging and established scholars collaborating with peers when possible to aid doctoral students and faculty colleagues in navigating the manuscript production, submission, and revision processes.
Mexico University AWC.

**Address the politics of language choice.**

In light of findings pointing to a combination of increased English language publishing expectations as well as a widespread perception of inequity among scholars resulting in a disadvantaged position for MEX U periphery scholars in the production and dissemination of scientific knowledge, it is both ethical and prudent that the politics of language choice be raised as a topic of discussion in ERPP courses. If scholars are given a broad description of the ramifications of their language choice when disseminating research findings there is greater potential for informed decisions not simply guided by national or institutional policy but rather by scientists deciding who will benefit most from their language choice. It is suggested that encouragement for authors to concurrently take control of their own destinies by paying close attention to the quality of their articles while openly discussing the potential inequities in scientific knowledge exchange is a far more productive means of attacking this potentially uneven playing field than simply ignoring or raising the point without extended discussion. This discussion could include reflection on the ideological orientations to language(s), rhetorical practices, and English(es) in scientific knowledge production as outlined by Lillis and Curry (2010) and highlighted in this study’s findings while discussing ways in which scholars can engage critically with policies and practices within this unequal market of linguistic knowledge exchange. Further, building on this study’s findings regarding scholars’ perceptions of bias against them at international scientific journals, the course could include a more critical analysis of the journal submission and review process, concurrently improving author understanding of reader expectations associated with these journals while acting as an outlet for them to discuss their frustrations at the perceived systemic inequity. Attending openly to the politics of language choice may provide greater author self-confidence and engagement as well as quality writing and more positive long-term writing for publication outcomes.

**Continued instructional focus on ERPP codes and conventions.**

Findings related to main challenges facing emerging and established MEX U scientists point to the potential efficacy of a continued focus on particular genre-based codes and conventions of scientific writing of research articles. Specifically, course designers should consider a continued focus on genre norms including lexico-grammatical, structural, and rhetorical usage in scientific
research articles. Along these lines, course designers should consider recent research suggesting the efficacy of a genre analysis approach that incorporates corpus-based technology in order to identify such intercultural differences and rhetorical features of scientific research articles in English. Overall, a Swalesian focus on genre concerns related to the scientific research article, in combination with an increased focus on the intercultural rhetorical differences between Spanish and English scientific writing could result in increased writing outcomes for both scholar groups that were the focus of this investigation. I forward a recommendation for this combination of genre pedagogy (Cargill & O’Connor, 2009; Swales & Feak, 2012; Tardy, 2009) as well as employing what Cummins (2008) terms teaching for transfer when teaching English for research publication purposes. This focus on discursive issues should be done within a critical framework challenging ideological norms related to scientific research article writing and global knowledge production. Finally, building on what appeared to be the most popular section of the MEX U AWC, this course should continue to contain a focus on the pragmatic tasks surrounding achieving publication such as identifying appropriate journals, writing effective abstracts and cover letters, and attending to specific instructions for authors as outlined by discipline-specific international journals.

**Continue to offer instruction with genre, discipline, and language expertise.**

Based on findings related to the potential barriers to achieving publication as well as the perceived efficacy of the AWC as offered 2011-2013, it appears that various instructor knowledge bases are perceived as effective in order to provide optimum instruction and guidance for emerging and established scholars when delivering an AWC. Whereas more general AWCs could be offered by those with only general academic writing experience and pedagogical knowledge of writing instruction, an AWC focused on publishing success ideally should have an instructor group with discipline- and genre-specific expertise related to academic (scientific) writing for publication in a particular field or sub-field as well as familiarity and experience with (academic) language teaching pedagogy. Future efforts to put together a teaching team capable of delivering a discipline-specific AWC should focus on maximizing the resources available at MEX U in order to provide optimum instruction while potentially offering this instruction in teams where multiple knowledge bases can be available to students simultaneously. Specifically, professional development among potential course instructors should be promoted at MEX U and
MEX U-C where there is an exchange of broad knowledge from each base (disciplinary content, genre, and pedagogy).

**Incorporate editor and/or reviewer feedback into course content.**

Given what appears to be a potentially significant barrier to these emerging and established scholars successfully publishing research articles in English as well as vastly differing perspectives between multilingual periphery scientists and centre Anglophone editors, the inclusion of an explicit focus on how to better manage and synthesize editor and reviewer feedback while seeking publication seems a logical insertion to the course syllabus. Building on suggestions stemming from previous research into these interactions (Curry & Lillis, 2004; Flowerdew, 2001; Burrough-Boenisch, 2006) focus on this apparent barrier would potentially provide a forum for scholars to discuss their perceptions of prejudice while highlighting the need for scholar responsibility and accountability for disseminating quality science in an intelligible manner. While there are certainly grounds for demanding a change in feedback norms from international scientific journals, academic course designers and instructors should focus on encouraging these authors to attempt to synthesize the suggestions for improved content and language in a productive manner. An emphasis on taking academic criticism and employing it in a constructive, productive manner would likely benefit MEX U scholars and lead to improved confidence as well as publishing outcomes. Again, this suggestion for teaching design and practice could be even more crucial for emerging scholars who can develop these sustainable writing for publication practices for use throughout their academic careers. This curricular component should be done within an explicit framework problematizing ideological norms highlighted in perceptions of multilingual periphery scholars’ writing by editors and reviewers.

**Encourage greater interaction with literacy brokers.**

Building on findings suggesting the centrality of non-discursive challenges to achieving publication of research articles in international scientific journals, the MEX U AWC should include an increased focus on promoting development of networks (Curry & Lillis, 2013; Tardy, 2009) of literacy brokers who can be instrumental in the production and revision of manuscripts. The course should include explicit discussion of how to access and develop networks of translators, editors, NES colleagues, discipline-specific colleagues, etc. who can help with manuscript production and revision in various ways. Adding to the ERPP instruction provided
throughout the AWC, developing such networks and resources could mitigate (for emerging scholars in particular) a previous lack of proficiency and exposure to ERPP instruction and enable more sustainable publishing practices post-course. Building on this suggestion, the course should encourage direct involvement by scholars with domestic or international English or Spanish language journals in order to provide scholars with greater connection with and access to discipline-specific texts while exposing scholars to a greater understanding of journal expectations and norms surrounding publishing of scientific research articles. Overall, encouraging and facilitating such authentic interaction with gatekeepers and literacy brokers could be highly beneficial for all scholars (Bazerman et al., 2012; Lillis & Curry, 2010), particularly if done in connection with mentorship initiatives at domestic or institutional discipline-specific journals (e.g. Lillis et al., 2010).

**Minimum language proficiency requirements.**

A minor finding of this study was that the MEX U-C AWC appears to have been much more successful for students with a certain academic English writing proficiency (high B1 if not B2 on the European Common Framework scale). This finding is significant in a broader sense as it underscores the need for academic writing for publication support above and beyond an AWC in order to promote optimum learning and publishing outcomes, primarily among emerging scholars. The fact that many graduate student participants did not meet these proficiency requirements is telling and should lead to increased general English language courses being offered at the University in order to bring participants to a level where they can fully benefit from a course focused on the nuanced linguistic and genre demands of writing a research article for publication. Ultimately, a highly successful academic writing for publication course (also suggested by Cargill & O’Connor, 2006) would ideally have students and faculty all at a minimum B2 level (or close) when beginning the course in order to benefit from the nuanced instruction on how to produce, submit, and revise an academic article for publication in indexed international scientific journals. This suggestion is made tentatively (along with suggestion for increased English courses) with an eye to not excluding scholars who are in need of such ERPP guidance and support and/or uncritically elevating the status of English at the expense of Spanish. To this end, the AWC should be offered in Spanish as well, emphasizing the same concurrent focus on scholars’ discursive and non-discursive context-specific needs.
Mexico University multilingual scientists.

**Advocate for greater bilingual writing support.**

From findings pointing to widespread dissatisfaction with overall ERPP support at MEX U and the potentially improved confidence resulting from the MEX U AWC, it appears clear that increased writing support at the institutional and departmental levels could be beneficial for both scholars, departments, and the institution. However, increased support, such as that offered in the form of the MEX U AWC, is not a given anytime significant investments are required. Leadership is necessary at the departmental level; however individual scholars must advocate for academic writing support at the departmental and institutional levels in order to gain access to some of the cultural capital necessary to compete in the inequitable global knowledge economy. Whether initiatives such as the MEX U AWC can provide such capital is highly questionable and unlikely without further departmental and institutional support for emerging and established scholars; however given the potential of the MEX U AWC as highlighted in this study, MEX U scholars would be well served advocating for this type of support not only piecemeal but offered in a consistent manner across departments at MEX U. In addition to workshops/courses such as the MEX U AWC, scholars should be advocating for writing support that not only focuses on discursive strategies for attending to rhetorical codes and conventions of scientific research articles (Burgess & Cargill, 2013) but also to the apparent non-discursive needs of these semi-peripheral scholars to engage more fully with their desired discourse communities by engaging with literacy brokers and gatekeepers who can guide their multilingual scholarly writing (Lillis & Curry, 2010). Further, this engagement can only come about should they be supported while doing science in English both through (preferably low-stakes) opportunities for writing and presenting their research in English.

**Argue for re-alignment of institutional and national evaluation criteria.**

Given findings regarding the perceived burden of increasing time and publication demands facing MEX U scholars and in the interest of decreasing these potentially unrealistic (and apparently unpopular) publishing demands while increasing diversity in the dissemination of scientific knowledge, MEX U scholars should advocate for a re-assessment of evaluation criteria for how scholars are assessed. This re-calibration of the evaluation criteria of both the SNI and PRIDE systems should consider higher points for Spanish language publications and less points
for English language publications. This is an equity initiative that can likely only succeed with substantial advocacy on the part of established scholars, particularly those in positions of greater influence such as department heads. An evaluation scheme that rewarded publication in not only English but also Spanish would likely make a great difference to scholars and could potentially be done without sacrificing quality and production output, two of the main concerns of those who originally designed the SNI evaluation system. Through advocating for these type of institutional changes scholars could challenge the entrenched ideological orientation of these evaluation practices that elevates the status of English at the expense of Spanish, simultaneously positioning many of these scholars as deficient scientists. In combination with greater scientific writing support, scholars could potentially participate with their desired discourse communities on a more level playing field where, as other scholars have suggested (Curry & Lillis, 2014; Salager-Meyer, 2014; Uzuner-Smith & Englander, 2015), their multilingual scientific professionalism and legitimacy could be celebrated.

**Advocate for bilingual journals and publishing opportunities.**

Findings from this study point to systemic inequity in scientific publishing, including a perceived bias against NNES authors at English language scientific journals. In order to increase diversity in scientific publishing while providing greater opportunity for MEX U scholars to achieve publication in indexed journals, departments should make concerted efforts to launch, re-launch, or modify departmental journals to be bilingual Spanish-English (at least in terms of abstract\(^\text{15}\)). While recent efforts to do this are underway in the department of Veterinary Science, whether these efforts bear the fruit of increased publications for MEX U scholars, only time will tell. However, this type of initiative could provide opportunities for greater exposure to ERPP as well as experience for NNES periphery scholars, both emerging and established, with meaningful interaction with gatekeepers and literacy brokers in English and/or Spanish while potentially providing scholars with a better understanding of the expectations surrounding this scientific writing for publication in these languages. Advocating for this policy change (along with re-calibration of evaluation criteria) would be another step in actively working to change the playing field on which these scholars are competing, potentially asserting their increased legitimacy, allowing them to better connect with their desired international and domestic

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\(^{15}\) Having English language abstracts is a necessity for any journal wishing to be indexed in large-scale scientific indexes such as the Thompson-Reuters Web of Science.
discourse communities in a more fuller capacity. Further, an expansion of such journals would not only allow for potentially enriching experiences and connection with literacy brokers but also initiatives (see Lillis et al., 2010) aimed at local mentoring of emerging scholars (or those with little publishing experience in either English or Spanish-medium scientific journals) through the submission and revision process, something identified as potential barrier to scholars achieving scientific publication. Ultimately, scholars must be involved in effecting institutional change to create a local context that supports and rewards multiliterate scholars and multilingual publishing practices.

**Greater awareness of available resources.**

Given findings pointing to the actual and perceived disadvantaged positioning of MEX U scientists as noted by all participant groups in this study as well as the reported dearth of ERPP support at MEX U, there appears to be a need for a greater awareness across scholar groups of what ERPP resources are at their disposal and how to access such resources when attempting to produce scientific research articles for publication. Participation in the MEX U AWC indicates awareness among the emerging and established scholar participants of the course as a resource. However, in order to develop sustainable writing for publication practices and processes that can help them gain greater cultural capital and ultimately connect more fully with their desired discourse communities, scholars need to be made aware of, advocate for, and seek out (greater) human and electronic resources identified in this study and others as essential in forming greater connection with communities and networks (Lillis & Curry, 2010; Curry & Lillis, 2013) and ultimately achieving improved publication outcomes. Identifying and utilizing these resources (e.g. discipline-specific editors/translators, guides to achieving scholarly publication, bibliographic resources, etc.) could enable scholars to achieve sustainable ERPP practices and compete more equally in the inequitable world of global scientific knowledge production.

**Contributions to Knowledge and Avenues for Future Research**

Through detailed pedagogical and policy implications outlined in the previous section this study contributes to knowledge in the field of Applied Linguistics and sub-fields of EAP and ERPP by suggesting a potential roadmap for scholars, administrators, and scientists to enact reforms that may increase equity and diversity in scientific publishing as well as the efficacy of (the teaching
of) ERPP at Mexico University and beyond. Such implications echo previous policy recommended by scholars involved in ERPP research globally (Curry & Lillis, 2014; Flowerdew, 2013; Lillis & Curry, 2010) and in a Mexican context (Englander & Uzuner-Smith, 2013; Salager-Meyer, 2014; Uzuner-Smith & Englander, 2015). Further, pedagogical implications highlighting the need for particular foci during workshop or course-based interventions add to recent calls for genre-based (Burgess & Cargill, 2013; Hyland, 2010; Mauranen et al., 2010; Tardy, 2009), discipline-specific (Englander, 2009; Hyland, 2015b), and linguistically and culturally relevant (Cummins, 2009, Fortanet-Gomez, 2013) instructional strategies. What effect(s) such policy and pedagogy may have on equity and diversity in scientific knowledge production and dissemination at MEX U is very much an open question and begs further investigation on the immediate and long-term potential of institutional and departmental interventions aimed at addressing MEX U emerging and established scholars’ ERPP.

This study contributes to language teaching and learning knowledge by highlighting perceptions of an intensive academic writing course (MEX U AWC) as a potential mitigating factor in addressing emerging and established scholars’ ERPP challenges. Given the scant empirical literature on such types of courses and workshops globally (Cargill & O’Connor, 2006; Lillis et al., 2010) and in a Mexican context (Bazerman et al., 2012) let alone with emerging scholars as the primary focus (Kwan, 2010; Romesburg, 2013), my study provides a potentially significant contribution to knowledge in the area of ERPP instruction, highlighting both the potential of such interventions as well as their limitations. While this study outlines what I feel are compelling findings regarding emerging and established scholars’ writing for publication support (or lack thereof), there is a glaring need for further investigation into the efficacy of different pedagogical and policy interventions at MEX U as well as in other research intensive higher education contexts across Latin America. Given the recent explosion of demand and expansion of the MEX U AWC as a form of writing for publication support across departments and disciplinary areas at MEX U (see epilogue), this context appears ripe for further investigation, including comparing the support provided to and taken up by scholars in the health and life sciences (this study) versus other disciplines recently hosting the MEX U AWC (Math, Physics, and social sciences). Overall, further research into similar writing courses or workshop initiatives for periphery multilingual scholars is necessary to better understand the potential utility and efficacy of such interventions in providing the conditions for emerging scholars to achieve
publication and connect more fully in their international discourse communities (Uzuner, 2008; Hyland, 2015; Lillis & Curry, 2010).

Through a description, analysis and interpretation of MEX University scientists’ experiences with and attitudes towards EILS, this case study contributes to the field of Applied Linguistics by providing a greater understanding of the myriad ERPP challenges facing multilingual scientists at MEX University in an era of increasing English hegemony in the production and dissemination of scientific knowledge. Using an critical conceptual lens and building on the work of scholars investigating Spanish L1 scholars’ attitudes towards English as a language of scientific communication and their publishing practices, my study adds nuanced understanding to previous quantitative and survey-based studies (Ferguson et al., 2011; Hanauer & Englander, 2011) reporting on motivations for scholars choosing English versus local languages, how they balance these publishing practices (Curry & Lillis, 2014; Li & Flowerdew, 2009; Muresan & Perez-Llantada, 2014) as well as conflicting attitudes of apathy and acceptance to bias and inequity towards the growing need to publish in English (Martin et al., 2014; Moreno et al., 2012; Perez-Llantada, 2012). A further contribution of this dissertation lies in the form of highlighting the main academic writing for publication challenges experienced by emerging Mexican scholars, an under-researched population. Building on research conducted globally into junior and senior scholars’ writing for publication challenges (Curry and Lillis, 2004; Huang, 2009; Li & Flowerdew, 2009; Martin et al., 2014; Moreno, 2010) and in a Mexican context (Bazerman et al., 2012; Carrasco & Kent, 2011; Hanauer & Englander, 2011), my study provides a detailed perspective on emerging and established scholars’ similar and differentiated ERPP challenges and potential barriers to achieving publication of research articles in international journals. Further research into emerging multilingual scholars particular experiences with ERPP would help scholars, pedagogues, and policy makers better understand the potential of differentiated support necessary for scholars along their academic journeys. Longitudinal work (e.g. Curry & Lillis’ work 2001-2014) highlighting the experiences of multilingual scholars and the evolution of their writing processes and practices (as well as their perceptions of ERPP interventions) could be particularly informative.

**Study Limitations**

There are several limiting factors as to why the study findings must be considered in a context-specific light, including the sample (N) population and makeup of the participant pool—all
individuals voluntarily connected (or volunteered by their departments) to the Mexico University AWC and therefore not necessarily representative of periphery scholars or scientific journal editors across contexts. Due to this limitation, this study avoids sweeping generalizations about multilingual scholar experiences across contexts and instead suggests the need for larger quantitative or mixed-methods studies investigating questions surrounding ERPP experiences with a larger pool of participants across post-secondary contexts in Mexico (and indeed across Latin America) in order to obtain a broader understanding that may support more in-depth, qualitative (case) studies carried out with specific populations such as this one.

Another limitation of this study is the lack of follow up on scholars’ publishing success post-course. While isolating the effectiveness of the course would be difficult, the post-course publishing success of former course participants would be helpful in ascertaining greater understanding of the perceived or actual effectiveness MEX U AWC. Longer term (longitudinal) studies of multilingual periphery scholars (e.g. Curry & Lillis studies of multilingual scholar publishing practices and text histories 2001-2013) experiences and practices as they proceed through their academic careers would undoubtedly shed greater light on the development of writing practices and processes and would potentially provide useful information regarding which ERPP interventions were most useful to these scholars’ writing success at different stages of their journeys. Such a longitudinal perspective would also provide more information as to the potentially dynamic nature of scholars’ attitudes and practices in relation to academic writing for publication.

Further, in critically reflecting on this study’s orientation and approach, a potential limitation of this study was its focus on multilingual scholars’ experiences with English scientific knowledge production as opposed to their experiences with overall scientific knowledge production processes, practices. Although scholars’ motivations for publishing in Spanish were highlighted, a greater focus on the multilingual processes and practices of scholars in non-Anglophone contexts may provide both a greater understanding of how scholars balance their processes as well as orient readers towards the more multilingual reality of these scholars.

Perhaps the greatest limitation of this study was simply its scope. While investigating the broad experiences of multiple scholar groups (emerging and established scientists) with EILS and ERPP via a case study of a writing for publication workshop was informative on many levels, this study could have contributed to knowledge in the field through focus on the ERPP
pedagogical intervention(s) alone. As highlighted earlier, there is greater need for such empirical work and the broad scope of this study prevented a more rigorous analysis of the MEX U AWC. Despite these minor limitations, I argue that this study provides a significant contribution to knowledge, providing critical interpretation of findings in relation to the experiences of MEX U scholars with English as an international language of scientific communication.

**Concluding Thoughts**

Polemic issues and challenges in addressing multilingual periphery scholars’ language choice and scientific knowledge production are not likely to abate in the near future; this study (among others) points to the increasing expectations in a wide range of disciplines (particularly the natural sciences) for dissemination of research findings in English. Given what appears to be an increasingly high stakes writing for publication environment at MEX U, this study’s call for greater support for MEX U multilingual periphery scientists’ writing for publication should be heeded by policy makers and implemented in a careful manner by professionals with discipline, genre, and pedagogical expertise. It is important to note, however, that interventions such as the MEX U AWC likely cannot in isolation provide the improved confidence and publishing outcomes desired by scholars and administrators at MEX U and the cultural capital these scholars desire. Comprehensive support measures will likely be required to guarantee sustainable improvement in emerging and established scholars’ ERPP. Courses like the MEX U AWC are a potentially effective form of support for these multilingual scholars and could be emulated by other post-secondary institutions across Latin America (and beyond) where emerging and established scholars are likely facing similar pressures to disseminate findings in English without having the writing support necessary to facilitate achieving this publication. When such instruction is offered in future iterations at MEX U, it is suggested that a (more) critical yet pragmatic approach to instruction is employed, one that openly engages with political questions of inequity in global scientific knowledge production while attending to and challenging the genre-specific culturally-bound codes and conventions specific to English language scientific research articles. The potential of a critical approach to ERPP instruction in addressing equity and diversity issues is uncertain, but this study adds its voice to previous calls for more explicit research into the connection(s) between language (teaching and learning) and the global politics of knowledge production (Benesch, 2001; Hanauer & Englander, 2013; Lillis & Curry, 2010; Curry & Lillis, 2013; Pennycook, 2001; Perez-Llantada, 2012; Salager-Meyer, 2014).
As suggested throughout this discussion, emerging and established Mexican scientists are not powerless actors in a deterministic game but rather scholarly voices that this study attempts to emphasize in a global market of scientific knowledge production and exchange where they are too often marginalized. It is my hope that dissemination of this research amplifies their voices, contributing to a greater understanding of the experiences and perceptions of these scholars. I highlight the need for increased and focused critical yet pragmatic institutional initiatives that provide support for and encouragement of scholars’ multilingual publishing practices. Demonstrating my personal commitment to multilingual publishing practices, I am disseminating findings from this study in English and Spanish-language publications as well as academic conferences with the hopes of connecting to my multiple desired discourse communities.

**Chapter Summary**

This chapter provided an in-depth discussion of the main findings from this investigation into MEX U emerging and established scholars’ attitudes towards and experiences with English as an international language of science. Considered in light of previous research into these areas and through my particular critical conceptual lens, discussion highlighted the perceived and actual asymmetrical position of these emerging and established scholars and their particular challenges in the global market of scientific knowledge production and dissemination. Included in this chapter was discussion of the perceived strengths and weaknesses of the MEX U AWC and its potential position as a pedagogical approach to addressing scholars’ needs for connecting to their desired domestic and international discourse communities. This chapter further outlined the multiple implications of this study’s findings for researchers as well as for those involved with the support, production, revision, and adjudication of MEX U scholars’ academic writing for publication. Finally, a brief description of this study’s limitations preceded some concluding thoughts on the need for more critical research into relations of power within the global market of scientific knowledge production as well as the potential mitigating effect(s) of a critical yet pragmatic approach to teaching English for research publication purposes.
Epilogue

Building on the MEX U AWC as offered from July 2011- June 2013, this section describes the expansion of course offerings in Canada and Mexico in 2014/15, beginning with a brief description of the January 2014 Teacher Training Course (MEX U-C TTC).

MEX U-C TTC

As demand was exponentially rising for delivery of the AWC in Mexico, administrators at both MEX U-C and MEX U decided that it was a financially unsustainable model to deliver the course using only Canadian MEX U-C administrators and instructors. In an attempt to “spread the knowledge we have gained doing the [MEX U academic writing] course to those influential and important leaders at MEX U who can perhaps in the future offer the course from Mexico” and produce a more “sustainable” model (Francisco, administrator), the MEX U-C teacher training course (TTC) was introduced in January, 2014. As a follow-up phase of data collection, I attended the inaugural TTC designed to transfer ERPP instructional knowledge from MEX U-Canada AWC experts to MEX U institute and department heads. The TTC involved sharing ERPP instructional knowledge in the hope that course participants would incorporate it into courses or workshops offered at their particular institutes or departments. The model of TTC delivery was similar to that of the MEX U academic writing for publication courses offered to MEX U graduate students and their faculty supervisors, with three separate course segments delivered by MEX U-C instructors: principles of academic publishing, style and structure of a research article, and (different than the MEX U AWC) ERPP instructional pedagogy.

While there was some minor resistance from the established scholar participants to pedagogical suggestions (as observed through classroom observation over the two-week course), many left the course with what José (department head) described as “a renewed energy to spread this knowledge among [my] colleagues”. Further, participants appeared to form a new alliance with promises to organize and advocate for greater writing support across departments. The TTC also contained prolonged discussion and commiseration among participants regarding what they viewed as unfair evaluation practices where English language articles were so highly valued over Spanish language. By course end, they established MEX U scholars produced what I would call a manifesto of aims and a promise of solidarity to work together to achieve their objectives. How this advocacy for greater writing for publication support, equity, and diversity at MEX U will be
operationalized or if it will come to fruition at all remains to be seen; however the energy was palpable and the agency of these scholars was undeniable. These findings point further to the inadequacy of theoretical frameworks that dismiss or do not account for agency among multilingual (semi-) periphery scholars. The established scholars’ promised advocacy is a telling sign of the ingenuity of multilingual scholars from the periphery in adapting to a hegemonic reality where English is the de-facto language of global scientific communication in a local climate of increasing publishing expectations and ideologically-driven evaluation systems.

**MEX U AWC Expansion**

As is evidenced by the demand for the MEX U AWC across scientific disciplines, even into the social sciences and humanities, the demand for ERPP support at MEX U appears to be ever growing. During 2014, the MEX U-C AWC was offered six times in Mexico to different populations including emerging scholars from not only the Biological Sciences but also Mathematics, Physics, Geosciences, and the social sciences, including twice as a TTC, with a similar number of courses on offer in 2015. These increased offerings over the course of 2014-15 simultaneously raise hopes of the MEX U AWC as a growing, effective ERPP measure while inviting questions surrounding sustainability for design and delivery of the course in an effective manner; further research on the MEX U AWC as it expands would be informative as to its potential efficacy as an ERPP support measure across disciplines and scholar groups. Increased course offerings at MEX U main campus and satellite campuses speak to the growing recognition on the part of MEX U departments (if not the University as a whole) for greater institutional and/or departmental ERPP support. The increased funding for the School of Graduate Studies to house the course is further evidence of this recognition. With continued collaboration between the extension school in Canada (MEX U-C), the recent participation of the MEX U School of Graduate Studies, and the Foreign Language Learning Centre, there appears to be a clearer blueprint for a sustainable model of ERPP support at MEX U. Mobilizing expert support from literacy brokers and scientists with expertise in language teaching pedagogy, content knowledge, and publishing knowledge is a challenging, yet achievable task for MEX U and its scholars. Disseminating the findings of this study will hopefully lend to the necessary creativity and ingenuity in providing the critical yet pragmatic writing for publication support for MEX U scholars.
References


Appendix A. Electronic Letter of Introduction and Consent for Survey
(All participants)

Dear colleague,

I am a PhD candidate in the Department of Curriculum, Teaching, and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am writing to inform you about my interest to conduct research into Mexican scientists’ academic writing through the AWC offered by MEX University – Ottawa (MEX University – Ottawa).

I am contacting you to inquire whether you would be interested in participating in my study, which seeks to learn about the experiences of Mexican scientists’ attempting to publish scientific research articles in English-medium journals. My study, entitled English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication investigates the main academic writing challenges facing Mexican scientists as well as how a writing course meets the needs of these scientists. There is a lack of descriptive research into the area of academic writing for publication in a Mexican context and a greater understanding of scientists’ experiences and challenges could lead to modifications to AWC delivery at higher education institutions both in Canada and México.

I am inviting you to assist me by agreeing to participate in this study. If you agree to participate, click on the following link that will lead you directly to an on-line survey-questionnaire: xxxxxx It will take between 20 to 30 minutes to complete. As you will only have access to the survey once, please be ready to sit down and complete the survey at one time. It is preferred that you answer every question, but you may choose not to answer any question on the survey-questionnaire.

If you agree to participate in this study, you may rest assured that your privacy will be protected at all times. Your participation in this study is absolutely voluntary and your responses will be kept confidential and anonymous. You are not required to identify yourself during the survey-questionnaire and the results will auto-tabulate. In this way, it will be impossible to link the responses from the survey-questionnaire to the participant.

At the end of the survey, you may choose to participate in a one-on-one interview with me by entering your email contact information. If you choose to participate in the interview phase, be assured that all participants in this study will be referred to using pseudonyms. I will take great care to assure that the identities of all participants are not revealed in any other fashion, including through background information. All data will be kept in locked files accessible only to me and will be destroyed ten years following the conclusion of the study.

I thank you for your time and consideration. Please contact me at XXXXXXXXXXXXX or my faculty supervisor, Dr. Antoinette Gagné at XXXXXXXXXXXXX with any questions or concerns you may have. Further, you may contact the Ethics Review Office at ethics.review@utoronto.ca or by phone at 416-946-3273 if you have any questions about your rights as participants.

Sincerely,

James Corcoran
Appendix B. Mexican Scientists & Academic Writing For Publication 2013

Background Information

1. What is your academic status? Please select one of the following:
   - Faculty
   - PhD
   - Post-Doc (Finished PhD but not yet full-time faculty)

2. What is your field of study? Please select one of the following:
   - Biological Sciences
   - Environmental Sciences
   - Medical Sciences
   - Social Sciences

3. What is your age group? Please select one of the following:
   - 20-29
   - 30-39
   - 40-49
   - 50-59
   - 60-69
   - 70-79

4. When did you take the UNAM AWC? Please select one of the following:
   - July 2011 (Gatineau, Canada)
   - January 2012 (Taxco, MX)  July 2012 (Gatineau, Canada)
   - November 2012 (Morelia, MX)  January 2013 (Mexico City, MX)  June 2013 (Mexico City, MX)

5. How many times have you published in peer-reviewed journals (in Spanish)? Please select one of the following:
   - 0  1-2  3-5  6-9  10+

6. How many times have you published in peer-reviewed journals (in English)? Please select one of the following:
   - 0  1-2  3-5  6-9  10+

7. My level of Spanish academic writing is
   - very good
   - good
   - fair
   - poor
   - very poor

8. My level of EAW is
   - very good
   - good
   - fair
   - poor
   - very poor

EAW

Please rate the following items in terms of difficulty for your academic writing of research articles in English:
1=not a problem  2=small problem  3=neutral  4=big problem  5=very big problem

9. English grammar and vocabulary

10. English research article structure and style

11. English journal submission and revision processes

12. Time requirements for article writing and revision

13. Cultural or linguistic differences between writing an article in Spanish versus writing an article in English

Writing Strategies

14. Please select one or more of the following strategies that you use when writing a research article in English.

Please select all that apply:

Online Spanish-English translation tool  Native English speaker editing  Non-native English speaker editing

Advice or editing from a colleague  Advice or editing from an advisor or supervisor

Other _____________

Perceptions of English as an International Language of Science

Please agree or disagree with the following statements

1=strongly disagree  2=disagree  3=neutral  4=agree  5=strongly agree

15. I am confident I can publish a scientific research article in Spanish

16. I am confident I can publish a scientific research article in English.

17. It is important to publish scientific research articles in Spanish.

18. It is important to publish scientific research articles in English.

19. Writing a scientific research article in Spanish causes me anxiety.

20. Writing a scientific research article in English causes me anxiety.

21. It is important for my career that I publish research articles in Spanish

22. It is important for my career that I publish research articles in English

23. It is important for my career that I present my research in Spanish at conferences

24. It is important for my career that I present my research in English at international conferences.
25. It is important to be connected to the scientific research community in Mexico.

26. It is important to be connected to the international scientific research community.

27. I feel connected to the scientific research community in Mexico.

28. I feel connected to the international scientific research community.

29. The UNAM AWC has helped me to publish research in English.

30. The UNAM AWC has helped me to connect to my international scientific research community.

31. Mexican scientists have an equal chance of publishing in English language scientific journals as do those scientists from the United States or Canada.

32. English language scientific journal editors judge submissions from native English speakers (e.g. Canada) and non-native English speakers (e.g. Mexico) equally.

33. English language scientific journals provide adequate support for Mexican authors who submit research articles.

**Follow-up**

Thank-you so very much for your time and good luck with your article writing! Please enter your email contact information below if you want to be eligible to win an Apple iPod Shuffle.

Please see below where you can volunteer to participate in the individual or group interview phase of this research project. All those who participate in either or both of these next phases will receive an invitation to a dinner party!

Muchissimas gracias, amigos!

34. I am interested in entering a randomized draw to win an Apple iPod Shuffle (Please enter your email contact information if your answer is yes)

_________________________________________

35. I would be interested in participating in a one-on-one interview with the researcher. (Please enter your email contact information if your answer is yes)

_________________________________________

36. I would be interested in participating in a group interview with several colleagues and the researcher. (Please enter your email contact information if your answer is yes)
# Appendix C. Interviewee Participant Profiles

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Course role</th>
<th>Disciplinary background</th>
<th>Academic writing proficiency (self-rated)</th>
<th>Peer-reviewed publications (in English)</th>
<th>Peer-reviewed publications (in Spanish)</th>
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Appendix D. Classroom Observation Protocol

Diagram of classroom space with location of all participants:

Session focus:

<table>
<thead>
<tr>
<th>Focus/Topic</th>
<th>Instructor presentation</th>
<th>Student concern(s) – what and who expressed concern</th>
<th>How instructor addressed student concern</th>
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</thead>
<tbody>
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</tbody>
</table>

Additional Notes:
Appendix E. Semi-structured Interview Protocol (Students and Faculty)

Tell me about yourself (name; position/title; age)

Tell me about your history with English

Tell me about your Academic history

Tell me about your experiences with academic publishing – in Spanish and in English

Why did you take the AWC?

How does having Spanish as a mother tongue help or hinder your academic writing?

How does your Spanish academic writing for publication affect your English writing for academic publication?

What are your main difficulties with EAW?

What do you feel you have gained from taking the course?

How have you changed as a writer from taking this course?

Tell me about your publishing experiences since taking the AWC

Tell me about the support(s) you received while taking the AWC

Tell me about the support(s) you have received since taking the AWC

Do you see any advantage or disadvantage to having taken the course in Canada versus Mexico?

Have you published an article in English yet?

How confident are you that you will publish in English in the future?

How do you feel about English being the dominant language of scientific communication?

How do you feel about your connection to the scientific research community in Mexico?

How do you feel about your connection to the international scientific research community?
Do you have sufficient access to international scientific journals in your field?

Do you think there is equal access to publishing opportunities in international scientific journals?

What is the attitude of journals and journal editors towards submissions from writers from non-Anglophone countries, such as Mexico?
Appendix F. Semi-structured Interview Protocol (Admin.)

Tell me about your role in the course?

Tell me about the history of this course.

Tell me about the structure of this course.

Tell me about the evolution of this course.

What are the main academic writing concerns for Mexican scientists?

How does having Spanish as a mother tongue help or hinder Mexican scientists’ academic writing?

How does Spanish academic writing for publication affect Mexican scientists’ English writing for academic publication?

How will publishing in English help Mexican scientists?

How will the AWC help Mexican scientists?

Beyond the AWC, what support(s) are there for Mexican scientists attempting to publish a research article in an English-medium international scientific journal?

How do you feel about English being the dominant language of scientific communication?

Why is it important for Mexican scientists to publish in English?

What are the main difficulties Mexican scientists have with publishing in English?

How confident are you that scientists who take the AWC will be able to publish in English?

Do you think there is equal access to publishing opportunities in international scientific journals?

What is the attitude of journals and journal editors towards submissions from writers from non-Anglophone countries, such as Mexico?
Appendix G. Semi-structured Interview Protocol (Instructors)

Tell me about your history with academic publishing (in English or Spanish).

Tell me about your academic history.

Tell me about your teaching history with English language learners.

Tell me how you came to be an instructor in the AWC.

Tell me about your role in the course?

What are the main academic writing concerns for Mexican scientists?

How does the AWC attempt to address these concerns?

How do you address students writing challenges?

How does having Spanish as a mother tongue help or hinder Mexican scientists’ academic writing?

How will publishing in English help Mexican scientists?

How will the AWC help Mexican scientists?

How do you feel about English being the dominant language of scientific communication?

Why is it important for Mexican scientists to publish in English?

What are the main difficulties Mexican scientists have with publishing in English?

How confident are you that scientists who take the AWC will be able to publish in English?

Do you think there is equal access to publishing opportunities in international scientific journals?

What differences, if any, do you see (in structure or in your practice) between the courses as offered in Canada versus Mexico?
Appendix H. Semi-structured Interview Protocol (Editors)

Tell me about your academic history.

Tell me about your history with academic publishing.

Tell me about your current role(s) as a scientific journal editor.

Tell me about your role in the course.

What are the main academic writing concerns for scientists?

What are the main academic writing concerns for Spanish-speaking scientists?

What are the main difficulties Mexican scientists have with publishing in English?

How does having Spanish as a mother tongue help or hinder Mexican scientists’ academic writing?

Take me through the process of an author from submission to publication.

Tell me about Impact Factor (IF) and the International Science Index (ISI) and why these are important scientists looking to publish in international scientific journals.

How will the AWC help Mexican scientists?

How do you feel about English being the dominant language of scientific communication?

What are the advantages and disadvantages of a lingua franca for scientific communication?

Why is it important for Mexican scientists to publish in English?

Do you think there is equal access to publishing opportunities in international scientific journals?

What is the attitude of journals and journal editors towards submissions from writers from non-Anglophone countries, such as Mexico?
Appendix I. Email Letter to Request Interview

Dear colleague,

I am a PhD candidate in the Department of Curriculum, Teaching, and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am writing to inform you about my interest to conduct research into Mexican scientists’ academic writing through the AWC offered by MEX University– Canada.

I am contacting you to inquire whether you would be interested in participating in my study, which seeks to learn about the experiences of Mexican scientists’ attempting to publish scientific research articles in English-medium journals. My study, entitled English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication investigates the main academic writing challenges facing Mexican scientists as well as how a writing course meets the needs of these scientists. There is a lack of descriptive research into the area of academic writing for publication in a Mexican context and a greater understanding of scientists’ experiences and challenges could lead to modifications to AWC delivery at higher education institutions both in Canada and México.

I am interested in interviewing you to learn about your experiences with academic writing for publication. The interview session will be approximately 60 minutes long and it will be recorded with a digital audio recorder and transcribed at a later time.

If you agree to participate in this study, you may rest assured that your privacy will be protected at all times. The interview transcript and its recording will be kept confidential, known only to me and the members of my thesis committee at The University of Toronto. In addition, a summary of my thesis will be made available to you upon request. Be assured that any reference you make to any programs, institutions, instructors, administrators, journals, as well as other participants who may not want their identity revealed will be kept confidential in the thesis and in any subsequent presentations or publications. All participants in this study will be referred to using pseudonyms. I will take great care to assure that the identities of all participants are not revealed in any other fashion, including through background information. All data and audio recordings will be kept in locked files accessible only to me and will be destroyed ten years following the conclusion of the study.

If you decide to participate in this study, you will have the option of withdrawing at any time without suffering any adverse affects or having to explain your reason(s) for withdrawal.

If you would like to discuss this study further with me, please contact me in person by telephone or email. You may also contact my thesis supervisor, Dr. Antoinette Gagné at XXX.

Sincerely,
James Corcoran, PhD Candidate
Ontario Institute for Studies in Education
University of Toronto
Phone XXX
Email XXX@XXX
Appendix J. Letter to Request Focus Group Participation

Dear colleague,

I am a PhD candidate in the Department of Curriculum, Teaching, and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am writing to inform you about my research into Mexican scientists’ academic writing through the AWC offered by MEX University–Ottawa (MEX University–Ottawa).

I am contacting you to inquire whether you would be interested in participating in my study, which seeks to learn about the experiences of Mexican scientists’ attempting to publish scientific research articles in English-medium journals. My study, entitled *English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication* investigates the main academic writing challenges facing Mexican scientists as well as how a writing course meets the needs of these scientists. There is a lack of descriptive research into the area of academic writing for publication in a Mexican context and a greater understanding of scientists’ experiences and challenges could lead to modifications to AWC delivery at higher education institutions both in Canada and México.

I am interested in interviewing you and your administrative colleagues to learn about your experiences with designing and delivering the AWC for MEX University PhD students and faculty. The focus group interview session will be approximately 60 minutes long and it will be recorded with a digital audio recorder and transcribed at a later time.

If you agree to participate in this study, you may rest assured that your privacy will be protected at all times. The focus group interview transcript and its recording will be kept confidential, known only to me and the members of my thesis committee at The University of Toronto. In addition, a summary of my thesis will be made available to you upon request. Be assured that any reference you make to any programs, institutions, instructors, administrators, journals, as well as other participants who may not want their identity revealed will be kept confidential in the thesis and in any subsequent presentations or publications. All participants in this study will be referred to using pseudonyms. I will take great care to assure that the identities of all participants are not revealed in any other fashion, including through background information. All data and audio recordings will be kept in locked files accessible only to me and will be destroyed ten years following the conclusion of the study.

If you decide to participate in this study, you will have the option of withdrawing at any time without suffering any adverse affects or having to explain your reason(s) for withdrawal.

If you would like to discuss this study further with me, please contact me in person by telephone or email. You may also contact my thesis supervisor, Dr. Antoinette Gagné at XXX.

Sincerely,

James Corcoran, PhD Candidate
Ontario Institute for Studies in Education/University of Toronto
Phone XXX
Email XXX@XXX
Appendix K. Focus Group Protocol (PhD Students)

Please state your name, program, and position.

Discuss the main challenges you find with EAW.

Discuss the main challenges you see for publishing scientific research articles in international English journals.

How does the Spanish language or the culture of Spanish academic writing research articles affect your writing for publication in English?

Discuss how you feel part of the scientific community in Mexico.

Discuss how you feel part of the international scientific community.

How do you expect the AWC to help you with publishing and/or becoming (a greater) part of the international scientific community?

What is missing from the AWC or how would you change the course to better suit your needs?

Beyond the AWC, what other EAW support do you receive?

What other support do you need to accomplish your scientific publishing goals/objectives?

Discuss any advantages or disadvantages to taking the AWC in Mexico versus in Canada.

According to recent figures, over 95% of the articles listed in the international scientific index are written in English. French (~1%), German (~1%), Russian (~1%), or all other languages (~1%). How does this situation influence you and your academic writing? How does this situation influence Mexican scientists’ writing for publication?

Agree, disagree or comment on the following statements:

1. English provides a common language that allows everyone in scientific fields to communicate equally.

2. The use of English in science benefits native English speakers, but disadvantages non-native English speakers.
3. The dominance of English in science has caused a serious power imbalance among scholars, and this imbalance should be changed.

4. Multilingualism should be promoted in science. For example, native English-speaking scientists should speak at least one other language, and journals should publish articles in multiple languages.
Appendix L. Letter of Introduction to School Director

Date

(name and address of school)

Dear (name of director):

My name is James Corcoran and I am a PhD student in the department of Curriculum, Teaching and Learning at the Ontario Institute for Studies in Education – University of Toronto and an occasional writing instructor for the MEX University-Canada AWC offered to MEX University faculty, post-docs and PhD students. I am writing to you to express my interest in conducting research at your school during an AWC for Mexican scientists as I believe it to be an ideal site to gain a greater understanding of the academic writing experiences of these scientists.

Having received permission from the University of Toronto, I am contacting you to see if you would have interest in participating in my study into the academic writing experiences of Mexican scientists. As there is little research into this area, especially in a Mexican context, my study, entitled *English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication* will fill a gap while potentially providing direction for modification of AWCs offered to international scholars at higher education institutions in Canada, Mexico, and beyond.

As part of my study, I would like to interview you as well as members of your school’s staff who help design and deliver the AWC offered to MEX University scientists.

My research involves several phases:

- Analyzing documents related to the structure and delivery of the course
- A 30-minute survey for all course administrators, instructors, and participants. This survey and the attached consent form will be distributed electronically and collected data will be stored in a secure University of Toronto database.
- A 60-minute interview of all administrators, instructors, and several scientists (one faculty and two PhD students per course). These interviews will be digitally audio-recorded and transcribed.
- A 60-minute focus group interview with administrators, instructors, and scientists (separated into faculty and PhD student groups). These focus group interviews will be digitally audio-recorded and transcribed.
- A 20-minute follow-up survey for all course participants

Throughout my research, I will do my utmost to be as unobtrusive as possible and to allow regular functioning of the course. If you agree to participate in this study, please rest assured that your privacy, as well as that of your staff and course participants will be protected at all times. The raw data gathered through this study will be kept confidential, known only to me and members of my thesis committee.
A summary of my thesis will be made available to you upon completion. Also, be assured that the identity of the institution, administrators, instructors, students and faculty will be kept confidential in my thesis and in any future presentations or publications. Each participant will be assigned a pseudonym and I will do my utmost not to reveal any identities in any other fashion, such as through divulging background information. All data and audio recordings will be kept in locked files accessible only to me and will be destroyed ten years after completion of the study.

If you decide to participate in the study, you will have the opportunity to withdraw at any time without suffering any adverse consequences or explaining your withdrawal.

If you agree to participate in this study, I will seek permission with each administrator, instructor, and course participant individually before collecting data.

I look forward to speaking to you further about this research project and I thank you for your time and consideration. Please contact me at XXXXXXXXXX or my faculty supervisor, Dr. Antoinette Gagné at XXXXXXXXXX with any questions or concerns you may have. Further, you may contact the Ethics Review Office at ethics.review@utoronto.ca or by phone at 416-946-3273 if you have any questions about your rights as participants.

Sincerely,

James Corcoran, PhD Candidate

The Ontario Institute for Studies in Education – University of Toronto

Phone: XXX-XXX-XXXX

Email: XXXXXXXXXX@XXXXXXXXXX
Appendix M. Letter of Consent (School Director)

Date:

Name and Address of School

Dear (name of principal)

My name is James Corcoran and I am a PhD student in the department of Curriculum, Teaching and Learning at the Ontario Institute for Studies in Education – University of Toronto and an occasional writing instructor for the MEX University-Canada AWC offered to MEX University faculty, post-docs and PhD students. Based on our previous conversations, I am writing to you to formally express request permission to conduct research at your school during an AWC for Mexican scientists.

Having officially received permission from the University of Toronto, I am now requesting your permission to conduct the study at your school.

The research includes several phases:

• Analyzing documents related to the structure and delivery of the course
• A 30-minute survey for all course administrators, instructors, and participants. This survey and the attached consent form will be distributed electronically and collected data will be stored in a secure University of Toronto database.
• A 60-minute interview of you (the director) and all other administrators, instructors, and several scientists (one faculty and two PhD students per course). These interviews will be digitally audio-recorded and transcribed.
• A 60-minute focus group interview with administrators, instructors, and scientists (separated into faculty and PhD student groups). These focus group interviews will be digitally audio-recorded and transcribed.
• A 20-minute follow-up survey for all course participants

In the 60-minute interview, you will be asked questions about

• Your academic background and experiences with EAW and the AWC offered by your institution
• The history and evolution of the AWC under investigation
• The main challenges to publishing in English-medium journals for Mexican scientists
• Your perceptions of English as an international language of science
• Support provided to students and faculty to achieve international dissemination of research
If you accept that I conduct the study in your school, please rest assured that your privacy, as well as that of your staff and course participants will be protected at all times. The raw data gathered through this study will be kept confidential, known only to me and members of my thesis committee.

A summary of my thesis will be made available to you upon completion. Also, be assured that the identity of the institution, administrators, instructors, students and faculty will be kept confidential in my thesis and in any future presentations or publications. Each participant will be assigned a pseudonym and I will do my utmost not to reveal any identities in any other fashion, such as through divulging background information. All data and audio recordings will be kept in locked files accessible only to me and will be destroyed ten years after completion of the study.

Although I will do my utmost to protect the anonymity of all participants, those knowing who was involved in the study may identify the participants based on background information and/or quotations in the final research paper.

If you decide to participate in the study, you will have the opportunity to withdraw at any time without suffering any adverse consequences or explaining your withdrawal.

If you accept to participate in my study, please fill out the attached consent form and return it to me. I greatly appreciate your cooperation and I thank you for your time and consideration. Please contact me at XXXXXXXXXXXXXXX or my faculty supervisor, Dr. Antoinette Gagné at XXXXXXXXXXXXXXXX with any questions or concerns you may have. Further, you may contact the Ethics Review Office at ethics.review@utoronto.ca or by phone at 416-946-3273 if you have any questions about your rights as participants.

James Corcoran, PhD Candidate

The Ontario Institute for Studies in Education – University of Toronto

Phone: XXX-XXX-XXXX

Email: XXXXXXXXXXXXXXXX@XXXXXXXXXXXX
Appendix N. School Consent Form (to be signed by school director)

Title of the Research: English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication

Name of the Researcher: James Corcoran

Institutional Affiliation: The Ontario Institute for Studies in Education – University of Toronto

Please complete, sign, and return to the researcher

Please check the box

☐ I, ________________________________, have read and agree to the conditions of this study and I agree to participate.

Name: (Please print) ______________________________________

Date: _________________________
Appendix O. Individual Interview Consent Form

Dear XXX,

I am a PhD candidate in the Department of Curriculum, Teaching, and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am conducting a study investigating the experiences of Mexican scientists in academic writing for publication. Research into academic writing for publication in a Mexican context is limited and this research project aims to fill this gap, providing potential suggestions for modification of support provided for international scholars attempting to publish research articles in English.

Your participation in this study will consist of an approximately 60-minute interview – which will be audio recorded and transcribed – where we will discuss several topics:

- Your academic background and experiences with designing and delivering an academic writing for publication course to MEX University faculty and PhD students
- The main challenges to publishing in English-medium journals for Mexican scientists
- Your perceptions of English as an international language of science
- Support provided to MEX University faculty and PhD students to achieve international dissemination of research

Your participation in this study is completely voluntary and you are free to refuse to answer any questions, stop the interview, and/or withdraw from the study at any time without any adverse consequences. Your name will not appear on any of the data and a pseudonym will be assigned to you. The raw data gathered through this interview will be kept confidential, known only to me and my thesis committee.

All transcripts and recordings from the interview will be kept in a locked file that is only accessible to me. All data collected for this study will be destroyed after ten years.

Although I will take every action to ensure your anonymity, those knowing you participated in the study may still identify you from some quotations or descriptions of your background used in the text of the research paper.

I will provide you with a summary of the research findings once the study is completed.

If you accept to participate in my study, please fill out the attached consent form and return it to me. I greatly appreciate your cooperation and I thank you for your time and consideration. Please contact me at XXXXXXXXXXXXXXXX or my faculty supervisor, Dr. Antoinette Gagné at XXXXXXXXXXXXXXXXX with any questions or concerns you may have. Further, you may contact the Ethics Review Office at ethics.review@utoronto.ca or by phone at 416-946-3273 if you have any questions about your rights as participants.

If you agree to participate in the interview phase of this study, please fill out the consent form attached and return it to the researcher.

Sincerely,
Consent Form

Title of the Research: English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication

Name of the Researcher: James Corcoran

Institutional Affiliation: The Ontario Institute for Studies in Education – University of Toronto

Please complete, sign, and return to the researcher

☐ I, ______________________________, have read and agree to the conditions of this study and I agree to participate.

Name: (Please print) ______________________________

Date: _____________________
Appendix P. Focus Group Consent Form

Dear XXX,

I am a PhD candidate in the Department of Curriculum, Teaching, and Learning at the Ontario Institute for Studies in Education of the University of Toronto. I am conducting a study investigating the experiences of Mexican scientists in academic writing for publication. Research into academic writing for publication in a Mexican context is limited and this research project aims to fill this gap, providing potential suggestions for modification of support provided for international scholars attempting to publish research articles in English.

Your participation in this study will consist of an approximately 60-minute group interview – which will be audio recorded and transcribed – where we will discuss several topics:

• Your academic background and experiences with EAW
• The main challenges to publishing in English-medium journals in your field
• Your perceptions of English as an international language of science
• Support provided to you to achieve international dissemination of your research

Your participation in this study is completely voluntary and you are free to refuse to answer any questions, stop the interview, and/or withdraw from the study at any time without any adverse consequences. Your name will not appear on any of the data and a pseudonym will be assigned to you. The raw data gathered through this focus group interview will be kept confidential, known only to me and my thesis committee.

All transcripts and recordings from the focus group interview will be kept in a locked file that is only accessible to me. All data collected for this study will be destroyed after ten years.

Although I will take every action to ensure your anonymity, those knowing you participated in the study may still identify you from some quotations or descriptions of your background used in the text of the research paper.

I will provide you with a summary of the research findings once the study is completed.

If you accept to participate in my study, please fill out the attached consent form and return it to me. I greatly appreciate your cooperation and I thank you for your time and consideration. Please contact me at XXXXXXXXXXXXXXXXX or my faculty supervisor, Dr. Antoinette Gagné at XXXXXXXXXXXXXXXXX with any questions or concerns you may have. Further, you may contact the Ethics Review Office at ethics.review@utoronto.ca or by phone at 416-946-3273 if you have any questions about your rights as participants.

If you agree to participate in the focus group interview phase of this study, please fill out the consent form attached and return it to the researcher.

Sincerely,

James Corcoran
Consent Form

Title of the Research: English as an International Language of Science: Mexican Scientists’ Experiences and Challenges with Academic Writing for Publication

Name of the Researcher: James Corcoran

Institutional Affiliation: The Ontario Institute for Studies in Education – University of Toronto

Please complete, sign, and return to the researcher

Please check the box

☐ I, ________________________________, have read and agree to the conditions of this study and I agree to participate.

Name: (Please print) ______________________________________

Date: _______________________
Appendix Q. Pre-course Survey Example

Name: Javier
Faculty: Molecular Biology and Ecosystems Research

Title of thesis/research project (in English):

Journals where you would like to get published or have already published:
I had papers published in American Journal of Botany and Biological Journal of Linnean Society; I had a resubmitted a work in Systematic Biology and Journal of Biogeography; I’m interested in publishing in Molecular Ecology.

Answer the following three questions:

1. What are your research interests? (100 words)

I'm interested in the study of evolutionary process of xxxxxxx, specially about the xxxxx, as well as in the patterns in their spatial distribution, morphological variation, and macroecological assemblies. My ultimate goal is to propose an approach synthetic in the evolution of xxxxx.

2. Discuss your long-term academic goals and your expectations for this course. (200 words)

My academic goals are focused on get a comprehensive views of the evolutionary processes of xxxxxxx through of the knowledge that provides the genetic of populations, biogeography, phylogeography, macroecology, and systematics. Also, I intend to create a new line of research with emphasis in the use of xxxxxxx and their applications in xxxxxxx as part of the study of the xxxxxxx. I'm interested in new mathematical approaches for resolves a questions in the field of the xxxxxxx, as networks analysis, research algorithms and modeling of ecological niche.

My expectations in this course are: (1) get strategies for structuring an oral presentation or posters in international congress, (2) get strategies for structuring papers for submission for publication in international journals, (3) learn the appropriate structure on the wording of paragraphs, (4) identify the main mistakes in the translation procedure linked to the thinking and written in Spanish only.

3. Based on your personal experiences, identify three important differences between Spanish-speaking and Anglophone academic publishing and writing conventions. Explain how these differences present a personal challenge in your case. (300 words)

The first difference, is not unique for the academic publishing, rather is my problem in the translation procedure and refers to idea for the structuring in Spanish where we followed the next order: article + subject + verb + complement; my main mistake is to repeat the same order in english.

The second problem i identify in the incorrect use of periods, comas, in general of the punctuation signs, and the incorrect use of words and synonyms.

The third problem is that in English is intended to say a sentence with the least amount of words, I mean to so-called style's problems. A sentence could be correct, but is longer or excessive elaborated, with unnecessary words according to English speakers.

16. Some information has been obscured so as to protect the identity of the participant.
## Appendix R. Post-course Evaluation Example

<table>
<thead>
<tr>
<th>Participant Name: Patricia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Writing Course</td>
</tr>
<tr>
<td>Publishing principles</td>
</tr>
<tr>
<td>Instructor</td>
</tr>
</tbody>
</table>

### Starting Point
Patricia started with a basic understanding of the codes and conventions of academic publishing in English.

### Observed improvement
Patricia has developed significant foundational knowledge regarding the codes and conventions of academic publishing in English, particularly the requirements for a powerful, effective abstract. She has gained an excellent understanding of how to structure a meta analysis paper as well as a paper with the traditional IMRaD structure.

### Final remarks and implications
Patricia should continue developing her knowledge of academic publishing codes and conventions through reading specific articles related to her area of expertise and reflecting on her own research agenda and writing.

### Academic Writing Principles

| Instructor | James |

### Starting Point
Patricia has a decent understanding of what should be included in each section of an academic paper, but major issues associated with clarity have consistently arisen.

### Observed improvement
Patricia is improving in expressing herself clearly and her introduction is coming along after significant work re-structuring, but word order and s-v agreement and other grammatical issues are preventing this progress. Patricia has a meta-analysis paper so there is not a traditional methods section but she is improving her ability to put her approach and analysis in a logical order. Although her oral English proficiency is low, she is rapidly improving her academic writing skills.

### Final remarks and implications
Patricia needs to work on the clarity of her written expression in general (she wrote a meta-analysis paper). I suggest she experiment with writing in other styles (IMRaD) as well, to gain experience with this type of writing in English.

### Grammar review for academic purposes

| Instructor | James |

### Starting Point
Patricia’s knowledge of grammar related to academic writing is quite low and needs significant improvement in all areas.

### Observed improvement
Patricia has been able to improve her grammar knowledge and to demonstrate this increased knowledge by editing her paper effectively. She has particularly improved with her use of adverbs throughout her paper.

### Final remarks and implications
Further reading and writing practice is the only sure way to improve in this area. A focus on micro-editing, section by section, is suggested for improving self-editing skills. As her understanding of academic publishing and academic writing principles has improved dramatically during the course, further attention to grammar will no doubt help Angela’s future writing ability.

### Final status of manuscript

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<table>
<thead>
<tr>
<th>Ready for submission</th>
<th>Requires minor style and language revision</th>
<th>Requires significant style and language revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments: No</td>
<td>Comments: No</td>
<td>Comments: This paper could be publishable with significant revisions. Consider using colleagues to get advice between now and the submission date. In general, both exposure to English (reading) and production in English (writing) will slowly but surely improve your academic writing. Good luck, Patricia!</td>
</tr>
</tbody>
</table>
Appendix S. Graph Representation of Post-course Survey Question #17p

Post-survey results in response to the statement, “Presenting my research in English at international conferences is important for my career”.
Appendix T. Graph Representation of Post-course Survey Question #17q

Post-course survey responses to the statement, “The MEX U AWC has helped me to connect with the international research community”.

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