EMPIRICAL RESEARCH ON SECOND LANGUAGE WRITING IN CHINA: A THEORETICAL, METHODOLOGICAL, AND PHILOSOPHICAL ANALYSIS

by

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To my family

and

To those who have inspired me

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ABSTRACT

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Second language (L2) writing teaching and research in China have enjoyed a rich history and have had remarkable achievements. However, the extensive L2 writing literature created in China has not yet been analyzed comprehensively from theoretical, methodological, and philosophical perspectives. This research synthesis provides a metadisciplinary and historical analysis of empirical studies on L2 writing in China that were conducted over the past 40 years by concentrating on the theoretical, methodological, and philosophical aspects of this scholarship. This study was set out to answer three research questions: 1) what major theories have been used in L2 writing research in China, and what changes can be identified regarding theory usage; 2) what major methodologies and methods have been adopted in L2 writing research in China, and what changes can be identified regarding methodology usage; and 3) how do theoretical and methodological changes reflect the changes in the philosophical bases of L2 writing inquiry in China?

The data in this study are 660 empirical research articles on L2 writing that were published in 15 top peer-reviewed applied linguistics journals in China from 1978 to 2017. Each article was read carefully by the researcher to identify its theory and methodology and was classified into one of the four categories, *Instruction*, *Writer*, *Text*, and *Assessment*, based on its primary research focus. Theory identification followed a data-driven thematic approach (Braun & Clarke, 2006), meaning that the researcher drew on exact information provided in each article

as much as possible. Methodology identification framework was developed by adapting similar frameworks in the field (Hyland, 2016; Polio & Friedman, 2017). Disciplinary roots of the identified theories and research approaches of the collected studies were also identified and analyzed. All identified information was stored on a spreadsheet for reporting and analysis.

Regarding theory usage, the results show that a wide range of theories have been used in empirical L2 writing studies in China. Over 40 theories were identified in each of the following three subject matter categories: *Instruction*, *Writer*, and *Text*; 15 theories were identified in *Assessment*. In *Writer* and *Assessment*, more theories with cognitive orientations were adopted. In *Instruction*, theories with social orientations outnumbered theories with cognitive and socio-cognitive orientations. In *Text*, functional orientations were more prominent. With regard to theoretical changes, there were signs indicating increase in socially-oriented and socio-cognitively-oriented theories in *Instruction* and *Writer*; however, the majority of the studies were conducted under the process-centered tradition. The methodology identification results reveal that three methodologies were adopted by empirical L2 writing studies in China: Experimentation, Textual Analysis, and Case Study. Experimentation was the most frequently adopted methodology in studies in *Instruction*, *Writer*, and *Assessment*. Textual Analysis was adopted the most in studies in *Text*. Overall, Writing Test, Written Text, Interview, and Survey were the most frequently used methods in all empirical L2 writing studies across subject matter categories. The results also show an underrepresented status of qualitative approaches in empirical L2 writing studies in China. No significant change was found regarding methodology/method adoption over time.

Based on the results, I argue that empirical L2 writing research in China largely remains in the positivist paradigm, although there were signs indicating a potential positivist to relativist paradigm shift. I also argue that, considering the uniqueness of language studies, the meta-paradigmatic accommodation perspective seems to work better than the paradigm shift perspective in characterizing the developmental trajectory of L2 writing research in China. By implication, this study increases L2 writing researchers' metadisciplinary awareness of the current theoretical, methodological, and philosophical status of empirical L2 writing research in China and provides research gatekeepers with concrete evidence for making better-informed decisions on actions toward greater disciplinary balance and integration.

INTRODUCTION

Overview

As a “metadisciplinary inquiry” (Matsuda, Canagarajah, Harklau, Hyland, & Warschauer, 2003, p. 170), this study aims to consolidate our understanding of second language (L2) writing research and the accumulated knowledge it produces by advocating for the idea of integration. Integration in this study means a growing connection among existing data, perspectives, approaches, and theories that are seemingly disparate (Pickett, Kolasa, & Jones, 2010). It also means a closer connection of L2 writing scholarship that has been produced in diverse linguistic and sociocultural contexts.

In this study, I argue that integration is of great significance for the development of L2 writing as a legitimate research field. Ideally, in an organized research field, scholars not only study similar phenomena, but also share certain common epistemological assumptions and theoretical and practical concerns (Atkinson, 2000). However, sharing much common ground seems less feasible in L2 writing due to its nature as an interdisciplinary, global, and postmodern inquiry. On the one hand, researchers who have varied research interests and have been trained within specific research traditions have tended to focus on certain aspects of L2 writing activities. These narrower scopes have fragmented the disciplinary effort of knowledge construction. On the other hand, even focusing on similar aspects, “researchers disagreed” (Silva, 2005, p. 4) as a result of their differing research practices, leading to understandings that are not very coherent. To avoid fragmented and, sometimes, contradictory research outcomes confusing both researchers and practitioners in L2 writing, scholars need to see the field in a more integrated manner. One way to do this is to position current scholarship so as to help researchers make better sense of scientific advancements and identify gaps between different streams of scientific endeavor, since the first step towards an integrative understanding of the academic literature is to realize what approaches, either theoretical or methodological, exist as well as how they are connected or unconnected and compatible or incompatible.

In order to meet this end, I organize the L2 writing scholarship on three axes – theory, methodology, and philosophy – in the hope of tracking disciplinary progress and identifying gaps in knowledge construction. Second language writing research in mainland China (hereafter referred to as "China") is selected as the focus of this study for two reasons: 1) L2 writing teaching and research in China have enjoyed a rich history and have had remarkable achievements; and 2) the extensive L2 writing literature created in China remains relatively underrepresented in global academic discourse. As an emerging L2 writing scholar from China, I believe that it is one of my responsibilities to present the most representative works on L2 writing that have been done in China to a wider audience.

The first chapter, Introduction, comprises five sections. The first section gives an overview of this study, concentrating on the purpose of it. The second section, Statement of the problem, presents the problems existing in the progress of L2 writing studies and highlights the necessity of the present study. The third section provides justification for the use of the three axes – theory, methodology, and philosophy and emphasizes the advantages of metadisciplinary studies that inquire into these three aspects. The fourth section restates the significance of the present study. The final section outlines the major chapters of this dissertation.

Statement of the Problem

In this section, I trace the disciplinary development of L2 writing from a historical perspective and specify the byproducts of disciplinary advancement: subdisciplinarization and compartmentalization of knowledge. I argue that integration is one way to accelerate disciplinary progress and consolidate our accumulated knowledge on L2 writing. I also maintain that in L2 writing, where an overarching theory seems less likely to emerge, a weak version of integration, meaning a theoretical and methodological organization of the literature, is more realizable.

Second language writing, which means "writing done in a language other than the writer's native language(s)/mother tongue(s)" (Silva, 2016a, p. 19), is the target of L2 writing research. Investigations on L2 writing have evolved considerably, from narrow to broad, from national to global, from anecdotal to systematic. Second language writing began to attract serious academic attention from writing specialists due to the increased number of international students in the United States after World War II (Matsuda, 2003). With accumulated scholarly attention, it gradually evolved into an interdisciplinary field of inquiry that finds its position at the conjunction of composition studies and second language studies (Matsuda, 2003; Kroll, 2003). Historically, this field focused primarily on international English as a second language (ESL) writers in North American higher educational institutions (Matsuda, 1998; Matsuda & De Pew, 2002; Matsuda, 2013); however, today, it has expanded its scope to encompass writers "who are writing in various languages in diverse geographic, institutional, and sociolinguistic contexts" (Matsuda, 2013, p. 448). This expanded scope has attracted considerable scholarly attention from all over the world. For example, the *Journal of Second Language Writing* (*JSLW*), the flagship journal of L2 writing research, alone has published articles by authors affiliated with institutions in more than 30 countries (Pelaez-Morales, 2017). This geographic diversity of scholarship indicates that L2 writing has taken on a more global perspective.

In addition to its global perspective, L2 writing has achieved some disciplinary maturation. Starting in the 1990s, L2 writing began to extend beyond the confines of Teaching

English to Speakers of Other Languages (TESOL) and began to gain recognition as a legitimate field of research (Matsuda, 2003; Matsuda, 2013; Matsuda & De Pew, 2002). This recognition unveiled the rapid development of L2 writing research, evidenced by exponentially increased scholarship, newly established disciplinary infrastructure, and increased professional development opportunities (see Matsuda, 2003). Over the past three decades, L2 writing has developed into “a well-established interdisciplinary field of inquiry” (Manchón, 2016a, p. 1) with well-defined research interests, distinct methods of inquiry, and an expanding academic community.

Second language writing’s status as a well-established research field is firstly reflected by its continuously expanding research scope. Although early L2 writing research focused almost exclusively on international students in North American higher education (Ferris & Hedgcock, 2005; Matsuda, 1998, 2013), during the past decade, it has demonstrated an increased interest in L2 writing activities in a wide variety of educational, linguistic, and cultural contexts outside the United States, both in ESL and EFL (English as a foreign language) contexts. Meanwhile, a broader range of subject matters have been brought to the attention of researchers. The most frequently investigated topics include L2 writer, L2 written text, L2 writing instruction, L2 writing teacher, and L2 writing assessment, to name a few (Silva, Yang, Shin, Phuong, & Sun, 2018). Second language writing’s well-established status is also reflected by its academic infrastructure, academic community, and increasing scholarship. To date, at least two professional conferences, the Symposium on Second Language Writing (SSLW) and the Conference on EFL Writing Teaching and Research (China), are exclusively devoted to L2 writing issues (Silva, 2013, 2016a). At other professional conferences, such as the TESOL International Association Convention and the Conference on College Composition and

Communication (CCCC), L2 writing also plays significant roles. There are also two journals, the *Journal of Second Language Writing* and the *Journal of EFL Writing Teaching and Research* (China), devoted exclusively to L2 writing research (Silva, 2013, 2016a). In addition, a number of international peer-reviewed journals in education studies, applied linguistics, composition studies, and second language studies also feature L2 writing scholarship regularly. The "relatively large, rapidly growing, international group of academic professionals" (Silva, 2013, p. 433) in L2 writing continue to build the field's knowledge by producing journal articles, monographs, edited collections, dissertations, and bibliographies.

The rapid progress of L2 writing research sounds quite positive since it advances our understanding of L2 writers and how they write. If the general goal of scientific research is to generate understanding (Bruke, 2009), then the growth of L2 writing research seems like a way to meet this goal steadily and sufficiently. However, disciplinary advancement also brings along byproducts, among which the obvious ones are the subdisciplinarization and the potential "division of labor" (Matsuda, 1999, p. 700) among subdisciplines. A subdiscipline is related to one aspect, but not the whole, of L2 writing research. Recurrent subdisciplines (or topics/foci) include writers' texts, writing processes, writing contexts, instruction, and assessment, to name a few (Hyland, 2015; Leki, Cumming & Silva, 2008; Manchón & Matsuda, 2016; Polio, 2001). Being influenced by the academic training they received and the orientation they take to approach L2 writing, most specialists have their foci within one or a couple of related subdisciplines.

As specific subdisciplines get richer in content, they tend to develop their own assumptions, definitions, measurements, and methods (Pickett, et al., 2010). It is true that multiple perspectives brought by subdisciplines can reflect the dynamic nature of L2 writing

(Silva & Matsuda, 2001) and contribute to disciplinary progress; however, disciplinary debates, caused by different or even contradictory approaches, hinder academic advancement, leading to the compartmentalization of knowledge (Cumming, 2010; Maliborska, 2015). Consequences of this include not only a fragmented understanding, but also conceptual gaps at the interfaces of the subdisciplines (Pickett, et al. 2010). As a result, relating the scattered viewpoints and research findings from different subdisciplines to a comprehensive understanding of L2 writing activities becomes extremely challenging, if not impossible.

The occurrence of subdisciplines with varied approaches within L2 writing is unavoidable due to the field's interdisciplinary nature. From a disciplinary family point of view, L2 writing is rooted deeply in two feeder disciplines, composition studies and applied linguistics. The former adopts primarily a relativist orientation, the latter, a positivist orientation. Being at the confluence of the two, L2 writing has been "pulled in different incompatible directions" (p. 1) as the result of the distinct inquiry paradigms and traditions of its two feeder disciplines (Silva & Leki, 2004). The nature of L2 writing activity also contributes to the field's interdisciplinarity. Second language writing is a cognitive as well as a social activity. This dual identity invites varied research traditions. The cognitive aspect tends to adopt quantitative and experimental research traditions, while the social aspect adopts more naturalistic and qualitative approaches (Polio & Friedman, 2017). As a result, paradigms, orientations, theories, and methodologies with radical differences co-exist in L2 writing. These approaches, being taken up by specialists with differing interests and expertise, generate detailed knowledge accumulating in each subdiscipline.

In disciplines where subdisciplines exist, scholars tend to call for integration to accelerate disciplinary progress, advance scientific understanding, and reduce unproductive debate. In L2 writing, a weak version of integration seems more realizable than a strong one. Integration refers to "the growth of connections among existing data, perspectives, approaches, models, or theories that are apparently different" (Pickett, et al. 2010, p. 13). Although integration as a linkage between different paradigmatic views sounds like an ideal solution to the compartmentalization of knowledge, a strong version of integration (or unification) can hardly be operationalized in L2 writing since it requires an overarching theoretical framework that can organize its subdisciplines and paradigmatic views in a way that is commonly accepted. However, L2 writing is profoundly engaged with slippery cognitive and social variables; its "multifaceted nature, international diversity, and varied purposes" (p. 65) mean that no single theory can account for L2 writing comprehensively (Cumming, 2016). Under these circumstances, a weaker version of integration, meaning a coordination of vast paradigmatic, theoretical, and methodological views seems more reasonable and operationalizable. This has motivated me to conduct this study to respond to the aforementioned problems in L2 writing research.

Research Rationale

As the previous section revealed, this study will be carried out in an effort to accelerate knowledge integration in L2 writing research by organizing L2 writing literature on three axies: theory, methodology, and philosophy. In this section, I will justify why these three aspects are significant when we try to make sense of scientific advancements and why more effort needs to be made to build more knowledge on them. Later in this section, I will justify why L2 writing scholarship in China, the target scholarship in this study, needs to be analyzed and organized theoretically, methodologically, and philosophically.

It should be noted that theory, methodology, and philosophy are closely associated with the concept, "paradigm" (Kuhn, 1996, p. 10). Though definitions vary, *paradigm* is mainly connected with thought patterns in scientific research, including theories, methods, assumptions, and standards. For example, Chalmers (2013) defines a paradigm as being “made up of the general theoretical assumptions and laws, and techniques for their application that members of a particular scientific community adopt” (p. 100). Due to the close relationship between this study’s concentration and the concept of *paradigm*, much of the discussion that follows will be from a paradigmatic perspective.

The Value of Theories

Theories are of great value to any type of scientific inquiry into any observable phenomena. Theory is one of the pillars in scientific understanding since it provides conceptual constructs and useful tools that enable scientists to have dialogues around specific phenomena; scientific understanding is also limited by the current status of theory (Pickett, et al., 2010). When taking a closer look at L2 writing research, we find that theories “serve a heuristic purpose” (p. 65) for L2 writing researchers and practitioners and “provide concepts, principles, and methods to analyze, organize, and evaluate curricula, instruction, and assessment” (Cumming, 2016, p. 79). To be more specific, theories provide L2 writing researchers and instructors with focal perspectives to “conceptualize, analyze, interpret, and report on” (Cumming, 2016, p. 79) L2 writing activities (Atkinson, 2010; Belcher & Hirvela, 2010), possessing both scientific and pedagogical value. For example, at the scientific level, theories inform purposeful research (Cumming, 2010), guide research design, and help researchers understand the origin of research questions (Silva, 2005). At the pedagogical level, theories have practical utility in teachers’ thinking about teaching and the conduct of their classes. With theories in mind, L2 writing instructors are able to know what to do and why to do it.

Although theories are significant, they can be hard to understand. Second language writing's interdisciplinary nature (Matsuda, 2013; Silva & Leki, 2004) as well as its eclectic orientation towards inquiry (Cumming, 2016; Silva, 2013, 2016b) determine that theory in L2 writing normally means different things to different people (Silva & Matsuda, 2010). Today, as L2 writing continues to adapt theories from its related fields (Silva & Leki, 2004; Silva, 2013, 2016a, 2016b), a wide variety of theories, each with distinctive orientations and intellectual roots, co-exist within this single field, creating a "theoretical repertoire" for specialists to draw from as well as a "contact zone" (Pratt, 1991, p. 34) in which theories interact. On one hand, the repertoire provides multiple entries to access L2 writing activities, which are multi-faceted in nature and internationally and locally diversified (Cumming, 2016). On the other hand, numerous theoretical frameworks present challenges to both novice and experienced L2 writing researchers to navigate the intellectual terrain. Novice researchers may find themselves in the difficult position of keeping up with the continuously expanding theoretical scope of L2 writing. Experienced researchers may also find it challenging to understand multiple theoretical frameworks and to apply them equally or differently to particular investigations (Cumming, 2010).

Besides researchers' difficulties, multiple theories, along with individual research interests and localized inquiry scopes, further cause knowledge compartmentalization (Cumming, 2010; Maliborska, 2015), which needs to be overcome in a young and rapidly-growing field like L2 writing. This is because, on one hand, compartmentalized knowledge conceals "what is integral to second language writing" (Cumming, 2010, p. 39) and, on the other hand, knowledge compartmentalization may evoke intellectual battles over theories, approaches, and methodologies (Maliborska, 2015). As mentioned briefly in the previous section, one way to address compartmentalization might be the construction of a unifying theory. However, the field “has not at this point developed a particular conceptual or theoretical framework” (Silva, 2016a, p. 33), and it is unlikely that there will be one single overarching theoretical framework for L2 writing in the foreseeable future (Cumming, 2010, 2016). Therefore, other research efforts, such as a theoretical coordination, seem to be valuable.

To sum up, the co-existing theories and compartmentalized knowledge in L2 writing suggest a pressing need for a comprehensive theoretical overview, especially when an overarching theoretical framework is not available now nor in the near future. Therefore, an effort to organize theories in a comprehensive manner, like the present study, is theoretically and practically valuable as we continue seeing the “ever-increasing proliferation and eclectic diversity” (Cumming, 2016, p. 80) in L2 writing research.

The Value of Methodologies

Taking an integrative approach to understanding L2 writing research cannot be achieved without investigating its methodologies. It is methodology that makes research categorizable and its results comparable. In this subsection, I will explain why methodological aspects are as significant as theoretical aspects when we analyze research and why the current methodological status in L2 writing needs to be closely examined.

Methodologies are significant to our understanding of L2 writing research because of their close relationship with theories and research results. Regarding the relation between methodology and theory, one might say that neither theory nor methodology can be completely understood independent of each other. First, methodology can be seen as one type of theory. Different from methods, which refer to tools and means of data collection, methodologies are principles and understandings that guide a researcher’s choice and use of methods (Harklau &

Williams, 2010; Hyland, 2016). This definition explains why methodology is normally regarded as “a theory of inquiry that is focused on the sorts of data collection and analysis that are deemed necessary and appropriate” (Harklau & Williams, 2010, p. 95).

Even when methodology is not understood as a type of theory, it has an intimate relationship with theory. On the one hand, theories generate research questions, which further determine research design (Silva, 2005). With a determined research design, researchers can decide which methodology to use in a given study. On the other hand, methodologies use theories as starting points to generate new theories through research (Harklau & Williams, 2010). For example, qualitative approaches tend to generate new theories at the local level while experimental approaches tend to generate or confirm theories at a broader level. Therefore, there is an indivisible relationship between theory and methodology and both are significant to our understanding of research.

When we shift our attention from theory to results, we can further find a close relation between methodology and research results. Broadly speaking, two ways of understanding the methodology-result relation have been discussed: “tool for result” and “tool-and-result” (Newman & Holzman, 2013, p. 35). The former assumes an ontological separation between tools and the knowledge they produce, while the latter assumes an ontological wholeness. Under the “tool-and-result” view, methodology sets parameters for data construction and interpretation (Thorne, 2005). As a result, the research findings channeled by a specific methodology would “allow us to see certain things but not others” (Hyland, 2016, p. 117). When we look through the “tool-and-result” lens, as Vygotsky did, the methodology becomes a part of the result, not a prerequisite for it. Methodology and result constitute an ecological whole in the process of inquiry.

When methodology's central role in research has been illustrated, its significance becomes apparent. Therefore, a methodological overview is endowed with an intellectual significance, that is, we need to understand methodology to enhance the nature of research and the broader understanding we are seeking. In addition to this intellectual significance, a methodological overview also demonstrates practical values. First, as L2 writing research proliferates methodologically (Silva, 2013, 2016a), it is useful for researchers to know "what their options are … and … to understand what these choices imply" (Hyland, 2016, pp. 116-117). Consequently, researchers are able to select methodologies that are appropriate to their guiding questions, research designs, and local contexts. Second, an overview of L2 writing research methodologies, together with an analysis of their philosophical bases, can help researchers select methods more wisely. Methods and methodologies are never neutral. They are "not an open set of options in free combination" (Hyland, 2016, p. 121). Due to their ideological nature, methodologies tend to co-occur with a range of theories (Harklau & Williams, 2010) with which they share ontological and epistemological bases. Therefore, getting to know the methodologies as well as their philosophical bases enables researchers to avoid misuse of methods and provides researchers with a more precise direction for methodology adoption.

Therefore, it is evident that an overview of methodologies is significant to our understanding and conducting of L2 writing research. Intellectually, a methodological overview provides L2 writing specialists with a framework with which they can make better sense of L2 writing research, as methodology connects theory in one direction and research results in another. Practically, a methodological overview provides L2 writing researchers with a list of options, from which they can get to know what methods and methodologies are available and how methodologies are operationalized in L2 writing research. In addition, a methodological overview helps researchers make better-informed decisions in the selection of methods. Given the intellectual and practical significance of methodological overviews, this study will examine the methodological uses of and changes in L2 writing research in order to comprehensively reveal its developments in the target context.

The Value of the Philosophy of Science

The philosophical bases of the target L2 writing literature is the last aspect for analysis and discussion in the present study. I have decided to include the philosophy of science in this study because science by its very nature cannot exist independent of philosophy. Neither formulating and using theory nor adopting methodologies in research is philosophically neutral. Philosophy is also the essential tool for examining possible theoretical and methodological changes in research fields such as L2 writing. The reason is that any research approach, be it theoretical or methodological, should be interpreted and assessed in a context where "researchers have preexisting commitments to other systems of beliefs and practices" (Morgan, 2007, p. 49). These beliefs are normally referred to as paradigms, which, at their most fundamental level, are informed and shaped by philosophy. Informed by previous studies (Berlin, 1988; Silva, 2005), I define philosophy as constituted by ontology, epistemology, and axiology.

Although philosophical foundations remain largely hidden in research (Slife & Williams, 1995), they still influence the conduct of research and need to be identified (Creswell, 2013). First of all, the process of creating scientific theories is largely influenced by philosophy in either an explicit or implicit manner. For example, when we think about how theories are created, we may find that the formulation of theories is "generally the product of one man's, or a small group of men's, work" (Palter, 1956, p. 112). This suggests that scientific advances normally comprise personal aspects, which are "more or less peculiar to the views of the creator(s) of a given theory" (Palter, 1956, p. 112) and are partly shaped by the creator's philosophies. Also, theories can be seen as formalized ideas of certain phenomena. These ideas are formulated based on other ideas, including ideologically shaped assumptions and understandings (Slife & Williams, 1995). Therefore, it is evident that the theory formulating process is by nature philosophical.

In addition to influencing theory formulation, philosophical bases play an important role in theory selection. For example, in addressing the issue of how to select and evaluate theories in L2 writing, Silva (2005) suggests researchers "enter philosophy – particularly the philosophy of science – and inquiry paradigms" (p. 4). Inquiry paradigms, according to Silva (2005), are derived from philosophies, "which [are] made up of metaphysical notions like ontology, epistemology, and axiology" (p. 4). Similarly, Harklau and Williams (2010) believe that theories are "undergirded by a more basic theory" (p. 95), a collection of assumptions about truth and knowledge. This collection includes assumptions about "what knowledge is or *ontology*, how we know it or *epistemology*, or what values go into it or *axiology*" (Creswell, 2003, as cited in Harklau & Williams, 2010, p. 95). Thus, the philosophical bases determine that theories cannot be created, selected, and operationalized without considering their philosophical assumptions.

Research methods and methodologies are not independent of philosophical assumptions either. For example, qualitative and quantitative approaches are widely used today to describe research in social sciences. A number of researchers (Creswell, 2003; Willis, Jost, & Nilakanta, 2007) have suggested that the major difference between qualitative and quantitative approaches is not the type of data collected, but the fundamental assumptions each approach implies. These assumptions are labeled as "paradigms" (Chalmers, 2013; Creswell, 2003; Greene, Benjamin, & Goodyear, 2001; Guba, 1990), among which the three most generally recognized are postpositivism, critical theory, and interpretivism (Willis et al, 2007). The most fundamental level of a paradigm is a philosophy of science, which “makes a number of assumptions about fundamental issues such as the nature of truth (ontology) and what it means to know (epistemology)” (Willis et al, 2007, p. 8). The importance of philosophical orientations to methodologies is also emphasized by L2 writing scholars. For example, Hyland (2016) indicates that “methodologies are underpinned by philosophical assumptions about the nature of the world and how we can know it” (p. 121), which are consistent with the ontological and epistemological assumptions highlighted in previous studies. Apparently, any comprehensive and in-depth investigation of methodologies cannot avoid touching upon philosophical orientations that undergird them.

The fundamental significance of philosophy in our understanding and conducting of research justifies the necessity to include a philosophical discussion in the current study. As L2 writing is “blessed or cursed” (Harklau & Williams, 2010, p. 104) with considerable theoretical and methodological diversity, it is important to ensure that researchers can understand this diversity fully and deal with issues caused by this diversity more efficiently by relating them to the diverse philosophical orientations.

The Value of L2 Writing Research in China

The integrative understanding of L2 writing research demands not only a greater theoretical and methodological integration but also a closer interaction among scholarship produced in diverse geographical and educational contexts. This section examines why L2 writing literature produced in the Chinese context is worth comprehensive investigation by focusing primarily on two aspects: the amount of L2 writing scholarship produced in China and the need for constructive intellectual communication at the global level.

Second language writing instruction enjoys a long history in China. Disciplinary historians have suggested that English writing instruction can be traced back to the 1860s, and the first piece of scholarly literature on English writing instruction appeared in 1869 (You, 2010; 2012). Since then, L2 writing instruction has played significant roles at various historical stages of China – independence, modernization, and globalization (You, 2010). Second language writing instruction, together with the broader endeavor of foreign language education, has also experienced upheavals as a result of social and political impacts at different historical periods. It was not until late 1970s that scholarship on foreign language education was produced on a constant basis.

Over the past decades, the amount of L2 writing scholarship produced in China has been increasing significantly. This increment seems reasonable considering the fact that China has the largest foreign language learning population in the world. This large population, on the one hand, makes foreign language education a nationwide effort, involving enormous social, financial, and human resources, and, one the other hand, generates a huge amounts of data, which allows researchers to investigate different aspects of foreign language literacy development. It has been found that the field of L2 writing in China is still witnessing a tremendous increase in scholarship, which started originally in the early 1960s, and L2 writing scholarship is covering increasingly diversified topics (Huang & Yu, 2009; Qin, 2009; Wang, 2016). For example, a recent review study (Wang, 2016) demonstrated that 11,889 articles on L2 writing teaching and research appeared in 1,417 journals between 1962 and 2015. Both the number of studies and the number of journals suggest that an extremely large amount of L2 writing scholarship has been produced in the Chinese context.

In addition to the significantly increasing scholarship, the development of L2 writing research in China is also represented by a more professionalized research community and a more developed academic infrastructure. In 2006, the National Association of EFL Writing Teaching and Research (NAEWTR) was founded in China with an exclusive focus on L2 writing. Since its foundation, NAEWTR has continuously co-organized the National Conference on Teaching and Research in EFL Writing, a conference that is fully devoted to L2 writing and that has been held 10 times successfully by universities in nine cities nationwide (Silva, 2016a). In the 11th Conference on Teaching and Research in EFL Writing held by Nanjing University in October 2018, more than 600 L2 writing researchers and practitioners from China and abroad attended, among whom over 200 presented their projects. In 2012, NAEWTR established the *Journal of EFL Writing Teaching and Research*, which is only the second journal devoted exclusively to L2 writing research worldwide (Silva, 2016a). This journal, together with a dozen other peer-reviewed applied linguistic journals, provides more space to publish L2 writing scholarship in China.

Despite the increasing scholarship on and the expanding academic community in L2 writing research, scholarly voices from China are relatively underrepresented globally. For example, recent synthesis studies on the scholarship in the *JSLW* (Pelaez-Morales, 2017; Riazi, Shi, & Haggerty, 2018) have indicated that research from the US, Hong Kong, Japan, and Canada has taken up most of the journal’s space. The number of publications from China has shown growth over the past decade but is still pretty small. Reasons for this underrepresented status are multiple. In addition to the fact that most of the L2 writing scholarship in China was published in the Chinese language, which is not yet accessible globally, China’s own intellectual agenda, academic discourse, specifically targeted audience, and the center-periphery relations sustained in the global academic publishing industry (Canagarajah, 1996; 2003) also play important roles. Thus, presenting scholarship from underrepresented contexts seems to be necessary if we attempt to take a more integrative and global approach to L2 writing research.

Bringing underrepresented voices to complement the dominant voice – the North American voice (Silva, 2013) – has substantial benefits. The most direct benefit is brought to the periphery voices (Canagarajah, 1996; Pennycook, 2017). The unheard voice will be heard, and the neglected research will be acknowledged. The role of research in “academically periphery” contexts will be shifting from “center knowledge consumer” to global knowledge constructor. Periphery knowledge can also help reform and enrich the knowledge base of center disciplinary communities if it is given an opportunity to do so (Pennycook, 2017). As scholars have indicated, the knowledge production in dominant contexts will be “narcissistic” (Canagarajah, 2002, p. 254) without a constant conversation with ideas from periphery contexts. In the end, it is the ongoing dialogue and interaction among intellectual paradigms and discourse communities that foster academic progress (Canagarajah, 1996) and help to advance our understanding of L2 writing development and instruction.

In this section, I discussed the value of theory, methodology, and the philosophy of science in our understanding of L2 writing research and explained what benefit they can bring to facilitate our integrative understanding of L2 writing scholarship. I argued that theoretical, methodological, and philosophical aspects have a privileged position in shaping our understanding and interpretation of L2 writing inquiry. Paradigm shifts regarding theories and methodologies normally have an impact on the larger researcher population who draw on these “core belief systems” (p. 54) to guide their own works (Morgan, 2007). I also discussed the significance of a comprehensive investigation of Chinese L2 writing scholarship and argued that this investigation will help to make unheard voices heard, unseen research seen, and further foster the progress of disciplinary effort featuring a truly international and intercultural perspective. In the following section, I will briefly outline the significance of the current study.

Significance of the Study

This study investigates the theoretical, methodological, and philosophical aspects of L2 writing research in China. It demonstrates potential theoretical and practical significance. Theoretically, this is, to the best of my knowledge, the first study that comprehensively investigates the theoretical and philosophical aspects of L2 writing research in China, despite the fact that theoretical orientations from diverse disciplines have already been widely used in the target context. Whilst some synthesis/meta-analysis studies have touched upon methodological aspects of L2 writing research in China, they primarily employed broad categories (e.g., empirical vs. unempirical, or quantitative vs. qualitative approaches) in their studies and have not yet examined the philosophical assumptions under each methodology. Practically, this study will help L2 writing specialists in China to consolidate knowledge produced in their context by comprehending, in a more explicit manner, where the theories and methodologies come from, how theories and methodologies can be best used, and how L2 writing studies are influenced by the wider theoretical and methodological paradigm shifts in social sciences in general. In addition, this study will help L2 writing researchers and practitioners deal with the relatively messy theoretical and methodological orientations and anticipate the developmental trajectory regarding research theories and methods.

For L2 writing specialists worldwide, this study will contribute to their integrative understanding of L2 writing as an independent and interdisciplinary research field by discussing issues regarding theory and methodology in this field, e.g., where they come from, what assumptions they represent, and how they work in a convergent or divergent manner. Also, this study will significantly broaden the current L2 writing research scope and enrich and expand our shared knowledge base on L2 writing by bringing previously underrepresented scholarship to the international readership.

Outline of This Dissertation

Before ending this introductory chapter, I will outline briefly the major chapters of this dissertation. The overall structure of this dissertation takes the form of seven chapters. The first chapter, Introduction, describes the background of the study and justifies the necessity of it. The second chapter, Literature Review, provides a comprehensive review of the existing literature on the theoretical, methodological, and philosophical aspects of L2 writing research and further analyzes current L2 writing synthesis studies in the Chinese context. The third chapter is the methodology chapter, where I illustrate in detail how the data were collected and analyzed for this study. Chapter Four and Five are result chapters, reporting the results of this study by focusing on the theoretical aspect and the methodological aspect respectively. Chapter Six is devoted to philosophical discussion. Theoretical and methodological changes identified by this study are discussed from a paradigmatic perspective in this chapter. The final chapter, Conclusion, summarizes the major findings of this study, describes its limitations, and provides directions for future research.

LITERATURE REVIEW

Chapter One provided a comprehensive introduction to the current project, in which I identified some potential problems in the progress of L2 writing research and discussed the theoretical and practical significance of this study. In this chapter, my Literature Review, I will provide a detailed overview of the existing literature that has touched upon theoretical, methodological, or philosophical aspects of L2 writing. This chapter is organized into seven sections. The first section will review synthesis studies that either focus on the overall field or on specific subfields of L2 writing. The following three sections will review studies that concentrate on theoretical, methodological, and philosophical aspects of L2 writing respectively. Following these three sections will be a separate section focusing on synthesis studies on Chinese L2 writing research. In the last two sections, I will discuss identified research gaps, present research questions, and summarize this chapter.

Review Studies on L2 Writing Research and Its Subfields

A good number of studies were carried out to synthesize scholarship on L2 writing. Some of them cover the whole terrain of L2 writing research; others concentrate on specific subareas. Despite the differing scope of each study, every piece of synthesis work requires a massive amount of effort to keep up with the exponentially growing number of publications, classify them into categories, and analyze them in an in-depth manner.

Review Studies on L2 Writing

As for synthesis studies that were conducted to cover the whole ground of L2 writing research, the first piece that tends to come to researchers' minds is the book-length synthesis project completed by three L2 writing researchers – Ilona Leki, Alister Cumming, and Tony Silva. Their book, *A synthesis of research on second language writing in English* (Leki, Cumming, & Silva, 2008), is an encyclopedia of L2 writing research and a must-read book for researchers, experienced and novice, who have interest in L2 writing. Every reader will be impressed by the breath of issues that have been covered by existing L2 writing research and the three editors' enormous effort in putting all of them together. In their book, Leki and her colleagues synthesized, analyzed, and interpreted the most representative research on L2 writing in English that was published in the previous 20 years before 2008 in the hope of providing a comprehensive overview of research development and consolidate accumulated knowledge on L2 writing.

To facilitate their review, the authors classified the research into three broad sections, contexts for L2 writing, instruction and assessment, and basic research on L2 writing. In the first section, they reviewed research on L2 writing activities taking place in a wide range of educational and social contexts, which include secondary schools, colleges, work places, and academia. The second section, instruction and assessment, provides reviews on multiple approaches to L2 writing instruction and assessment. For example, the authors reviewed how different theoretical approaches to L2 writing instruction have grown and how two streams of assessment research – the formative functions of feedback and writing test design – have developed divergently in actually research. The third section, basic research in L2 writing, addresses a range of issues surrounding L2 writing activity, including writer characteristics, composing processes, and textual and grammatical issues.

This synthesis study is significant to L2 writing specialists theoretically and practically. Theoretically, it synthesizes research relative to L2 writing and summarizes research findings, which help L2 writing specialists to interpret existing scholarship and theorize L2 writing based on their own understanding. Practically, this synthesis study works as a reference book for researchers and practitioners to keep up with the literature in L2 writing and to gain a broader perspective on this field. Leki et al.'s (2008) synthesis is similar to my current study in one way but different in another. Both studies seem to take an integrative approach towards understanding L2 writing research, meaning creating a closer connection among research to consolidate knowledge and identify gaps among research programs. They are different in terms of their research scopes and target literature. Leki et al.'s project concentrates primarily on the investigations of a wide range of L2 writing issues and their results. Not much effort was made on theoretical and methodological orientations and their philosophical undergirding. In contrast, the current study's foci are mainly on the theoretical and methodological orientations. Research results are not its primary concern. In terms of target literature, Leki et al's study focuses mostly on the scholarship in the North American context while the current study analyzes the scholarship produced in China. The differences between these two studies suggest different intellectual contributions.

In addition to Leki et al's (2008) book-length synthesis, other efforts on synthesizing L2 writing literature include annual reviews of L2 writing scholarship, completed by Dr. Tony Silva and his colleagues. Each year, they collect L2 writing scholarship from related databases and journals and categorize and analyze the scholarship based on research foci. Their annual review studies were presented at the TESOL Convention every year and were published by *Second Language Writing News* (e.g., Silva, et al, 2017, 2018). Silva also edits annotated bibliographies for the *JSLW*, where he and his colleagues collect and present recent studies published on L2 writing to the global community. Both the annual review and the annotated bibliography provide full-scale reviews of L2 writing literature; however, due to the time and space limits in presentations and publication, as well as the relatively large amount of data under review, they are not able to provide thorough analysis of the theoretical and methodological approaches represented in the literature.

When working with smaller databases, researchers are able to take a closer look at each study and analyze it from multiple perspectives. Therefore, it is not surprising that studies in the *JSLW* become an ideal target, since, as the flagship journal in L2 writing, the *JSLW* has become a “central voice” (Pelaez-Morales, 2017, p. 14) and a “landmark publication” (Riazi, Shi, & Haggerty, 2018) in this field, and resultantly, it becomes the entry point for L2 specialists to conceptualize the entire field. The first review on the *JSLW* scholarship was done by Matsuda (1997) when the journal completed its fifth year of publication. In his brief review, Matsuda highlighted some features that still characterize L2 writing research today – e.g., interdisciplinarity, diverse approaches, wide research topics, global perspective, English domination, and intellectual collaboration. For example, contributions to the *JSLW* tend to draw from both second language studies and composition studies, which themselves, according to Matsuda, are highly interdisciplinary. Moreover, studies have adopted various research approaches, among which are quantitative, qualitative, theoretical, and critical. In addition to the diverse approach, a wide range of research topics were explored. Among the 61 scholarly articles, around 20 topics were explicitly addressed, including assessment, audience, contrastive rhetoric, and ESP, to name a few. At that point, the *JSLW* has already evidenced a global perspective. Although the dominant number of studies came from the North America, studies from other geographic contexts, such as Asia and Africa, have started to appear in the journal. According to Matsuda, one thing that seems less desirable was the language diversity. The majority of studies focused on ESL or EFL, although the *JSLW* is concerned with L2 writing issues in all languages. This English language domination might change to some extent under the clear trend of collaboration and internationalization.

When the *JSLW* celebrated its tenth year of publication, Kapper (2002) provided an updated retrospective following Matsuda's (1997) approach. What Kapper found was very similar to what Matsuda found five years earlier. For example, scholarship in the *JSLW* continues to be interdisciplinary, and it had covered a wider range of topics than it had five years earlier. Some of the new topics included peer feedback, voice, and plagiarism. Scholarship continued to represent different inquiry modes; however, during this period, empirical research (primarily quantitative) had overweighed non-empirical research. Scholarship continued to expand its international scope. In 2002, the *JSLW* scholarship contributors represented 15 countries, 10 more than what it did five years earlier. Kapper also found an increased authorship collaboration percentage over the *JSLW*'s first ten years.

More recently, two studies took a closer looking at the *JSLW* scholarship from the past two decades. Including a considerably increased amount of scholarship and a more in-depth analysis, these studies provide more comprehensive pictures of what the *JSLW* scholarship looks like theoretically, methodologically, and geographically. Pelaez-Morales (2017) conducted a systematic and multi-layered review of original research articles published in the *JSLW* from 1992 to 2015. The aspects under investigation include volume of publication, geographical and linguistic distribution, research orientation, and research topic. Pelaez-Morales' research results suggest that almost every increasing trend identified by Matsuda (1997) and Kapper (2002) continued – the increase in the amount of scholarship, the increase in geographical and linguistic diversity, the increase in collaboration, especially multi-country collaboration, and the increase in the scope of research topics. These increasing trends are encouraging; however, under these trends, Pelaez-Morales also found issues that need to be addressed. For example, geographic and linguistic representation have been uneven in the *JSLW* over the past two decades. Scholarship from the US, Hong Kong, Japan, and Canada has dominated the journal's space. Moreover, English writing enjoys an over-represented status than other languages. Pelaez-Morales, thus, argued for a more consistent inclusion of international scholarship and scholarship with foci on languages other than English. In addition, over-represented research orientations and topics also caught Pelaez-Morales' attention. She found that most of the scholarship (80.6%) is empirical, among which 51% is qualitative. In terms of research topics, eight have accounted for over half of the scholarship. These topics include feedback, genre, writing processes, assessment, use of sources, academic writing, revision, and writing for publication. Based on these findings, Pelaez-Morales calls for more effort from researchers and research gatekeepers to continue to diversify methodologies and research topics. Although details differ, the major findings from Pelaez-Morales' (2017) study are consistent with previous findings (Matsuda, 1997; Kapper, 2002).

In another study, Riazi and his colleagues (Riazi et al., 2018) analyzed 272 empirical research reports that were published in the *JSLW* from 1992 to 2016 in order to get a view of how L2 writing research has developed in contextual, theoretical, and methodological aspects. In addition to methodological orientations and research foci, some new layers were added to the analysis, including research contexts, participants, theoretical orientations, and data sources, which had not been analyzed explicitly in previous studies. Although some findings are not surprising, this study did provide concrete evidence to support what L2 writing specialists have known intuitively. For example, this study found that the US, Japan, Hong Kong, Canada, and China are major macro contexts that have accommodated most empirical research. However, it is noteworthy that the number of articles focusing on EFL writing has increased at the expense of ESL writing. At the micro level, college and universities remain the major research contexts, and, resultantly, undergraduate students remain the most common participants in these studies. In the aspect of research foci and theoretical orientations, Riazi et al. confirm prior knowledge. The five most common research foci are feedback, instruction, language and literacy development, assessment, and composing process, and the five major theoretical orientations are cognitive, social, social-cognitive, genre, and contrastive rhetoric. Regarding methodological orientations, qualitative research remains dominant, followed by eclectic and quantitative. The top data sources are multiple sources, text samples, and elicitation. Overall, the research findings presented by Riazi et al. do not differ significantly from previous findings.

Review Studies on Subfields of L2 Writing

In contrast to the aforementioned L2 writing syntheses that aimed to review the entire field through multi-layered analysis, other review studies restricted their scope to certain foci or to specific subfields. For example, Cumming (2001) reviewed empirical research on learning L2 writing from three perspectives, people’s written texts, composing processes they use in writing, and sociocultural contexts in which they write. Using a narrative format with extensive references, Cumming described how people learn to write in a second language from each aspect and pointed out the limitations in each strand of research. For instance, evidence on learning from a textual perspective does not say much about why and how people learn; evidence from cognitive processes does not explain how each process leads to particular textual features; and evidence from sociocultural perspective is inherently local and limited. Cumming summarized that the conclusiveness and comprehensiveness of this evidence are limited by the multi-faceted nature of learning behavior and L2 writing activity.

Belcher's (2012) review focuses on research context and research participants. By synthesizing representative L2 writing research and analyzing research findings, she found that most scholarly attention was devoted to young adult students, like college students, who are writing in English as a second language, but insufficient attention was given to younger learners in K-12 levels or adult learners outside universities. In addition, more attention is needed in foreign language contexts, meaning L2 writers using languages other than English. Based on her findings, she argues for a broader research foci and more diverse writing contexts. Silva, Brice, Kapper, Matsuda, and Reichelt (2001) reviewed studies on second language composing processes published from 1976 to 2000. Adopting an annotated bibliography format, their study provided an extended chronological overview of knowledge advancement on L2 composing processes.

Other state-of-the-art articles focus on some popular research topics in L2 writing. For example, Hyland and Hyland (2006) reviewed and analyzed studies on the effect of feedback in ESL/EFL writing by focusing on issues such as role of feedback in writing instruction, written and oral feedback, collaborative peer feedback, and computer-mediated feedback. They found that feedback studies have moved away from a narrow scope, which concentrated primarily on effectiveness of error correction and peer feedback, to embrace more issues such as oral conferencing, computer-mediated feedback, students' preferences, and wider social factors that influence feedback practices. Synthesis studies on the effectiveness of error correction seem to produce mixed results. After meta-analyzing the effectiveness of corrective feedback, Russell and Spada (2006) reported that corrective feedback is quite effective in enhancing students' grammar acquisition, while Truscott (2007) found that error correction might have a negative effect on learners' ability to write accurately and that researchers can be pretty sure (95% confident) that the benefits of correction, if it has any, are very small.

To sum up, there have been a good number of studies synthesizing L2 writing research over the past decade. Some had broader scope (e.g., Leki, et al, 2008) while others were narrower in focus (e.g., Hyland & Hyland, 2006; Truscott, 2007). Some investigated L2 research foci (Silva, et al., 2017; 2018) while others incorporated analyses on research orientations (Pelaez-Morales, 2017; Riazi, et al, 2018). Though differences abound, one thing seems to be common. That is, L2 writing research is an interdisciplinary, eclectic, and international field of inquiry. The multi-faceted nature of L2 writing makes it extremely hard to have a comprehensive and conclusive understanding about any issue, be it broad or narrow, general or specific. The overview of the synthesis studies on L2 writing research also suggests that research contexts, participants, and foci are among the most popular concentrations. Few studies investigated the methodological orientations, and fewer examined the theoretical orientations. As for philosophical assumptions, very few have been discussed explicitly.

Theories in L2 Writing

The term theory has been long and widely used in L2 writing research; however, not until recently have L2 writing specialists started to hold "an open and sustained discussion about what theory is, how it works, and … how to practice theory" (Silva & Matsuda, 2010, p. vii). Discussion on theories in L2 writing has been centered primarily on four core questions – what theory means, whether to have one theory or multiple theories, what theories are available, and how to practice theory. This section is be organized following these four core questions.

What Theory Means

The situation of theory in L2 writing can be described as a “virtuous mess” (McArthur, 2012, p. 419). In this highly interdisciplinary and eclectic field, theory means different things to different people (Silva & Matsuda, 2010). However, this relativist reality did not prevent scholars from attempting to characterize theories in L2 writing. I use the word characterize because of my belief that understanding theory by its definition is not sufficiently productive. For example, almost no one would deny that theory “is a set of statements about natural phenomena that explains why these phenomena occur the way they do” (VanPatten & Williams, 2007, p. 2). What really helps our understanding of theory is a localized description of the uniqueness of theories in L2 writing and how they may, or may not, differ from theories in other natural and social science disciplines.

According to Grabe (2001), theory in L2 writing needs to have some descriptive, explanatory, and predictive power. This understanding was characterized as “explanatory theory” by Atkinson (2018). Grabe’s view leans more towards a positivist view of science and theory, which is often manifested in second language acquisition (SLA) studies (Mitchell & Myles, 2004; VanPatten & Williams, 2007). However, Grabe fully recognizes the difficulties of building theory in L2 writing, or writing studies in general, since much of the research on and models of writing remains in a descriptive stage of development. A predictive theory would not come into being until research moves beyond this stage. Therefore, he proposes that a descriptive theory might be more realistic for now. Grabe’s discussion provides some clues about the characteristics of a L2 writing theory in his mind.

Atkinson’s (2010) characterization of L2 writing theory is different structurally and meaningfully. He regards theories as “thinking tools” (p. 6) which may inform, but may not be directly applicable to, educational practices. His characterization of theory features two sets of comparisons, namely *Theory* with a big T vs. *theory* with a small t, and *Practice* with a big P vs. *practice* with a small p. According to Atkinson, *Theory* relates to "a system of principles, ideas, and concepts, used to explain, understand, and predict some phenomenon" (p. 6), which encompasses two types – scientific theory and social-macro theory. Scientific theory is commonly from natural sciences while social-macro theory comes from the investigation of the mechanism of the human world. In language or writing studies, for example, scientific theories include different cognitive models while social-macro theory is represented by theories such as critical pedagogy. As for *theory*, it relates to the definition of "a speculative approach to something" (p. 6). It engages with particular and local situations and produces "little narratives" and "foregrounds the partial and speculative nature of theory" (p. 11). *theory* provides people with "small tools" (p. 11) to build their own understanding of local situations. To sum up, *Theory* reveals truth about something broader in the world; *theory* reveals truth that is "local, contingent, experimental and different" (p. 14). Atkinson's conceptualization of theory features both a modern and positivist orientation and a postmodern and relativist orientation towards scientific research.

Cumming's (2010) understanding of theory is also multi-layered. He argues that there are normally three major theoretical schemes in one discipline – a descriptive framework, a full-scale theory, and a set of heuristics. Descriptive frameworks describe phenomena and organize them coherently. For example, the dichotomized portrayal of SLA studies as cognitively-rationalist vs. sociocultural-relativist (Zuengler & Miller, 2006) might be a representative framework. Using Cumming's words, descriptive frameworks are "where theories are most conspicuously located and vigorously debated" (p. 31). A full-scale theory might be the theory of

L2 writing speculated by Grabe (2001), which “lead[s] to better understanding of teaching and learning, improved educational applications, and explanations of otherwise puzzling phenomena” (p. 31). However, with a recognition of the wide range of variables in L2 writing, both Grabe (2001) and Cumming (2010) acknowledge that the best we might have is a descriptive framework that helps us ensure that we have accounted for a full range of variables. The last theoretical scheme, heuristics, concerns the interface between theory and practice. In language teaching profession, heuristics provide tools to relate practical actions, such as language/writing teaching and learning, to theoretical conceptualizations. Cumming claims that although frameworks and theories are instructive to empirical research as well as pedagogy and policies, in literary studies in general, they “were fragmented into different areas of scholarship”. Therefore, it becomes particularly difficult to determine what is integral to L2 writing and what is not.

What the existing literature highlights is the multiplicity of theory in L2 writing. The meaning of multiplicity is twofold. First, there is more than one theory in this field that explains multi-faceted L2 writing activities (as explained in the next section). Second, theories tend to have a framework of their own, meaning theories at different levels address issues with different degrees of specificity. For example, some theories might address broad issues while others address local ones. Some theories are more applicable, like heuristics, while others are less so. Therefore, it seems apparent that understanding the meaning of theory in L2 writing is highly valuable, but understanding what issues theories address is more beneficial. Only by understanding what a theory can and cannot do can researchers be fully aware of the strengths and weaknesses of each theory in terms of its power, and, in turn, enhancing researchers’ understanding of what theory means in L2 writing.

Whether to Have One Theory or Multiple Theories

Another core question in theoretical discussion relates to the merit (or lack of it) of theoretical multiplicity. In other words, people have discussed whether we can have a single comprehensive L2 writing theory. This question seemed to be a big concern in the 1990s and early 2000s but less so recently. This is because L2 writing was consolidating its status as an independent research field in the 1990s, and it is believed that an independent theory is a strong sign of the independence of a field (Knapp & Antos, 2016). However, as L2 writing keeps developing its scope and orientations, researchers seem to have reached an agreement that a full theory for L2 writing is less likely and less needed.

The value of a comprehensive L2 writing theory is one of the central issues addressed explicitly in Grabe's (2001) study. In his book chapter, Grabe discussed the values of an L2 writing theory, interrogated the reasons why an L2 writing theory is likely unrealistic, and proposed a conditions approach to theory construction. Having an L2 writing theory is highly beneficial. According to Grabe, an L2 writing theory can increase the comparability of research results, promote a convergent understanding of L2 writing, and eventually explain and predict writer performance in specific contexts. However, an L2 writing theory is not quite realistic for multiple reasons. First, there is a lack of consensus on the supporting theories and assumptions of an L2 writing theory, which include but are not limited to a theory of language, a theory of language processing, a theory of learning, and a theory of conceptual knowledge and mental presentations. Second, existing writing theories and models have not yet gone beyond the level of description, and there is still a lack of a strong and explanatory model of the writing construct (Cumming, 1998). Finally, there are numerous constructs involved in L2 writing, and there is still a lack of effective linkage among these constructs. Having reviewed all the obstacles for theory construction, Grable proposed a conditions approach to theory building following a similar effort made by Spolsky (1989) in second language learning. This approach would generate various statements on writing performance under diverse conditions, and these generalizations would become foundations for future theorization.

Grabe pointed out a direction for future theorization; however, not much scholarly effort has been put into theory construction. This lack of effort in theory construction does not indicate that L2 writing is an atheoretical research field; rather, it is a sign of scholarly consensus that there might be no single theory that can explain and link the myriad constructs and variables involved in L2 writing. For example, Cumming (2010) suggests that, to describe second language writing, a theory needs to distinguish what is essential from what is peripheral, to address common phenomena in education, and to relate them effectively to local and global contexts. However, current theoretical and empirical accomplishments seem insufficient in terms of explanatory, linking, and predictive power in all these aspects. Belcher (2012) expresses her concern that the scope of current L2 writing research might become a hindrance for theory construction. After finding that most L2 writing research has focused primarily on college students who write with ESL, she suggests that people need to be concerned by the relatively restricted scope of L2 writing and need to expand methodology and research foci if the ultimate goal of current research is to build a theory of L2 writing.

There are other issues requiring consideration before making any further effort towards L2 writing theory construction. These issues are deeply rooted in the disciplinary nature of the field, meaning that any theorization effort will not be drawing resources exclusively from this single field; instead, it should be made on the basis of a broader interdisciplinary foundation (Johnson & Roen, 1989). Intellectual resources will include input from L2 writing's parent disciplines – applied linguistics and composition studies, and from its grandparent disciplines – linguistics and rhetoric. As Grabe (2001) indicated, we need to consider the underlying assumptions in each theorizing effort. What language theory, learning theory, and writing theory is an L2 writing theory based on? Are the underlying theories sound enough? Put it in another way, the advancement of L2 writing theory is greatly dependent on the theoretical advancements in its feeder fields, and any theoretical breakthrough in L2 writing will, in turn, feed its feeder disciplines. Interdisciplinary issues in L2 writing theory construction also include how L2 writing theory is relevant to or different from other similar theories. For example, Kroll (2003) brought up a couple issues questioning how a theory of writing would be similar to or different from a theory of learning to write, and to what extent do a L2 writing theory and a L1 writing theory converge and diverge. These interdisciplinary issues add another layer of complexity to L2 theory construction.

Over the past decade, the discussion of one theory vs. multiple theories in L2 writing seems to have faded away. As mentioned previously, this by no means indicates that L2 writing is developing atheoretically, instead, it shows that the complexity and multiplicity of L2 writing constructs and variables have been widely acknowledged and respected by the research community. Scholars tend to believe that there will not be an overarching theory that can describe and explain every aspect of L2 writing. The reduced attention to the construction of a single L2 writing theory might also be caused by the tendency against meta-narratives advocated by postmodern approaches (Lyotard, 1984; Atkinson, 2018). As a result, theoretical effort has been directed to surveying the available theories in L2 writing and to helping researchers and practitioners to get the most out of these theoretical resources either in research or in instruction.

What Theories in L2 Writing Are

A couple of studies have reviewed theories in L2 writing either from a pedagogical or research perspective. Some review studies are based primarily on researchers' observation and experience working in L2 writing while others incorporated empirical evidence to support major findings.

An early historical account of theories in L2 writing instruction was documented by Ferris and Hedgcock (2005) in their book on teaching ESL composition. Their brief historical review served mainly the purpose of laying a theoretical foundation for readers to make informed decisions about pedagogical practices. According to them, theoretical frameworks for L2 writing teaching and research can be directly traced to L1 rhetoric and composition research. From the early 20th century to 1960s, writing instruction was mainly following "the traditional paradigm" or the "product approach", treating students' written products as "static representations of their knowledge and learning" (p. 3). The product approach was followed by the process approach, which started in the 1960s and was popularized in the 1980s. The process approach treats the writer "as the creator of original written discourse, focusing particular attention on his or her procedures for producing and revising text" (p. 4). During this period, according to Ferris and Hedgcock, composition researchers also recognized the social process that involves writers and their audience. That is, writing "must be undertaken with the reader's background knowledge, needs, and interests in mind" (pp. 4-5). As emphasized by Ferris and Hedgcock, these are the theoretical orientations from L1 rhetoric and composition that significantly influenced theoretical development in L2 writing.

Ferris and Hedgcock presented briefly how theories in L2 writing evolved over time. Their historical account was supported by Maliborska (2015), where she employed empirical methods to trace the theoretical developments in L2 writing. In her study, Maliborska collected journal articles on L2 writing that were published between 1981 and 2010 and analyzed distribution of publications and theories and their application. She found that theoretical discussion in L2 writing in the 1980s and early 1990s was scarce and focused primarily on methodological issues such as data collection and analysis. The main theories about understanding L2 writing during this period related to the process-oriented approach, which integrates insights from cognitive theories and applied linguistics. Second language writing research in the late 1990s and 2000s had demonstrated “dynamic and social turns” (p. 87). During this period, several constructs were conceptualized as dynamic, such as L2 writer’s language, discourse community, identity, and writing process. In addition, the social nature of writing was widely acknowledged due to the influence of socio-cultural and socio-cognitive theories. In general, Maliborska’s portrayal of the theoretical development of L2 writing is consistent with Ferris and Hedgcock’s (2005) historical account.

Cumming’s (2016) review of theories in L2 writing is primarily a reflection of his observation from his decades’ of experience working in this field. In his chapter, Cumming reviewed the theoretical orientations in L2 writing research under the assumption that no single theory could explain L2 writing activities comprehensively considering “the multi-faceted nature, international diversity, and varied purposes for which people perform, study, teach, and assess L2 writing” (p. 65). Thus, existing theories in L2 writing are unavoidably partial, influenced by diverse interest and linguistic and cultural contexts. Under this premise, Cumming observed that L2 writing research has been conducted primarily under four theories over the recent decades: contrastive rhetoric, cognitive models of composing, genre theories, and sociocultural theory. For each theory, Cumming provided a detailed historical and conceptual review as well as an in-depth critical interpretation. Toward the end, he concluded that current theories addressed some of the issues surrounding L2 writing, but no one theory addressed all issues comprehensively. Comparative rhetoric provides principled insights to L2 writing instruction, but its significance is overshadowed by more recent and sophisticated research. Cognitive models of composing inform L2 writing teachers and students on how to compose strategically and effectively, but they do not explain much about the social aspects of writing. Genre theories provide teachers and students with the types of texts and metalinguistic awareness to teach, produce, and expect; however, they do not feature an explicit theory of learning. Sociocultural theories explain how L2 writing skills develop in social interactions and collaborations, but their application is limited to conventional writing classrooms. To sum up, Cumming's review highlights the nature of "being partial" (p. 65) which features current theories in L2 writing. However, the theories, combined, provide a generally complete picture of the intellectual terrain that L2 writing research has covered so far.

In a more recent chapter, Atkinson (2018) provided a similar review of theories in L2 writing. After a review of the theoretical influences L2 writing received from composition studies and other related fields, Atkinson argued that the birth of L2 writing and its development have been deeply influenced by theories like the process approach, contrastive rhetoric, and the genre approach, which were summarized by Cumming (2016). Other theoretical influences, according to Atkinson (2018), include empiricism, cognitivism, pragmatism, and critical pedagogy. These are better regarded as schools of thought or ideologies, instead of theoretical frameworks. These schools of thought, working separately or combined, affect L2 writing research and pedagogy. For example, in actually practice, the genre approach can be influenced simultaneously by empiricism, pragmatism, and contrastive rhetoric. Atkinson ended his chapter by discussing implications of theoretical multiplicity and relations between theory and practice, which will be addressed in detail in next section.

Practicing Theory in L2 Writing

The relation between theory and practice has been a longstanding philosophical debate. Broadly speaking, there are three orientations towards this relationship – "theory/practice", "theory and practice", and "theory of practice" (Hedgcock, 2010, p. 229). Adopting the first orientation, people might say "it is not always theory's nature to be applicable" (Kopelson, 2008, p. 763) since theory and practice are constructs with distinct natures. "Theory and practice" suggests a unidirectional way in which theory connects practice via application. "Theory of practice" emphasizes the praxis orientation (Freire, 1970, 1998), claiming theory and practice "cannot simply inform, but also transform one another" (Berlin, 2005, p. 22). In second language studies, most scholarship aligns with the latter two orientations, featuring an indivisible and continuous relationship between theory and practice (Stern, 1983; Cumming, 2008, 2010; Atkinson, 2012, 2018).

The significance of the interrelationship between theory and practice in ESL writing was recognized even before L2 writing established its independent status. After reviewing the instructional approaches in ESL writing, Silva (1990) called for a "coherent model of the interrelationship of ESL writing theory, research, and practice" (p. 19). However, in L2 writing, theory and practice issues were not discussed explicitly before the edited book, *Practicing theory in second language writing* (Silva & Matsuda, 2010), where the editors invited experienced scholars to address issues like the nature of theory, theory application, and the relationship between theory and practice. For example, Canagarajah (2010) argued that starting from practice is the key to bridging the gap between theory and pedagogical challenges. That is, practice provides contexts for reading (ideologies/theories) and motivates further reading. In Canagarajah's account, practice is prioritized over theory, which is demonstrated in his summary on the theory and practice relationship – "practice demands theory for meaning and significance; theory informs practice; but practice is more complex than theory; practice can critique theory; and practice helps reconstruct existing theories" (p. 186).

In another chapter devoted to the interrelationship between theory and practice, Zhu (2010) argued for a bi-directional, interdependent, dynamic, and mediated relationship. By bi-directional, Zhu meant that theory and practice have mutual impact on each other. By raising new questions for theory, practice always motivates theory development and serves as the application site to test theory. Theory, in turn, directs practice to some extent and informs the development of practice by providing new views of language, writing, and learning. This bi-directional relation also suggests the interdependency between theory and practice, that is, development of one does not occur independent of the other. The interrelationship between theory and practice is also a dynamic one. Using Odell's (1993) description, "theory needs practice and practice needs theory; each continuously challenges and refines the other" (p. 6). Finally, the mediated relationship between theory and practice is characterized by the human mediator – the teacher. Normally, it is the mediator, especially his/her belief, who determines if theory application is successful or not. Zhu concluded the chapter by calling for more scholarly attention to the interaction between theory and practice as L2 writing keeps progressing.

Hedgcock (2010) mainly interrogated the dualism in theory and practice that is prevalent in L2 writing scholarship and suggested a more productive way to conceptualize their relationship. Hedgcock argued that emphasizing the separatability of theory and practice has not been productive, neither has the vision of that interrelationship via an application metaphor. He observed that practice has always been pervasive. Therefore, it is placed in the center of theory-practice relationship, indicating that "theory-building, empirical research, and writing instruction are all activities that we practice" (p. 232). Under this circumstance, the construct "praxis", where theory and practice inform and transform one another, might be useful in describing how theory, empirical research, and instructional practice have influenced one another. This praxis orientation was echoed by Atkinson (2018) who also believes that theory, as a "thinking tool" and an "acting tool" (p. 1), is itself practice and argues for a praxis orientation especially at the *theory* (with a small "t") level.

From the review of the theory-practice relation in L2 writing, we may find commonalities among scholars' conceptualizations. First, theory and practice are not understood separately, rather, they are interdependent, informing and transforming the other. Second, practice is the key in the theory-practice relationship. Theory construction and application are types of practices. This understanding reinforces L2 writing's status as a practice-driven, rather than theory-driven, field of study (Matsuda, 2013). Third, this practice-oriented nature drives researchers to take a toolbox approach (Atkinson, 2010, 2018; Canagarajah, 2010) towards L2 writing theories. That is, utility is the ultimate goal of theory, and let need guide the tool selection. If one tool does not work well in a particular situation, select a new one and leave the old one to another situation.

In this section, I reviewed and analyzed discussion of theory in L2 writing research. I focused primarily on four aspects, the meaning of theory, the debate on the single theory construction, the existing theories in L2 writing, and the interrelationship between theory and practice. In empirical research, theory and methodology come hand in hand. Unlike theories, which might be represented explicitly or implicitly, methodologies are normally described fully.

In the following section, I will present an overview of how methodological issues are discussed in L2 writing.

Methodologies in L2 Writing

Taking a metadisciplinary approach to investigating methodological issues in L2 writing has been an exclusive focus of numerous review studies. While some studies focus on methodologies within a specific subdiscipline in L2 writing, others take a broader view to analyze methodologies in the entire field. In this section, the reviewing process will unfold from specific to broad, from separate to holistic.

Methodologies in L2 Writing's Subdisciplines

Goldstein's (2001) methodological review focuses primarily on the subfield of teachers' written feedback. By analyzing 15 studies on the effectiveness of teacher written commentary on ESL writers' revisions, she tried to identify problems that emerged in the research methodology in the target literature. She found that all studies lacked a standard methodological practice. For example, almost all of the examined studies did not provide sufficient information on context, text, methodology, and data analysis. She argued that insufficient information influences knowledge consumers' interpretation of research results. Problems with methodology also lay in comparison processes. For example, in a number of studies, students' writing activities in different contexts were treated as comparable; researchers did not explore what students said and what they had done in revision. In addition, studies also lacked valid constructions of coding schemes and sufficient attention to students' individuality. In the end, Goldstein argued for a more critical examination of current literature on the effectiveness of teacher written feedback and called for more comprehensive projects where students' writing, teachers' comments, and students' revisions are investigated simultaneously.

Liu and Brown (2015) provided an updated methodological analysis of existing research on written corrective feedback (WCF) since they found that not much consensus has been reached to date despite the fact that over 300 papers were published on this topic. In their study, they focused primarily on methodologies and reporting practices of 32 research articles and 12 dissertations in order to review and analyze their sampling features, methodological design features, and statistical procedures. They found that existing studies are not comparable due to their inconsistent treatments and measurements. In addition, a number of limitations in methodology designs and report practices were identified. For example, "one-shot" treatment, meaning provision of feedback on one single draft, was commonly used in methodological design, which might have an impact on the "ecological validity" (p. 79) of the study. Another limitation concerns with the reporting practices. Liu and Brown found that important contextual and statistical information was missing in many studies, such as length of writing, length of intervals between writing tasks, exact *p* value, and statistical assumption checking. They argued that missing significant information in reporting brings obstacles for research interpretations and meta-analyses. Liu and Brown also found a neglect of writers' individuality in existing literature. Most results found by Liu and Brown (2015) are consistent with Goldstein's (2001), although the latter was conducted almost 15 years before. This consistency demonstrates that scholars are still working towards a more comprehensive, coherent, and valid measurement for the effectiveness of corrective feedback. This effort will continue in the years to come.

Polio's (2001) study focuses on the subfield of L2 written text. In her chapter, she provided a comprehensive taxonomy of measures and analyses for studying L2 written texts and discussed some of the methodological problems researchers must resolve. She looked at text-based studies in terms of nine broad categories, namely, overall text quality, linguistic accuracy, syntactic complexity, lexical features, content, mechanics, coherence and discourse features, fluency, and revision. For each category, she provided the audience with a detailed review of data analysis methods and discussed issues concerning the reliability and validity of data analysis. For example, she found that researchers normally use holistic scores, analytic-scale composite scores, and ranking to analyze overall text quality. As for syntactic complexity, researchers tended to use average length of a structure, e.g., number of words per T-unit, frequency of a structure, e.g., passive sentences or dependent clauses, and complexity ratio, e.g., clauses per T-unit, to conduct data analysis. In short, Polio provided a range of methodological choices for researchers to conduct text-based research. She concluded by advocating more explicit and sufficient reporting of information regarding methodology and data analysis reliability. She also called for more studies to validate current measurements.

Methodologies in Quantitative and Qualitative Approaches

Studies reviewed in the previous subsection concentrated on methodological issues in written corrective feedback studies and text-based research, two subfields of L2 writing. Literature reviewed in this subsection focuses on methodological issues in the quantitative and qualitative approaches.

In the *Handbook of second and foreign language writing* (Manchón & Matsuda, 2016), Manchón (2016b) and Casanave (2016) wrote two separate chapters on methodologies in L2 writing research, focusing on quantitative and qualitative inquiry respectively. Manchón (2016b) reviewed representative quantitative research in L2 writing to describe and explain the relations among variables occurring in L2 writing activities. She identified four purposes that quantitative inquiry tries to fulfill, “add to knowledge base”, “understand complex phenomena”, “measure change”, and “test new ideas” (p. 521). These four purposes relate to two types of studies, referred to by Manchón as “descriptive” and “explanatory-interventionist” (p. 521). The first type involves an attempt to “add to knowledge” and “understand complex phenomena”, and the second type to “measure change” and “test new ideas”. Later, Manchón reviewed representative descriptive studies, e.g., studies on textual features and writing processes, and representative explanatory-interventionist studies, e.g., studies on task conditions and instructional treatments and analyzed the theoretical framework, research focus, target population, and dependent and independent variables in each representative study. In this chapter, Manchón provided a comprehensive description of methodological practices in quantitative inquiry in L2 writing, and called for research with higher standards and levels of quality and research with more integration between L2 writing and its neighbor disciplines and between the quantitative approach and its alternatives.

In the chapter on the qualitative inquiry, Casanave (2016) investigated what qualitative inquiry in L2 writing is, traced its historical and theoretical origin, and reviewed different types of qualitative inquiry. She adopted a list from Richards (2009) to characterize the qualitative inquiry. She stated that it is hard to identify the origin of qualitative inquiry in L2 writing since “multiple kinds of qualitative research always exist concurrently” (p. 498); however, the research trends shifting towards writing processes and sociocultural contexts motivate scholars to conduct more qualitative research to describe and explain L2 writing phenomena. Casanave later identified four types of qualitative inquiry and analyzed representative studies of each type. The four types include studies of writer development, studies of writers’ interactions with others, text-oriented qualitative studies, and digital literacies. Casanave concluded by highlighting the significance of the qualitative inquiry and discussing some pressing issues that are of major concern. She argued that qualitative inquiry continues to hold great promise since it helps scholars understand the intricacies of L2 writing activities and that issues such as an expanded definition of writing, expanded research scope, integration of knowledge, and improved standards will attract more attention in the years to come.

Two review studies based on empirical evidence were reported in Reynolds (2010) and Harklau and Williams (2010). The former emphasizes methodologies in quantitative approaches; the latter, methodologies in qualitative approaches. Reynolds (2010) collected 133 journal articles on L2 writing published in 15 applied linguistics and composition journals from 2001 to 2005 and analyzed their methodologies, variables, and research purposes. He found a relatively balanced distribution between quantitative and qualitative research among the collected empirical studies. Among studies that adopted quantitative approaches or mixed methods, more than half focused on writing, as opposed to writer and reader. Of these studies on writing, most focused on describing the characteristics of L2 written texts. Among the quantitative studies, over half involved “testing hypotheses about relations between entities” (p. 167). Descriptive and exploratory studies were less common. Case studies based solely on quantitative data were very rare. Reynolds suggested that quantitative inquiry should go beyond solely describing and evaluating features. He asserts that more attention needs to be paid to understanding how textual features might be the result of different learner characteristics interacting with task variables, what factors predict “a high level of L2 writing ability” (Leki, Cumming, & Silva, 2006, p. 152) and how to influence them, and how reader and writer interact in varied contexts. These arguments are based on the assumption that “it’s the writer, not the writing, that we are trying to improve” (North, 1984, as cited in Reynolds, 2010, p. 169).

Harklau and Williams (2010) investigated the relationship between theory and qualitative research and reviewed qualitative studies on L2 writing published from 2001 to 2005. The 42 journal articles were collected from the *JSLW*, *TESOL Quarterly*, *Assessing Writing*, *Language Testing*, and the *Modern Language Journal*. They found that the most frequently used methods in the 42 qualitative studies were interviews and collection-analysis of documents. Qualitative data were also collected from fieldnotes, journals, think aloud protocols, and other methods. A number of methodologies have been identified in the examined literature, including Geertzian ethnography and “thick description” (Blanton, 2002), “social constructivist” paradigms (Maguire & Graves, 2001), and critical discourse analysis (Gebhard, 2004). Although no single methodology seemed to dominate the collected studies, grounded theory and narrative inquiry were the two that appeared multiple times. Regarding the relationship between theory and qualitative research, Harklau and Williams found that all studies stated explicitly their content theories; however, half of them did not identify their methodologies – theories about inquiry. They argued at the end that research is inseparable from theory, be it content theory or methodology. It is methodology that makes the study coherent and governs the use of methods. Therefore, qualitative researchers in L2 writing should be more aware of the theoretical assumptions in their research and be more explicit and articulate about their theoretical approaches.

Methodologies Focusing on the Entire Field of L2 Writing

Literature reviewed in this subsection targets methodological issues in the entire field of L2 writing. Some have specific starting points, e.g., focusing on a single journal, while others tends to be more holistic. Some are based on scholars’ observations while others include empirical evidence. All these efforts are attempting to chart methodological complexity and review the methodological status in L2 writing. This section will start by reviewing studies with specific foci – methodologies presented by *JSLW* articles (Matsuda, 1997; Kapper, 2002; Pelaez-Morales, 2017; Riazi et al., 2018) and move on to more holistic ones (Hyland, 2016; Polio & Friedman, 2017). Although the four studies on *JSLW* literature (Matsuda, 1997; Kapper, 2002; Pelaez-Morales, 2017; Riazi et al., 2018) were briefly reviewed in the first section of this chapter; I review them again in this subsection to provide detailed information about their findings regarding methodology.

Four studies analyzed methodologies represented in the scholarly publications in the *JSLW* at different historical stages. Matsuda (1997) reviewed the first five years, and Kapper (2002) reviewed the first ten. Pelaez-Morales (2017) and Riazi et al. (2018) reviewed scholarship over the past two decades. The target journal they shared makes their findings more comparable. To sum up, their results suggest two trends regarding methodology adoption – there has always been a variety of methodological orientations in L2 writing, and the literature witnesses a decreasing interest in quantitative research and an increasing interest in qualitative research. First, methodological orientations in L2 writing have always been multiple. By reviewing scholarly articles in the *JSLW* for the first five year, Matsuda (1997) found that quantitative studies, qualitative studies, and theoretical and critical inquiry were represented in the literature. Later review studies (Kapper, 2002; Pelaez-Morales, 2017; Riazi et al., 2018) confirmed the multiplicity and these major methodological categories. The only difference was the size of each category. Second, interest in qualitative inquiry was increasing at the expense of quantitative inquiry. When Kapper worked on her review, quantitative inquiry still dominated the empirical research. However, about 15 years later, the top place was taken by qualitative inquiry (51% according to Pelaez-Morales; 39.0% according to Riazi et al.). The percentage of quantitative research was shrunk to less than 30% (29% according to Pelaez-Morales; 27.9% according to Riazi et al.). Both Pelaez-Morales and Riazi et al. saw an increasing trend in mixed-method orientation, although a number of studies which adopted both quantitative and qualitative approach were categorized as eclectic methodology by Riazi et al. In addition to methodology, Riazi et al. (2018) also analyzed frequent data sources. According to them, the most frequently used data sources are *multiple* (multiple sources), *text sample*, and *elicitation*.

In contrast to the previous four studies that focused exclusively on scholarship in the *JSLW*, Hyland (2016) attempted to chart methodological issues and their relations in all L2 writing by drawing from his experience working in this field. His review study provides a list of methods and methodologies that are available to L2 writing specialists. Like many scholars (e.g., Harklau & Williams, 2010), he distinguished methods from methodologies, defining methods as “ways of collecting data” and methodologies as “principles and understandings that guide and influence our choice and use of methods” (p. 117). Hyland reported four broad ways of collecting L2 writing related data, namely elicitation, introspection, observation, and text data. Elicitation includes questionnaires, interviews, focus groups, and tests. Introspection includes think aloud protocols and diaries. Observation consists of recording behavior and keystroke logging. Text data involves analyzing single texts and chains of texts. Methodologies are categorized as experimentation, ethnography, auto-ethnography, critical analysis, discourse analysis, meta-analysis, and case studies. Hyland (2016) argued that the ways researchers collect, analyze, and interpret data depend on their personal preferences, their understanding of language, writing, and learning, topic and purpose of the study, data accessibility, time and resources, and other contextual constraints. In addition, when selecting methods and methodologies, researchers should keep in mind the philosophical assumptions that are underpinning these options.

Polio and Friedman's (2017) work shares purposes with Hyland (2016) but with more elaborate description and more in-depth discussion. In their book *Understanding, evaluating, and conducting second language writing research*, Polio and Friedman provided novice and seasoned researchers a complete picture of methodologies and methods that have been widely used in L2 writing research. The four broader approaches covered by this book include experimental research, causal-comparative/correlational research, ethnography and case study, and mixed-method studies. The first two approaches are more quantitative in nature, the third more qualitative, and the last more combined. The authors claimed that mixed-method approaches are getting more popular in L2 writing research and applied linguistics in general. Methods are tools and techniques that researchers use to collect and analyze data after the methodology has been determined. This book also provides a detailed review of what methods are commonly used in L2 writing research and what can be found by using them. Methods reviewed in this book include learner text analysis, target text analysis, retrospective and introspective methods, interviews, thematic analysis, and qualitative discourse analysis. Polio and Friedman argued that researchers should not assume a specific method is always tied with a type of research approach, although some methods tend to associate with some approaches. This book is a valuable resource for researchers who have interest in conducting L2 writing research and readers who have interest in related literature. A feature that stands out is the balanced distribution among approaches and methods. The authors understand deeply that L2 writing is both a "cognitive process" and a "situated activity" (p. 1). Therefore, research on it should never prioritize one approach over another. Different approaches offer different insights into this complex activity.

In this section, my review of the methodological discussion in L2 writing literature concentrated mainly on three points: methodologies in L2 writing's subfields, methodologies in the quantitative and qualitative approaches, and methodologies in the entire L2 writing research field. Each study seems to approach methodological issues differently, making it difficult to summarize and consolidate what we really know. After this review, two themes seem to emerge: the methodological multiplicity and the pursuit of higher methodological quality. Methodological multiplicity is clearly understood. As Matsuda's (1997) review suggests, L2 writing research has always drawn from multiple methodological orientations since its independent status was first established. Later review studies, either focusing on a specific L2 writing subfield or L2 writing as a whole, confirmed this multiplicity. The pursuit of research with higher methodological quality was voiced explicitly in methodological reviews in quantitative and qualitative approaches. A number of researchers called for a more explicit description of research context and data collection-analysis procedures. Others asked for more rigorous examination of the reliability and validity of data analysis. Advocacy for more theoretical and philosophical considerations with regard to methodology is another effort to attain higher quality research. It might be the case that examining research quality and standards will remain the central concern for future methodological reviews.

Philosophical Orientations in L2 Writing

Words like "paradigm" and "ideology" appeared multiple times when I was reviewing literature related to theories and methodologies in L2 writing. They are associated with the philosophical aspect of L2 writing research. Although philosophical orientations always guide research practice, not many studies addressed explicitly the philosophical issues in L2 writing. Based on my review, philosophical discussion in L2 writing shows primarily two concerns – the ideological vs. pragmatic debate and the philosophical assumptions of L2 writing research.

Ideological vs. Pragmatic Orientation

The debate on whether L2 writing is, or should be, an ideological discipline, like composition studies, or a pragmatic discipline, like applied linguistics, was firstly sparked when this field first established its independent status. Santos is one of the first scholars who specifically addressed ideological issues of L2 writing/ESL composition. In an article published in the first issue of the *JSLW*, Santos (1992) presented the differences between L1 composition and L2 composition in terms of ideology.

Unlike L1 composition, which sees itself ideologically, Santos (1992) believes that ESL composition may be characterized as seeing itself pragmatically, since L2 composition has neglected or ignored the social constructionist perspective on writing, a perspective that "sees writing as a social artifact with political as well as social implications" (p. 2). This difference between L1 and L2 composition may be attributed to the fact that the two disciplines have different affiliations – literature and applied linguistics. Citing Hairston (1990) and Trimbur (1990), Santos (1992) suggested that L1 composition was highly influenced by critical literary theories, while L2 composition was influenced by applied linguistics. This difference further leads to varied assumptions of language and the role of explicit sociopolitical ideology in theory and practice in both L1 and L2 composition. In addition, the scientific model for L2 composition research further accounts for its absence of ideology. The three disciplines that L2 composition are affiliated with – linguistics, applied linguistics, and TESOL – all model themselves on science in terms of their methodologies, which value neutrality and objectivity, and remain aloof from ideology. In addition to the influence of scientific models, the distinction between ESL and EFL further complicates the ideology issue in L2 composition since what can be perceived as right in one context can be perceived differently in another context.

Santos' (1992) arguments raised interesting responses from scholars. Benesch wrote directly to respond to Santos' negation of L2 composition's ideological stance. Benesch (1993) argued that all forms of ESL instruction are ideological. The fact that L2 composition teachers do not highlight their ideology does not mean they are politically neutral. Benesch warned that regarding pedagogical decision making as pure "objective, scientific, [and] rational", rather than "political or ideological" (p. 3), could be dangerous because it undermines teachers' agency and empowerment and makes pedagogical decisions dependent on larger powers such as government and institutions. Pragmatism, according to Benesch, is a representation of an accomodationist ideology which assumes that "it is unrealistic to expect the university to adapt itself to the cultures, worldviews, and languages of nonnative-speaking students and that it is realistic to accommodate students to the content and pedagogy of mainstream academic classes" (p. 711).

The discussion on ideology between Santos and Benesch centered on the pedagogical aspect of L2 writing. When literacy studies underwent a "trans- turn" (Hawkins, 2018, p. 55), the writing activities and written texts turned to be ideological as well. Canagarajah is a strong advocate for the ideological nature of writing. He (2010) argued that ideology is always a part of social activities, including writing and language use, even though this fact is not always recognized. Therefore, it is safe to say that ideology is part of the intrinsic nature of writing, not imported from outside. As multilingual and multicultural communication strengthens, language use, like code-meshing, can represent ideological stances. Canagarajah also argued that grammar can be ideological as well. Therefore, L2 writing researchers and practitioners need always be aware of the ideological nature of writing, since "ideological explanations provide an important orientation toward understanding textual conflicts and creative options" (p. 176), especially in this era when language boundaries tend to dissolve.

The central issue in this ideological vs. pragmatic discussion is the acceptance or rejection (with various extent) of critical theory, critical applied linguistics, critical pedagogy, and critical EAP and L2 writing, as outlined by Santos (2001). As a resultant theory of postmodern and poststructuralist orientations in Western culture, where knowledge, meaning, and identity are re-conceptualized as *discourse*, critical theory sees everything as ideological and political. According to critical theorists and practitioners, traditional pedagogy assumes a state of inequality, and critical pedagogy enters to provide an alternative. However, opponents of the critical orientation would argue that critical theory advocates a “monistic worldview” (Santos, 2001, p. 181), under which all thought and behaviors are perceived as coming out of one source, misrepresenting the complexity of human world. In addition, the centrality of power and politics in classrooms would misguide educational purposes, at least in certain contexts, and neglect real students’ needs. The negation of neutrality by critical theory also failed to recognize the fact that something can be “approximate or relative” (Santos, 2001, p. 182).

This discussion on the ideological and pragmatic nature of L2 writing will never close, since it represents a paradigmatic contest. The former represents a critical theory paradigm, if we can categorize critical theory as a paradigm as Willis et al. (2007) did, and the latter recognizes the alternatives, one of which might be a postpositivist paradigm. When it comes to paradigmatic tension, answers become partial, as every paradigm contributes differently to the enterprise of knowledge construction. Under this circumstance, philosophical orientations like “humble pragmatic rationalism” (Silva, 2005, p. 8) become particularly helpful. The following subsection will be devoted to the review of philosophical orientations in L2 writing research.

Philosophical Orientations in L2 Writing Research

Up to now, not many studies focused exclusively on philosophical orientations in L2 writing research. Most philosophical discussion appeared, as add-ons, in studies that were devoted to broader concerns regarding theories and methodologies. For example, in a description of the meaning of L2 writing, Silva (2013) pointed out that L2 writing "is becoming more philosophical/ideological in its orientation" (p. 433). In terms of philosophical stance, L2 writing is moving away from "a modernist, positivistic inquiry paradigm" towards "a more postmodern, relativist perspective" (p. 433). Second language writing's view on knowledge is moving away from "certain and unchanging" towards "tentative and contingent" (p. 433). In a more recent study on the development of intellectual infrastructure in L2 writing, Silva (2016a) reconfirms his views on the changes in philosophical orientations.

The philosophical heritage of L2 writing was explored thoroughly by Silva and Leki (2004), where they traced the intellectual origin of L2 writing to rhetoric and composition studies and linguistics and applied linguistics, in an effort to understand where L2 writing comes from and to guide its trajectory. They suggested that applied linguistics and composition studies, as L2 writing's parent disciplines, have different inquiry paradigms and traditions. Applied linguistics leans towards the positivist paradigm while composition studies aligns with the relativist paradigm. Applied linguistics and composition studies are also different ontologically, epistemologically, methodologically, and axiologically. Silva and Leki concluded that it is preferable for L2 writing to take a critical relativist orientation rather than adopting a predominantly positivist or relativist orientation. A critical relativist orientation for L2 writing includes a critical realist ontology, an interactionist epistemology, a multimodal methodology, and an axiology that "embraces both explanation of phenomena and social change" (p. 10).

Silva (2005) investigated the philosophical bases of L2 writing with an explicit focus on the issue of ideology, which is constituted by ontology, epistemology, methodology, and axiology. Paradigms of inquiry, which are “beliefs that guide action and generate research” (Silva, 2005, p. 7), are derived from ideology. He identified three paradigms of inquiry, namely positivism, relativism, and humble pragmatic rationalism (HPR, also labeled as postpositivism or critical rationalism). He suggested further that strong positivist and relativist orientations are not viable in L2 writing research because of positivism’s “lack of recognition of perceptual, cognitive, and sociocultural screens” (p. 9) and relativism’s negation of “a physical reality that can be understood” (p. 9). According to Silva, HPR is more attractive due to its balance, since “it has not only what it takes to generate viable theories of complex phenomena, but is also pragmatic enough to be useful in addressing real-world problems and concerns” (p. 9).

Discussing L2 writing by using metaphysical terms seems distant from everyday pedagogical practices, but it is philosophical discussion that provides insights into the most fundamental questions underpinning our academic efforts – what we do, how we do it, and why. The review of philosophical discussion in L2 writing suggests that scholars are looking for a middle ground where they can accommodate multiple paradigms to the best extent. They are less willing to take extreme positions, as they believe that any extreme will distort the (perceptions of) reality.

Synthesis Studies on L2 Writing Research in China

As L2 writing scholarship has continued to increase over the past decades in China, Chinese scholars have made efforts to review and synthesize L2 writing studies conducted in their context. In this section, I will separate the literature into two parts – review studies on the L2 writing as a whole and review studies on L2 writing’s subfields.

Review Studies on the Entire Field

One of the earliest L2 writing review studies based on empirical data was carried out by Li and Li (2003), where they collected and examined articles published in eight major linguistics and applied linguistics journals from 1993 to 2002. They found that there was a steady increase in L2 writing scholarship over the examined decade and that existing scholarship has covered most of L2 writing’s subfields, including textual structure, genre analysis, writing instruction, curriculum design, writing assessment, variables influencing composing processes, and writing errors. Regarding methodology employment, they found that non-empirical research played a dominant role while empirical research only accounted for a small portion of the scholarship. Li and Li (2003) further discussed some existing problems in L2 writing research in China, such as repetitiously researched topics and the small number of empirical studies.

The study conducted by Wang and Wang (2004) primarily focused on the frequently researched topics in L2 writing in China. They reported that empirical studies mainly addressed the following topics: L1 transfer in L2 writing processes; features of L2 written texts; variables influencing L2 writing skills, and L2 writing instruction and assessment. They also acknowledged that a number of issues concerning L2 writing theory and pedagogy needed further research. In a similar study, Wang (2005) found that empirical L2 writing research in China centered on four issues: role of L1 in L2 writing, textual features of L2 written texts, factors affecting L2 writing performance, and L2 writing instruction. Most of the existing research focused on college level students. In terms of research methods, the majority of studies adopted textual analysis. Other methods were think-aloud protocols and experiments.

Huang and Yu (2010) conducted a review study on EFL writing in China. They found a tremendous increase in L2 writing scholarship in China since 1993 and a steady increase that lasted from 2003 to 2007. Regarding research foci, they found that L2 writing pedagogy was the most popular research topic. At the same time, research on variables influencing L2 writing performance and writing assessment was increasing. With respect to inquiry methods, empirical studies (61.3%) had outnumbered non-empirical studies (38.7%) during 2003 to 2007, which might be a strong indicator that empirical methods had been widely adopted in L2 writing research in China.

Although empirical inquiry began to take the dominant position (Huang & Yu, 2010) in L2 writing research as a whole in China, Qin (2009) argued that there was still a need for more empirical research in L2 writing instruction since the majority of research on instruction remained non-empirical. In her review study, Qin (2009) also found that, despite the increasingly diversified research topics in L2 writing research in China, the predominant work had been done in L2 writing instruction, L2 written texts, and writing contexts. Too much scholarly attention centering on these three topics led to the emergence of a large number of repetitive and unproductive studies.

Wang (2016) took a metadisciplinary approach to investigate the development of L2 writing in China. She collected 11,889 articles published in 1,417 journals from 1962 to 2005 and examined them from the perspectives of developmental trend, level of scholarship, subject matter, and focal area. She found that studies on L2 writing started in the 1960s in China. After five decades' of development, L2 writing research has flourished in the 21st century. Regarding levels of scholarship, journals of social sciences and humanities published the largest number of L2 writing studies while non-academic oriented journals also published quite a large portion. In contrast, authoritative applied linguistics journals only published a relatively small number of L2 writing studies. Wang also found that a large portion of scholarship concentrated on undergraduate L2 writers and that non-empirical research remained a major mode of inquiry. With respect to focal area, almost half of L2 writing scholarship focused on classroom instruction, and studies on writing processes, writing assessment, and writing textbooks only constituted a small portion.

Review Studies on L2 Writing's Subfields

In addition to examining the current status of the whole of L2 writing research, Chinese scholars also synthesized studies in its subareas, trying to consolidate knowledge and describe trajectory. For example, Liu and Gao (2011) conducted a meta-analysis on the effectiveness of metacognitive strategy training. They collected representative studies published from 1979 to 2010 in China and analyzed the effect size of these studies to consolidate the research results. They concluded that metacognitive training improves Chinese students' L2 writing achievements significantly. In addition, metacognitive training also improves students' meta-awareness of foreign language proficiency.

Zhang (2015) concentrated on citation behaviors of Chinese students when they write academic prose. She collected representative articles from 2003 to 2013 and examined Chinese students' major types of challenges. She found that Chinese students face mainly two types of challenges – insufficient perception of academic citation and impropriate citation practices. More specifically, Chinese students tend to misunderstand the concept and format of citation and have insufficient understanding of plagiarism and its consequences. In terms of citation practice, Chinese students need more explicit instruction on citation content, rhetorical strategies, and textual features.

The review study conducted by Xu (2015) centers on academic English writing studies. She reviewed Chinese domestic studies and international studies and found that international studies have gained marked achievements over decades, evidenced by well-defined key terms, mature analytical frameworks, and a wider range of subject matters. In addition, research foci of international studies are shifting from general to specific. In contrast, Chinese studies are focusing primarily on academic written text. Their research scope need an expansion. At the end, Xu discussed some general problems shared by both Chinese domestic studies and international studies, including the interface of research paradigms and theory application in data analysis.

Task complexity is a variable that has been examined frequently in L2 writing. Li and Wang (2017) conducted a meta-analysis to analyze the effect of task complexity on L2 writing. They collected 41 empirical studies published in China and abroad from 2007 to 2017 and found that resource-directing task complexity (e.g., whether the task requires learners to make references to events in the past) and resource-dispersing task complexity (e.g., whether or not planning time or background information is giving) have different effects. Resource-directing task complexity exerts significant positive effect on complexity and fluency but resource-dispersing task complexity has a non-significant positive effect on fluency and lexical complexity. They also found that measurements among the examined studies were varied, making research results less comparable.

In this section, I reviewed representative synthesis studies on L2 writing research conducted in China. A number of them covered the entire field while others concentrated on specific subfields. As for the first group of studies, they tend to include an extensive amount of data and cover multiple perspectives. However, due to the large-sized dataset and the limited space for journal articles, they only provided an overbroad picture of L2 writing research without an in-depth discussion of why things tend to be the way they are. With a more focused concentration, the second group of studies used meta-analysis to consolidate knowledge, and they have achieved more conclusive results. However, these studies, looking at discrete issues, did not create strong connections with more central concerns in L2 writing.

Research Gaps and Research Questions

In this chapter, I reviewed the theoretical, methodological, and philosophical discussion of L2 writing research in existing literature and synthesized L2 writing review studies in China. This review suggests that the current project can find a place in an unexplored land between Western and Chinese research traditions. First, the research community in the West, especially North America, has had in-depth discussion of theoretical, methodological, and philosophical issues surrounding L2 writing research. Representative works have covered subject matter (e.g., Leki et al., 2008), theory and practice (e.g., Silva & Matsuda, 2010), and methodologies (e.g., Polio & Friedman, 2017) in L2 writing. In addition, numerous articles and book chapters (e.g., Benesch, 1993; Santos, 1992, 2001; Silva, 2005; Silva & Leki, 2004) have investigated ideological and philosophical assumptions of L2 writing, in hopes of accommodating paradigmatic differences and facilitating scientific advancement. However, none of these studies included Chinese literature in their analyses due to practical reasons listed in Chapter One. Therefore, if their arguments and generalizations are applicable to Chinese scholarship is a question that needs an answer.

Second, L2 writing scholarship in China merits more rigorous examination, especially from theoretical and philosophical perspectives. Existing review studies (e.g., Li & Li, 2003; Wang, 2005; Huang & Yu, 2010) have investigated the methodological aspect of the scholarship; however, much of the discussion remained at the level of empirical and non-empirical distinction. More meticulous distinction among approaches, e.g., quantitative, qualitative, and mixed-method, and among methodologies, e.g., experimentation, textual analysis, and case studies, has not yet been made. In addition, almost none of the existing review studies has explored theoretical orientations and philosophical assumptions of L2 writing studies. Therefore, research mechanisms underneath the surface remain uncovered. As L2 writing research continues its rapid growth in China, this need to unveil fundamental assumptions becomes more urgent.

The final research gap seems to be less obvious than the previous two. The literature review in this chapter suggests that existing theoretical, methodological, and philosophical investigations were conducted discretely to a large extent. A few studies investigated theories and methodologies simultaneously; however, they did not create effective connections between theories and methodologies. Existing philosophical studies tend to adopt a disciplinary approach not being strongly supported by theoretical and methodological evidence. Considering the interlocking relationship among theories, methodologies, and philosophy, I plan to investigate all of them together in this study in hopes of providing supporting evidence for each other.

In an effort to narrow the research gaps, I plan to conduct this study aimed at addressing the following research questions:

1) What major theories have been used in L2 writing research in China over the past 40 years, and what changes can be identified regarding theory usage?

2) What major methods and methodologies have been adopted in L2 writing research in China over the past 40 years, and what changes can be identified regarding methodology usage?

3) How do theoretical and methodological changes (if there are any) reflect the changes in the philosophical bases of L2 writing inquiry in China?

Chapter Summary

This chapter provided an overview of existing literature that is related to theoretical, methodological, and philosophical aspects of L2 writing. Considering the volume of the literature, this chapter was organized into five main body parts, focusing on the overall review, theoretical review, methodological review, philosophical review, and review studies in China respectively. Based on the literature review, I also identified three research gaps: 1) current review studies on L2 writing theory, methodology, and philosophy lack a Chinese component; 2) current Chinese review studies lack sufficient theoretical, methodological, and philosophical components; and 3) current theoretical, methodological, and philosophical investigations lack a more holistic approach. After presenting the research gaps, I raised three questions that this study seeks to address. In Chapter Three, Methodology, I will report in detail how this research was carried out.

METHODOLOGY

In Chapter One, I provided a comprehensive introduction to this project by discussing its necessity and significance. In Chapter Two, I reviewed the L2 writing literature with regard to its theoretical, methodological, and philosophical aspects as well as the L2 writing literature in China. In this methodology chapter, I will give an in-depth description of how this study was conducted by focusing primarily on three aspects: methodology overview, data collection, and data analysis. Data analysis is the central section in this chapter. Within this section, I will present the coding guidelines and describe in detail how theories and methodologies/methods were identified from each study. I will close this chapter by providing a summary to highlight key points.

Methodology Overview

In terms of the nature of inquiry, this study is a research synthesis that adopts metadisciplinary and historical perspectives. Research synthesis is defined as a "systematic secondary review of accumulated primary research studies" (Norris & Ortega, 2006, p. 4). This type of inquiry is particularly valuable in language teaching and learning because primary studies in this field are multi-theoretical and multi-methodological. Thus, more efforts are needed to help researchers and practitioners make sense of research and identify theoretical and methodological gaps. Research synthesis, as a specific type of research review, has multiple characteristics that distinguish it from other types of review. First, it is empirical in nature. Research synthesis is normally conducted by systematically analyzing research artifacts – namely publications. It always includes an explicit articulation of data collection and analysis procedures. This articulation usually makes research synthesis replicable. Second, in contrast to a literature review, which aims to identify research gaps for primary studies, research synthesis searches for generalization, attempting to consolidate the accumulated knowledge on a specific topic and inform people about what is known and what is unknown. This characteristic also gives research synthesis a metadisciplinary perspective.

A metadisciplinary perspective is one of the two perspectives adopted in this study. Metadisciplinary inquiry means “self-conscious, reflective inquiry into the nature and status of a field” (Matsuda et al., 2003, p. 152). Its values are manifested in the process of helping researchers and practitioners understand who they are, what they do, and how they do what they do. As this study takes on the responsibility of assessing the current status of L2 writing research in China and discussing its developmental trajectory, it clearly embodies a metadisciplinary perspective. An historical perspective is another perspective represented in this study. When assessing the current status of a field, historical inquiry provides accounts of where the field comes from and how it develops. Since this study examines the theoretical and methodological changes of L2 writing empirical research in China over the past 40 years, the historical perspective assumes a significant position.

Research Data

Data Source

The data in this study are empirical research articles on L2 writing that were published by peer-reviewed journals in China from 1977 to 2017. In this section, I will explain why I decided to only examine journal articles, why this specific time span (1977-2017) was set, and how I narrowed source journals to the final 15.

Three reasons motivated my selection of the research article as the only genre to investigate. First, the research article is the “standard product of the knowledge-manufacturing industries" (Swales, 1990, p. 95), and it holds a central position in knowledge construction (Canagarajah, 1996). Second, research article significantly outnumbers other forms of scholarship, and, therefore, it is more representative of the current status of the field. Evidence has shown that thousands of research articles on L2 writing were published in China after 2000 (Wang, 2016), and this number is significantly larger than the number of any other forms of scholarship, such as monographs and book chapters. Finally, focusing exclusively on research articles makes the results of this study more comparable to those of the previous studies that were conducted in or outside of the Chinese context (e.g., Maliborska, 2015; Riazi et al., 2018; Wang, 2016). Since previous research syntheses almost all concentrated on research articles, this study will be conducted in a way that is aligned with them.

Research articles that were published over the past 40 years (1978-2017) were collected for examination. I chose 1978 as the starting year because 14 out of the 15 source journals started their first issues on or after 1978 (see Appendix A). One exception is the *Foreign Language Teaching and Research*, which was first established in 1957 and then restarted in 1978 after its suspension during the Cultural Revolution (1967-1976). I chose to look at this journal only after its restart because 1977 unveiled a new era in Chinese higher education and scientific research. The year 1977 was the first year that the National College Entrance Examination (*Gaokao*) resumed after a ten-year suspension during the Cultural Revolution. Created in 1952, the *Gaokao* is an academic examination held annually in China. It serves as the prerequisite for high school students to enter almost all higher education institutions at the undergraduate level ("National Higher Education Entrance Examination", n.d.). During the ten years of the Cultural Revolution when the *Gaokao* was suspended, China experienced a huge decline in terms of its quality of higher education and scientific research. The restart of the *Gaokao* marked the revival of higher education in China, and scientific research has developed greatly since then.

There are more than one thousand Chinese academic journals that have published articles on L2 writing (Wang, 2016). However, only 15 foreign language studies and applied linguistics journals (see Appendix A) were selected as source journals for this study due to their high scholarly reputation and strict peer review processes. These journals are recognized as key journals by this study and by the academic community nationwide. The criteria for key journal selection in this study was adopted from Wang (2016), according to whom key journals are journals listed in either of China's two top indexes for scientific evaluation: the Chinese Social Science Citation Index (CSSCI) and the Peking University Core Journals Directory (PKU Directory). Both the CSSCI and the PKU Directory are interdisciplinary citation indicies in China, and both provide a list of top academic journals which are evaluated and determined by the journals' impact factor, citation rate, reproduction rate, and other indicators. At the time of data collection, 11 journals were listed in the category of foreign language research in the CSSCI and 14 were listed in the category of foreign language studies in the PKU Directory. Altogether, 15 journals were identified after I combined these two lists, and these journals were regarded as key journals on foreign language studies in China. For the full list of the 15 source journals and their dates of establishment, please see Appendix A.

Data Collection

All the 15 source journals are accessible through the Chinese academic journal full-text database, the China National Knowledge Infrastructure (CNKI). Purdue Libraries have full access to the CNKI, so the data collection process took place online via Purdue Libraries from November 2017 to February 2018.

During data collection, I used the "subject matter search" to identify articles on L2 writing. Altogether, 16 English key words (e.g., writing, composition, English writing, L2 writing) and eight Chinese key words (e.g., *写作*, *二语写作*, *作文*) were used to identify target articles (see Appendix B for the full list of key words). In order to ensure the completeness of data collection, for each source journal, I used all the 24 key words and cross-checked results from each search. The full text of each article was downloaded for further reading, and a complete reference list was created using a Microsoft Excel spreadsheet for further data coding.

Data Analysis

Data analysis involved mainly three stages (see Figure 1). The first stage was distinguishing empirical studies that focused exclusively on L2 writing from non-empirical studies or empirical studies that did not focus exclusively on L2 writing. The second stage was categorizing empirical L2 writing studies based on their main subject matter. Adopting categories from Silva et al. (2017; 2018), I divided these studies into four broad categories, namely *Writer*, *Text*, *Instruction*, and *Assessment*. The third stage was identifying theories and methodologies/methods from each empirical study. In the following subsections, I will present the main criteria used for data coding and analysis.

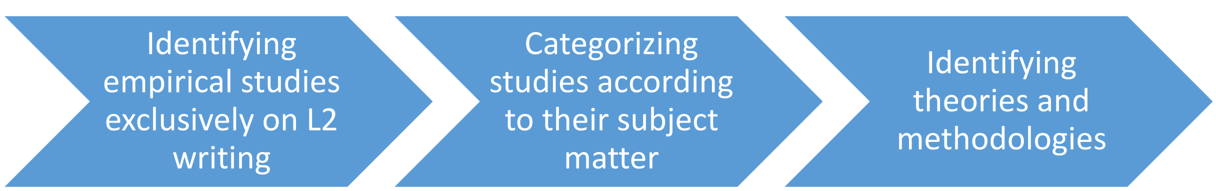

Figure 1: Overall Data Analysis Procedures

Identifying Empirical Studies Exclusively on L2 Writing

After collecting research articles using the “key word search”, the first step was distinguishing empirical studies from non-empirical ones. In this step, each article was carefully read to determine whether it was empirical or hermeneutical. The criterion for empirical research was adopted from Silva (2005), in which he defined empirical research as “the construction of knowledge by means of systematic observation, analysis, and representation of behavior and/or its artifacts” (p. 10). That is, empirical research is conducted by means of systematically collecting and analyzing data. Other types of inquiry that are based on “interpretation via reasoning, logic, and dialectic” (p. 9) were categorized as hermeneutical. One exception that needs to be pointed out is the review study/meta-analysis. According to the aforementioned criterion, a review study belongs to empirical research; however, it is excluded from the final analysis because review studies are dealing with secondary data, meaning that most of their data should have been analyzed by the present study. To avoid repeated analysis, I only analyzed empirical studies that collected and analyzed first-hand data. This exclusion of review studies from empirical research is similar to how Riazi et al. (2018) dealt with their data in their research synthesis.

Although key words on L2 writing were used for data collection, not all articles exclusively focused on L2 writing. After identifying empirical research, the second step was distinguishing research that was exclusively L2 writing focused from those that were not or marginally L2 writing focused. Studies that were not L2 writing focused included studies in literature and translation. For example, Li (2012) investigated Virginia Woolf’s “anti-semitism” from a feminist viewpoint. Although this study contained key words like writing and English writing, it was categorized as literature rather than L2 writing focused. Similarly, Yu (2001), which focused on the establishment of the discipline of translation studies, was categorized as translation although it involved writing and L2 writing in its discussion. Studies that were marginally L2 writing focused mainly included those that addressed overall L2 learning issues rather than L2 writing issues. For example, Mu (2016) investigated Chinese EFL learners' developmental differences in explicit and implicit grammar. Although Mu used textual data, his study was categorized as SLA rather than L2 writing focused since its central focus was grammatical development.

Identifying empirical L2-writing-focused articles in the entire database was the first stage of data analysis. Roughly half of the research articles collected were identified as either non-empirical or not/marginally L2-writing-focused. The rest was marked for further analysis. The results from this first stage analysis will be presented in the next chapter.

Identifying Research Subject Matter

In this study, I divided empirical L2 writing research into four broad categories: *Writer*, *Instruction*, *Text*, and *Assessment*. These four categories were adapted from similar research syntheses (Leki et al., 2008; Silva et al., 2017, 2018). In this subsection, I will explain what each category means. One thing needs to be noted is that, unlike previous syntheses, this study does not include *Reader* and *Context*. Later in this subsection, I will explain why I did not create separate categories for readers and contexts.

To determine the subject matter, the full text of each article was carefully read. Subject matter is mutually exclusive, meaning that each study was identified with only one subject. It is possible for a study to address more than one subject, and in this case, the most prominent subject was selected to represent the study. Like other researchers (Belcher, 2007; Pelaez-Morales, 2017), I felt similar challenges when conducting content analysis. It should be acknowledged that subjectivity was involved in this categorization process to a certain degree, since different researchers might categorize a study differently especially when it includes multiple subjects. However, this categorization is still valuable since it provides us with themes around which we can organize research findings.

The L2 writer is one of the central foci of L2 writing research. Issues addressed in studies within the *Writer* category mainly include writer variables (e.g., L1 proficiency, L2 proficiency, L2 writing ability, etc.), writer perceptions, writer development, writing difficulties, and composing processes. For example, Ma and Dong (2017) investigated Chinese English learners' writing anxiety and their use of self-regulation strategies. Another study within *Writer* investigated citation behaviors of Chinese graduate students in their English academic writing (Wang, Yang, & Sun, 2017). All studies in the *Writer* category had their research foci centered on writers who write using their second language and on the variables that influence L2 writers' writing processes.

Research on L2 writing is deeply rooted in classroom instruction. Therefore, *Instruction* is the largest category in most research syntheses (e.g., Silva et al., 2017, 2018). Studies in this category addressed various issues concerning pedagogical activities, curriculum design, response to students' writing, and use of computer-assisted instruction. For example, Liu, Wu, and Liu (2016) conducted an empirical study to examine the effectiveness of the application of an online corpus platform in an EFL writing classroom. Jiang and Chen (2015) investigated how the continuation task affects L2 writing accuracy, complexity, and fluency. Here, *Instruction* was used in a broad sense. It includes activities that happen both in and out of classrooms. As long as the activity is organized by the instructor for pedagogical purposes, it is categorized as *Instruction*.

The category *Assessment* includes studies that investigate local and national writing proficiency tests, formative assessments, and writing construct validation. For example, Liu, Mak, and Jin (2013) reported on an empirical study of a new rating method – the Hierarchical Decision-Tree Approach for assessing content quality in L2 writing. Deng and Deng (2017) established and tested a writing strategy framework to provide theoretical foundation and practical guidance for constructing the writing strategy descriptor pool of the Chinese Standards of English Competence. One thing these studies had in common was that they all focused on evaluators or raters and tried to facilitate their assessing processes. Studies on teacher and peer feedback were not categorized as assessment, since I regarded them as pedagogical practices that facilitate writers' development. Therefore, they were categorized as *Instruction*.

The last category is *Text*. Although text appears in almost all L2 writing research, studies in the *Text category* regard texts as their central foci instead of methods for data collection. Issues addressed by these studies included discoursal issues, such as cohesion, organization patterns, textual modes and aims, and textual representation of identity, etc., and textual issues, such as grammatical accuracy, syntactic complexity, and lexical complexity. That is, studies in *Text* considered both functional and formal aspects of L2 written texts. For example, Wang and Lü (2017) investigated characteristics in the use of self-mentions in Chinese PhD students' academic English writing. Wang and Wang (2017) investigated the grammatical colloquialisation in Chinese EFL learners' academic writing. These two studies represent functional and formal aspects respectively.

Compared to previous research syntheses, *Reader* and *Context* were not established as separate categories in this study. Reader is defined as people who read and respond to texts (Silva et al., 2017; 2018). They may include teachers, peers, and reviewers. The data of this study suggested that the majority issues concerning reader were around teacher and/or peer feedback; therefore, the category *Reader* was conflated with *Instruction*. Similarly, *Context* was combined with either *Writer* or *Instruction* since a large number of issues addressed in *Context* concerned L2 writers' experiences with and perceptions of situational issues and pedagogical contexts (Leki et al., 2008). Therefore, to avoid subject repetition, *Reader* and *Context* were not created as independent categories.

Categorizing studies based on their subject matter has considerable significance for further analysis and discussion. I believe that theory and methodology selection is dependent on subject matter. For example, studies on L2 writing instruction are more likely to adopt sociocultural theory than studies on written texts. Methodology-wise, studies on texts are more likely to adopt textual/discoursal analysis than studies on writers, especially on their cognitive strategies. Thus, subject matter categorization provides a prerequisite condition for reporting and discussing results. In the following subsection, I will describe procedures and criteria for theory and methodology identification for each study.

Identifying Theory

Theories in this study refer to those that direct research designs. If a study adopts an explicit theory, it is designed based on the foundations of that theory. When an empirical study has explicit theories, researchers normally identify and present them before presenting methodology. Therefore, in the process of theory identification, only theories that are explicitly articulated in the *Introduction* and *Literature Review* were considered as the theories of a study. This means that if a theory only appears in a study's discussion section to account for research results, it is not identified as a theory/theoretical framework. Since the nature of theory in L2 writing is complex (as discussed in Chapter Two), theories identified in this study were primarily named theories, or *Theories* with big T (Atkinson, 2010), such as sociocultural theories, genre theories, motivation theory, and cognitive process models.

Like Riazi et al. (2018), this study adopted a data-driven thematic approach (Braun & Clarke, 2006) to avoid researchers' excessive interpretation. Using this approach, I drew on the exact words used by researchers as much as possible, avoiding imposing pre-conceived theoretical frameworks on their studies. Therefore, each study was read carefully to identify the strings of text that explicitly indicate theory/theories. The self-identified theory (theories) was identified as the theory (theories) of that study. When studies did not state their theories explicitly enough to warrant identification, they were classified into the category *Theory Not Identified*. Here are two examples: one identified theory explicitly, and the other did not do so. Yu (2013) investigated the mediating role of L1 in teachers' written corrective feedback. He identified explicitly in the article's title and abstract that his study was conducted within the sociocultural activity theoretical framework. Therefore, theory elicited from his study was sociocultural activity theory. In contrast to Yu (2013), other studies were less clear about their theories. For example, Liu and Wang (2016) compared the use of shell nouns and their lexical-grammatical patterns in Chinese EFL learners' master's thesis abstracts. Although researchers reviewed the definitions and functions of shell nouns that were discussed in previous studies, they did not explicitly identify a theory on which their research was based. Therefore, this study was classified as *Theory Not Identified*.

Identifying theory was challenging since not every study indicated its theory at the same level of explicitness. In this situation, depending on researchers' self-identification becomes more significant. To avoid missing information that indicated theory, key word searches using "理论" (theory) were also conducted after each identification effort to ensure that each string of text on theory was examined. Compared to theory identification, methodology coding was more straightforward since there are multiple coding schemes available to adopt. In the following subsection, I will present in detail the methodology and method coding schemes and procedures.

Identifying Methodology and Method

Like previous research syntheses (e.g., Riazi et al., 2018), this study distinguished methodologies from methods. Methodology refers to the systematic theory of method selection, which "clarifies, explains and justifies" (p. 117) the choices of methods (Hyland 2016). Method refers to the means of data collection, such as survey, interview, and observation. Adopting the lists made by Hyland (2016) and Polio and Friedman (2017) who investigated methodologies in L2 writing, I identified six major methodologies for coding in this study. Then, I coded each empirical study into only one of the six methodologies if a study had a systematic methodology. Table 1 provides the list of the six methodologies and brief descriptions of them.

Table 1: Major Methodologies in L2 Writing Research

Methodology	**Description**
Experimentation	In Experimentation, researchers control and manipulate variables to determine cause-effect relationships. The manipulated variables are independent variables, and the outcome variables are dependent variables. Common independent variables in L2 writing research include types of feedback, types of writing tasks, types of writing conditions, and types of writing instruction (Polio & Friedman, 2017).
Ethnography	In Ethnography, researchers act as *outside observers* or *participant observers* to describe and interpret the behaviors, beliefs, and practices of human social groups and communities. Normally, ethnography adopts a longitudinal research design with a strong emphasis on *emic* (insider) perspectives, and it requires researchers to be immersed in the research setting and be engaged in open and naturalistic inquiry (Polio & Friedman, 2017).

Table 1 continued

Auto-ethnography	In Auto-ethnography, researchers reflect on their personal experience and connect this experience to wider cultural and social meaning. Through auto-ethnography, researchers make sense of their individual experience. Ethnographies normally take critical or political stances since they might provoke insight into usually overlooked problems, such as identity, race, and sexuality (Hyland, 2016; Maréchal, 2010).
Critical analysis	In Critical analysis, researchers study connections between situated writing and broader socio-political contexts (Hyland, 2016). In writing research, text analysis, interview, and observation are widely used in critical analysis.
Textual analysis	Textual analysis involves analyzing texts written either by L2 learners in learning contexts or by L2 users in natural settings. In the process of analysis, text can be looked at as a system of forms or as discourse. When looked as a system of forms, texts are normally analyzed with foci on lexical, syntactical, and grammatical issues. When treated as discourse, they are seen as language in action and are regarded as resources to accomplish writers' goals. Researchers tend to use corpora to assist textual analysis (Hyland, 2016; Polio & Friedman, 2017).
Case study	Case studies focus on analysis of a case, which is defined as a "bounded system" (Merriam, 1998, p. 27). Normally, case study researchers collect data from multiple sources, such as observation, interview, and documents, to provide a detailed picture of the case in question. Case study normally involves an individual person as a case, but it can also involve multiple persons in multiple case studies. Cases can be other entities, such as classrooms, institutions, or countries (Polio & Friedman, 2017).

The methodology coding process is relatively straightforward. Although not every researcher self-identified his/her methodology, they used key words to indicate their methodologies. For example, if researchers report that they conducted experiments to investigate the effectiveness of a type of instruction, their studies are categorized as *Experimentation*. Similarly, if researchers say that they analyzed learners' texts to identify errors or patterns, their studies are categorized as *Textual Analysis*. As for *Case Study*, researchers all self-identified this methodology in their articles. When a systematic methodology was not identifiable in a study, it was categorized as *No Methodology Identified*. In this case, only research methods were described in the coding process. For example, Tang and Su (2009) used observation and survey to investigate problems in current writing textbooks in China. In this study, a systematic methodology was missing, and it was coded as *No Methodology Identified*. Only research methods (observation and survey) were noted in the coding process.

An empirical study might lack an explicitly articulated methodology, but it always reports data collection methods. When coding methods, I did not go beyond researchers' self-reports. This means that when researchers report that they used think aloud protocols and video recording to collect writing process data, think aloud protocols and video recording (observation) are coded as research methods. Fortunately, a previous L2 writing research synthesis provided assistance to my coding process. Hyland (2016) found that research methods in L2 writing are normally classified into four categories: elicitation, introspection, observation, and text sample. Elicitation includes questionnaires, interviews, focus groups, and tests. Introspection includes think aloud protocols and diaries. Observation includes recording behavior and keystoke logging. Text sample includes a single text or chains of texts. Overall, the methods identified in each study did not go beyond Hyland's list. One thing that needs to be noted here is that research methods in each study are not mutually exclusive. As researchers tend to use multiple sources of data, there is normally more than one method reported in each study.

After identifying methodologies and methods, the last step was coding the research approach. Three research approaches were used: quantitative, qualitative, and mixed methods. When coding research approaches, the first thing I did was to find if researchers self-identified their approaches. In doing this, key word searches were used to locate researchers' indications. Key words include *Quantitative* and its Chinese equivalents (定量, 量化), *Qualitative* and its

Chinese equivalents (定性, 质性, 质化), and *Mixed Methods* (混合方法). When a study reported its research approach explicitly, it was coded according to its self-identification. When research approaches were not clear, I coded the studies using the following guidelines in Table 2.

Table 2: Guidelines for Coding Research Approaches

Research approach	**Description**
Quantitative	Studies that were purely quantitative in terms of data collection and analysis (Riazi et al., 2018, p. 45). Normally, they adopt descriptive and inferential statistical analysis.
Qualitative	Studies that were purely qualitative in terms of data collection and analysis (Riazi et al., 2018, p. 45). Normally, they study things in their natural settings, and they tend to take holistic and participant-oriented approaches to gain an "emic" view of the phenomena in question.
Mixed methods	Both quantitative and qualitative approaches are combined within a single project (Polio & Friedman, 2017).

Distinguishing quantitative and qualitative approaches by means of data collection and analysis is controversial. Scholars have argued that it is fundamental beliefs and philosophical assumptions that distinguish these two, rather than data collection and analysis (Willis et al., 2007). However, when coding research approaches, researchers' fundamental beliefs were beyond the coder's immediate reach. Therefore, to operationalize the differences between quantitative and qualitative approaches, I only examined the ways in which each study collected and analyzed data. Mixed methods research (MMR) is another concept that is hard to define, as definitions of it vary. Some people recognize a study as MMR when quantitative and qualitative elements both appear, while others argue that MMR requires not only the co-presence of these two elements, but also an integration of them (Polio & Friedman, 2017). Co-presence is observable but integration is less so. Therefore, to avoid misrepresentation, this study defines mixed methods at the most basic level. When a study used at least one quantitative element and one qualitative element, it was coded as a mixed methods study. Unlike Riazi et al. (2018), this study did not divide mixed methods into categories of dominantly quantitative or dominantly qualitative since the significance of each sort of data, e.g., how they shaped the researchers' argumentation, cannot be measured by the space they take in a published article.

A Snapshot of the Coded Data

As mentioned previously, the coding process was conducted primarily through close reading, supplemented by key word searches. All article references were listed on a Microsoft Excel spreadsheet, and notes of their theories and methodologies were added to the spreadsheet after coding. In contrast to previous research syntheses (e.g., Riazi et al., 2018) which used NVivo for data coding, I used a spreadsheet in this study because it enabled me to add personal notes regarding theory and methodology and helped to present all information simultaneously without hidden layers. The following Table 3 presents a snapshot of the coded data.

Table 3: A Snapshot of the Coded Data

Title	**Subject matter**	**Theory**	**Methodology (M)/method(m)**
Writing cognition of discussion sections of research articles on foreign language education: Focus on move and metadiscourse	Writer: writing cognition	Genre theory	M: Textual analysis; m: Text sample; Mixed methods – self identified
The discreteness of pauses in L2 writing planning	Writer: composing process	Cognitive process model	M: Not identified; m: Inputlog and text sample; Quantitative

Table 3 continued

Constructing Internet-learning-platform based debate-writing teaching mode: An empirical study on students' critical thinking development	Instruction: Internet-learning-platform	Action learning theory	M: Experimentation m: writing test and semi-structured interview Mixed methods – self identified
Reporting verbs and stance expression in British and Chinese undergraduates' essays	Text: reporting verbs	No theory identified	M: Textual analysis m: Sample texts Mixed methods

Chapter Summary

In this chapter, I described in detail how data were collected and analyzed in this study. Data were collected through key word searches via the CNKI accessed from Purdue Libraries. Data analysis featured a series of decision-making processes: identifying empirical research exclusively on L2 writing, identifying theories, and coding methodologies and methods. In addition to analysis procedures, criteria for decision making (e.g., subject matter, theory, and methodology) were also described in this chapter. The next chapter will be devoted to the research results and discussion of theories of the studies under examination.

A THEORETICAL REVIEW OF EMPIRICAL L2 WRITING RESEARCH IN CHINA

In Chapter Three, I described how I collected and analyzed data for the current study. In Chapter Four and Chapter Five, I will report the results and discuss the findings. The following two chapters will be concentrating on the results and discussion of the theoretical review and the methodological review, respectively. This chapter on the theoretical review comprises four main sections. In the first section, I will provide an overview of the results from the first two steps of the data analysis: identifying empirical studies that were exclusively on L2 writing and categorizing empirical studies according to their subject matter. The second section will be devoted to the theoretical review of empirical studies in each subject matter category: *Instruction*, *Writer*, *Text*, and *Assessment*. After presenting the results, I will provide a brief summary of the major findings in each category. In the third section, I will provide an overall discussion based on the major findings from the four categories. Finally, I will end this chapter with a brief chapter summary.

Results from the Initial Coding Steps

Distribution among Types of Research

As mentioned in Chapter Three, data analysis in this study took three steps: identifying empirical studies exclusively on L2 writing, categorizing studies according to their subject matter, and identifying theories and methodologies. Before presenting the main results – the identified theories and methodologies/methods, I will first offer an overview of the results from the first two steps of the data analysis. Altogether 1,668 journal articles (book reviews included) related to L2 writing were collected. On average, each journal published roughly 110 articles (book reviews included) that are related to L2 writing over the past 40 years. The journal *Foreign Language World* published the most L2 writing related articles (251) and the *Chinese Translators Journal* published the least (28). Table 4 shows the results from the first coding step.

Table 4: Distribution among Types of Research

Types of research		**Number (%)**
Empirical studies exclusively on L2 writing	With primary data	660 (39.6%)
	With secondary data	20 (1.2%)
Non-empirical studies exclusively on L2 writing		622 (37.3%)
Studies not exclusively on L2 writing		366 (21.9%)
Total		1668(100%)

Table 4 shows the numbers and percentages of the different types of research. Among the articles collected, 21.9% of them are not exclusively L2 writing focused. Among studies that are exclusively on L2 writing, empirical and non-empirical studies seemed to be represented equally. Empirical studies accounted for 40.8% and non-empirical studies accounted for 37.3%, a 3.5% difference. The percentages of empirical and non-empirical studies found in this study align more with some research syntheses (e.g., Huang & Yu, 2010; Riazi, et al., 2018) than others (e.g., Li & Li, 2003; Wang, 2016).

The percentage of empirical L2 writing research found in this study is very similar to those found by Huang and Yu (2010) and Riazi, et al. (2018). For example, Huang and Yu (2010) investigated studies on English writing that were published in nine key journals on foreign language studies in China from 1993 to 2007, and they found that 47% of them were empirical studies. Similarly, among the 538 scholarly pieces published by the *JSLW*, 272 (50.6%) are empirical studies (Riazi, et al., 2018). However, comparing to other syntheses conducted in the Chinese context, the percentages found in this study seemed to be different. For example, Li and Li (2003) and Wang (2016) found that L2 writing studies in their syntheses were dominantly non-empirical. This discrepancy among research findings can be explained by the time each synthesis was conducted and the number of journals each synthesis surveyed. For example, Li and Li (2003) collected data from eight key journals on foreign language studies in China from 1992 to 2002. During this period, non-empirical inquiry had dominated L2 writing research and applied linguistics in general (Gao, et al., 2001). However, the number of empirical studies increased over the following 15 years (2002-2017). This time difference between when the two studies were conducted explains the different empirical study percentages found by Li and Li (2003) and the present study. The differences between Wang (2016) and the present study could be caused by the huge difference between the numbers of source journals selected. Articles in Wang (2016) were collected from 1,417 journals, roughly 100 times the number of journals selected for the present study. Since the majority of articles in Wang (2016) were published in ordinary academic journals or journals that are marginally academic-related, the higher acceptance rate for and the lack of strict peer-review procedures in these journals might lead to the higher percentages of “fast food research” that was conducted without systematic observation. In contrast, the 15 source journals in the present study all have much lower acceptance rates, and articles accepted by these journals normally went through strict peer-review procedures and long revision processes. Thus, researchers who are targeting these journals tend to include empirical evidence to strengthen their arguments in order to win reviewers’ and editors’ favor for publication.

From a metadisciplinary perspective, there is no golden rule that designates the ratio between empirical and non-empirical research. When empirical research takes up a half of the total scholarship and non-empirical takes up the other half, like the results in Table 4 indicated, it seems that these two have reached a good balance. It is always ideal to see academic journals split their space between empirical studies and hermeneutical (or rational) ones, since empirical and hermeneutical epistemologies are complementary for scientific understanding (Mackay, 1988). However, the balanced distribution in the total number should not disguise the changes of the ratio between empirical and non-empirical studies over time. That is, a great number of non-empirical studies were published in the first few decades, and the past few years have witnessed a rapid decrease of the non-empirical scholarship. For example, *Foreign Language World*, which published the most L2 writing studies, published 13 studies that are exclusively on L2 writing in 2017, among which only two are non-empirical. Five of the 15 source journals did not publish a single non-empirical L2 writing study in 2017. The decrease in non-empirical scholarship was also observed by previous syntheses. For example, Huang and Yu (2010) found that empirical studies outnumbered their non-empirical counterparts since 2002. In the last three years of their calculation (2005-2007), the number of empirical studies was almost twice of the number of non-empirical studies.

The increase in empirical study is unsurprising since there has long been an explicit voice advocating for more empirical research in applied linguistics since 2000 (Gao, et al., 2001; Li & Li, 2003; Qin, 2009). The reason behind this advocacy is clear – a preference for empirical over non-empirical inquiry. Favoring empiricism is neither unique to L2 writing studies nor to the Chinese context. Since the Enlightenment, empirical inquiry has become the primary source of knowledge construction in the West at first and, later, worldwide. As a result, the term “scientific” has gradually taken on the meaning of “a very detailed set of concepts, procedures, and techniques” (p. 36) for systematic observation. That is, a study has to follow these procedures and techniques to be recognized as scientific (Willis, et al., 2007). As empiricism acts as the dominant force in social science worldwide, it is not unexpected to see an increasingly strong empiricism-favoring trend in L2 writing research in the Chinese context.

Studies in Different Subject Matter Categories

As mentioned earlier, to organize this considerable amount of scholarship, I divided it into four broad categories: *Instruction*, *Writer*, *Text*, and *Assessment*. Table 5 shows how the 660 empirical studies are distributed across the four categories.

Table 5: Empirical Studies with Different Subject Matter

Subject matter	**Number (%)**
Instruction	213 (32.3%)
Text	206 (31.2%)
Writer	183 (27.7%)
Assessment	58 (8.8%)
Total	660 (100%)

Table 5 displays that *Instruction* is the category that includes the largest number of studies, followed by *Text*, which has only seven fewer than *Instruction*. *Writer* has slightly fewer studies than *Instruction* and *Text*. As the smallest category, *Assessment* only has about one-fourth of the number of studies in *Instruction*. Since previous syntheses adopted varied criteria to categorize subject matter, the comparability of the results is compromised. However, all previous syntheses explicitly used categories like *Teaching*, *Instruction*, *Feedback*, and *Assessment*; therefore, the comparison was conducted primarily with the categories of *Instruction* and *Assessment*.

The percentage of empirical studies in *Instruction* found in this study (32.3%) seems to align with the percentage found by Riazi, et al. (2018) in their synthesis (29.4%, instruction and feedback combined). That *Instruction* took up the biggest portion of the empirical literature is unsurprising considering the fact that L2 writing research, as well as its parent disciplines, has long been pedagogically based. In addition, the increased attention to feedback studies in recent decades (Atkinson & Tardy, 2018; Pelaez-Morales, 2017) has further contributed to the large size of *Instruction*.

In terms of *Assessment*, the percentage found by this study (8.8%) is also similar to the percentage (7.4%) found by Riazi, et al. (2018). Although the numbers looked similar, they might represent different realities. The small number in Riazi, et al. (2018) might not represent a lack of research on assessment since other assessment journals, such as *Language Testing* and *Assessing Writing*, have already published a great deal of research on writing assessment. However, the small number in *Assessment* found in this study pretty much indicates that the attention on assessment is insufficient since none of the top journals on foreign language studies in China exclusively focuses on testing or assessment.

Theories Adopted by Empirical L2 Writing Research in China

In this section, I will present the results of the theory identification. This section is organized into four subsections in accordance with the research subject matter: research on L2 writing instruction, research on L2 writers, research on L2 written texts, and research on L2 writing assessment. In each subsection, I will present the results and provide a short analysis.

Research on L2 Writing Instruction

Second language writing instruction is the largest category in empirical scholarship. Teaching L2 writing is a multifaceted endeavor. Multiple factors with distinct natures are involved in the instructional processes. Factors include teacher, student, teaching approach, and texts, covering cognitive, social, and sociocognitive aspects. Therefore, it is not surprising to see a wide range of theories being adopted by researchers to investigate effective pedagogical practices to meet instructional and learners' needs. The results of the theory identification and analysis in *Instruction* will be presented from three aspects: the percentage of theory-identifiable studies, most frequently adopted theories, and disciplinary roots of theories.

Theory-identifiable Studies in Instruction

Identifying theories from research is challenging, since researchers do not always articulate their theoretical frameworks at the same level of explicitness. Therefore, to avoid excessive interpretation, I drew from the exact words used in each article as much as possible. When theories were not identifiable based on the given information, that study was classified as "Theory not identified". It was found that studies with identifiable theories outnumbered studies without identifiable theories in *Instruction*. To be more specific, 61.5% of the empirical studies on L2 writing instruction have explicitly articulated their theoretical frameworks. Table 6 summarizes the exact numbers and indicates the percentage of change across four decades.

Table 6: Theory-identifiable and Theory-not-identifiable Studies in *Instruction*

	1978-1989	**1990-1999**	**2000-2009**	**2010-2017**	**Total**
Theory-identifiable	0 (0%)	1 (14.3%)	52 (67.5%)	78 (61.4%)	131(61.5%)
Theory-not-identifiable	2 (100%)	6 (85.7%)	25 (32.5%)	49 (38.6%)	82 (38.5%)
Total	2 (100%)	7 (100%)	77 (100%)	127 (100%)	213 (100%)

This table is quite revealing from different aspects. For example, the number of empirical studies kept increasing over the past 40 years. There were only nine empirical studies in the first two decades; however, the number soared to 77 during the 2000 to 2009 period and kept increasing steadily after 2010. What is more interesting than the increasing number is the finding that theory-identifiable studies outnumbered theory-not-identifiable studies. This means that most empirical studies in *Instruction* have an explicit theoretical foundation. It also indicates that when conducting empirical research, most researchers acknowledged the significance of theories and were willing to associate their research with certain theories by explicitly attributing their work to them. However, it should be noted that the distribution between theory-identifiable and theory-not-identifiable research varied over different periods. For example, there were more theory-not-identifiable studies before 2000. Only after 2000 did theory-identifiable research start to surpass its theory-not-identifiable counterpart. However, this result should not be over interpreted since the number of studies before the year 2000 was very small.

Riazi et al. (2018) in their synthesis found that the category of *feedback* contained the largest portion of studies that did not articulate explicit theories. Therefore, it would be interesting to see if feedback studies took up the largest portion of theory-not-identifiable studies in *Instruction*. The results show that among the 213 empirical studies in *Instruction*, 61 (28.6%) of them concentrated on feedback, either teacher feedback or peer feedback. Among these 61 studies, 29 (47.5%) of them did not explicitly articulate theories. Although this percentage (47.5%) is relatively higher than the average (38.5%) in *Instruction*, this higher percentage does not warrant the claims that feedback studies tend not to be identified with theoretical frameworks and that the appearance of theory-not-identifiable studies was primarily due to the presence of feedback studies.

Therefore, based on the results presented in this part, it is safe to say that although normally being seen as an applied effort, meaning that the effort is not theory-driven, L2 writing instruction was very well theoretically based. The results indicated that theoretical frameworks were well represented in the examined literature, and researchers were also willing to build their research on explicit theoretical foundations.

Frequently Adopted Theories in Instruction

After identifying studies with explicit theories, it would be beneficial to take a closer look at them and to see what theories have been adopted and how frequently each theory was used. Altogether, 58 theories were successfully identified in the 131 theory-identifiable studies in *Instruction*. The 58 theories occurred 169 times in these 131 studies, meaning that some studies adopted more than one theoretical framework. It is beyond this study's scope to present and discuss each of these 58 theories; therefore, this subsection will only present the 12 theories that appeared at least three times. These 12 theories made up 65.13% of the entire theory appearances. For the full list of the 58 theories and their percentages, please see Appendix C. It should be noted that not every theory is at the same hierarchical level since researchers understand and operationalize the concept of theory differently. Therefore, readers may find that theories appear together with their parent theories on the same list, such as Cohesion Theory and Systemic Functional Linguistics Theory. Table 7 lists the 12 theories that were most frequently adopted by empirical research in *Instruction*.

Table 7: The Most Frequently Adopted Theories in *Instruction*

Name of the theory	**Number**	**%**	**Cumulative %**
Process Approach	28	16.57%	16.57%
Constructivist Learning Theory	19	11.25%	27.82%
Sociocultural Theories	16	9.47%	37.29%
Continuation Task Approach	11	6.51%	43.80%
Collaborative Learning Theory	7	4.15%	47.95%

Table 7 continued

Interaction Hypothesis	6	3.55%	51.50%
Genre Approach	5	2.96%	54.46%
Input Hypothesis	5	2.96%	57.42%
Social Cognitive Theories	4	2.37%	59.79%
Task-based Teaching Approach	3	1.78%	61.57%
Communicative Language Teaching	3	1.78%	63.35%
Metacognition Theory	3	1.78%	65.13%

It is obvious that theories in Table 7 address different facets of L2 writing instruction. To better organize the results, I classified these 12 theories into two categories – teaching theories and learning theories, since any instructional effort needs to have basic assumptions of teaching and learning. Teaching theories include Process Approach, Continuation Task Approach, Task-based Teaching Approach, Genre Approach, and Communicative Language Teaching. Learning theories include Constructivist Learning Theory, Sociocultural Theories, Collaborative Learning Theory, Interaction Theory, Input Hypothesis, Social Cognitive Theories, and Metacognition Theory.

In teaching theories, Process Approach and Genre Approach are theories that are exclusively dedicated to writing instruction. Once being regarded as a "paradigm shift" (Hairston, 1982) in writing teaching, the creation and wide spread of Process Approach shifted instructors' attention from writing results to writing processes, from texts to composers. As Process Approach has remained "the dominant pedagogical orthodoxy for over 30 years" (Hyland, 2003, p.17), one would expect to see this approach to take a significant, if not dominant, position among all theories identified in *Instruction*. The highest adoption frequency indicated that Process Approach is widely accepted by Chinese L2 writing researchers despite the early criticisms it received (e.g., Horowitz, 1986) and post-process voices that rose in L1 and

L2 writing studies (e.g., Atkinson, 2003; Trimbur, 1994). Seeing writing as a socially situated activity, the Genre Approach appeared as a social response to Process Approach. It has won huge popularity in writing studies in the West in the past decade. Table 7 shows that five empirical studies on writing instruction adopted the Genre Approach as their theoretical framework. Although this number is relatively small, it represents a shift in the scholarly attention from cognitive aspects to social aspects.

As the only Chinese originated theory among the most frequently adopted theories, Continuation Task Approach (CTA) is fairly frequently used in L2 writing research on instruction. Continuation Task Approach is a foreign language teaching approach designed, implemented, and advocated by Chinese scholar Chuming Wang and his colleagues since 2000 (Wang, Niu, & Zheng, 2000; Wang, 2005; Wang, 2015). Initially named the Length Approach, CTA was developed under the Writing to Learn principle, motivating Chinses EFL students to write longer texts based on their reading tasks to facilitate their language learning. This approach gives attention to students' cognitive and social learning processes and highlights the alignment, a process "involving dynamic coordination and adaptation" (Wang & Wang, 2014, p. 503), in students' writing. Finally, the last two teaching theories, Task-based Teaching Approach and Communicative Language Teaching, also originated in the second/foreign language teaching profession. Some of the key proponents of Task-based Teaching Approach (e.g., Willis, 1996) claim that Task-based Teaching Approach is a development of Communicative Teaching Approach. Others see Task-based Teaching Approach as an application of Sociocultural Theories in language teaching (Zuengler & Miller, 2006). No matter how Task-based Teaching Approach is categorized, both Task-based Teaching Approach and Communicative Teaching Approach see language instruction from social and functional perspectives and advocate for the importance of language use in language teaching and learning.

From the above analysis, we may find that teaching theories in *Instruction* showed a strong cognitive orientation, contributed primarily by the Process Approach. Although “process” has multiple meanings in writing studies (Susser, 1993), the Process Approach normally implies an individualist and cognitive-oriented learning process with an emphasis on self-discovery (Atkinson, 2003; Hyland, 2003). Therefore, subsuming the Process Approach, cognitive orientation became the dominant orientation in teaching theories in *Instruction*, the percentage of which is more than sociocognitive (Continuation Task Approach) and social orientation (Genre Approach, Task-based Teaching Approach, and Communicative Teaching Approach) combined.

Among the top 12 theories, seven were classified as learning theories. Taking a closer look, we may find that learning theories in *Instruction* showed a strong social constructivist orientation, which was different from the strong cognitive orientation found among teaching theories. For example, the top three learning theories are Constructivist Learning Theory, Sociocultural Theories, and Collaborative Learning Theory. These three theories made up 70% of the total learning theory appearances. Constructivist Learning Theory sees learning as a construction process. Learners construct knowledge based on their experiences and the reflections of their experiences. Sociocultural Theories emphasize the significance of social participation, relations, and activities in human learning. Although Constructivist Learning Theory and Sociocultural Theories differ in their ontology and epistemology (Packer & Goicoechea, 2000), both highlight the significance of external environments to human learning. Collaborative Learning Theory also takes a sociocultural perspective. In contrast to Sociocultural Theories that examine interaction in a broad sociocultural context, Collaborative Learning

Theory concentrates specifically on the roles of social interaction in creating environments for language learning.

Compared to learning theories with a social orientation, learning theories that adopt sociocognitive or cognitive orientations seemed to be overshadowed. Interaction Hypothesis and Social Cognitive Theories, with a socio-cognitive orientation, together appeared 10 times. Interaction Hypothesis is based on the assumption that the environmental contribution to language acquisition is mediated by the learners' L2 processing capacity (Long & Robinson, 1998). This means that language learning can neither be explained by a linguistic nativist theory nor a pure environmentalist theory. Language learning processes have both nature and nurture aspects. The socio-cognitive orientation among Social Cognitive Theories is more obvious. They maintain that learning has both a social and cognitive aspect. Both aspects are significant and inseparable. Unlike Interaction Hypothesis and Social Cognitive Theories, which distribute attention to both social and cognitive aspects, Input Hypothesis and Metacognition Theory concentrate only on the cognitive aspect of learning. Input Hypothesis is one of the five hypotheses advocated by Krashen in his SLA Theory (Krashen, 1985), where he maintains that people acquire language only by receiving "comprehensible input" (p. 2). It is commonly accepted that Krashen's SLA Theory has a strong cognitive orientation. Metacognition Theory, a psychological theory first developed by Flavell (1979), emphasizes on the role of metacognition – the way people monitor "their own memory, cognition, and other cognitive activities" (p. 906) – in people's learning processes, including writing language acquisition. Input Hypothesis and Metacognition Theory occurred eight times altogether, making up only 13.3% of the total learning theory appearances.

The list of most adopted theories in *Instruction* provided information about theory names and percentages; however, this list did not show how the adoption frequency of each theory changed overtime. Therefore, to obtain historical information, I divided the time into four periods using three dividing years – 1990, 2000, and 2010. The adoption frequency of each theory during each period was carefully calculated to show the changes (if any) over time. Table 8 presents the results in detail.

Table 8: Theory Adoption Frequency over Time in *Instruction*

Name of the theory	**1978-89**	**1990-99**	**2000-09**	**2010-17**	**Total**
Process Approach	0	0	14	14	28
Constructivist Learning Theory	0	0	8	11	19
Sociocultural Theories	0	0	4	12	16
Continuation Task Approach	0	0	6	5	11
Collaborative Learning Theory	0	0	5	2	7
Interaction Hypothesis	0	0	4	2	6
Genre Approach	0	0	0	5	5
Input Hypothesis	0	0	1	4	5
Social Cognitive Theories	0	0	2	2	4
Task-based Teaching Approach	0	0	2	1	3
Communicative Language Teaching	0	0	1	2	3
Metacognition Theory	0	0	1	2	3

Some trends in Table 8 are more noticeable. For example, all 12 theories were only adopted by studies that were published after the year 2000. This is understandable since only one empirical study before 2000 had an identifiable theoretical framework. Its theoretical framework, Contrastive Rhetoric, was not listed among the top 12 theories. Another interesting trend has to do with the Process Approach. The occurrences of the Process Approach were equally divided over the last two decades with 14 in each. This suggests that the Process Approach remained the most popular theoretical framework over the past two decades, and its popularity does not seem to have decreased.

In Table 8, we can identify theories whose adoption frequency seemed to be increasing, such as Constructivist Learning Theory, Sociocultural Theories, Genre Approach, and Input Hypothesis. Among these four, the increase of Sociocultural Theories and Genre Approach were more noticeable. This means that researchers attended more frequently to the social aspects of the learning process and have started to use genre to facilitate their teaching practices. This change is consistent with the "social turn" in writing studies (Atkinson, 2003; Trimbur, 1994). There are also theories showing seemingly decreasing developmental trends in Table 8, such as Collaborative Learning Theory and Interaction Hypothesis, but I would rather not draw such a conclusion due to the small numbers found in this study.

Disciplinary Roots of Theories in Instruction

Second language writing is an interdisciplinary research field. As a subfield in L2 writing, *Instruction* is no exception. After identifying the most frequently used theories and describing their changes over time, I traced the disciplinary roots of the 12 most frequently used theories and analyzed how L2 writing instruction has been shaped by its parent or neighboring disciplines. Based on the analysis, five major disciplines were identified, namely, Composition Studies, (Second) Language Teaching, SLA, Psychology, and Education. It should be noted that almost all theories listed below have been used interdisciplinarily. Identifying their disciplinary roots means identifying the discipline in which they were first created. Table 9 displays the detailed information of the names of the theories, their original disciplines, number of occurrences, and the percentages of the theories in all theory appearances in *Instruction*.

Table 9: Theories in *Instruction* and Their Disciplinary Roots

Discipline	**Theory Name**	**N**	**%**
Composition Studies	Process Approach	28	16.57%
	Genre Approach	5	2.96%
	Total	**33**	**19.53%**
(Second) Language Teaching	Continuation Task Approach	11	6.51%
	Collaborative Learning Theory	7	4.15%
	Communicative Language Teaching	3	1.78%
	Task-based Approach	3	1.78%
	Total	**24**	**14.22%**
Psychology	Sociocultural Theories	16	9.47%
	Metacognition Theory	3	1.78
	Total	19	11.25%
Education	Constructivist Learning Theory	19	11.25%
	Total	**19**	**11.25%**
Second Language Acquisition	Interaction Hypothesis	6	3.55%
	Input Hypothesis	5	2.96%
	Social Cognitive Theories	4	2.37%
	Total	**15**	**8.88%**
Total		110	65.13%

Table 9 shows that Composition Studies is the discipline that contributed most substantially to the theoretical foundations in *Instruction*, followed by Language Teaching. The contribution of Composition Studies was primarily made by Process Approach, which significantly outnumbered Genre Approach. Language Teaching contributed four theoretical approaches to the top 12; however, none of these weighed as heavily as Process Approach. Psychology, Education, and SLA also exported a good number of theories, but their percentages are slightly lower than those of Composition Studies and Language Teaching.

The results of the disciplinary roots are somewhat expected, since L2 writing is deeply embedded in Applied Linguistics and Composition Studies (Silva & Leki, 2004). The findings in this study confirm that, similar to their Western counterparts, empirical studies on L2 writing instruction in China also draw from intellectual resources from Applied Linguistics and

Composition Studies. As Applied Linguistics itself is informed intellectually by Education, Language Teaching, Psychology, and SLA; therefore, one would expect to see these disciplines appear when investigating the disciplinary roots.

Although the majority of theories adopted in *Instruction* originated from familiar disciplines, one theory from the complete list (Appendix C) stood out – Memetics Theory, an Evolutionary Biology theory. As an analogy to *gene*, *meme* is "an idea, behavior, or style that spreads from person to person within a culture" (para., 1). It spreads cultural ideas and symbols from one mind to another through writing, speech, and other imitable methods with a mimicked theme ("Meme", n.d.). In L2 writing instruction in China, scholars borrowed Memetics Theory to investigate how memorization, a reinforced form of *meme*, facilitates L2 students' writing processes. For example, Chen and Xiao (2012) designed a *Listening & Speaking-to-Writing Approach* based on Memetics Theory and examined its effectiveness in L2 writing instruction. Similarly, Deng and Yi (2016) proposed a teaching model named *Reading-Recitation-Discussion-Writing* based on Memetics Theory and examined its effectiveness. These two examples demonstrate that efforts have been made to extend beyond the theoretical confines of literacy and educational studies to investigate issues in L2 writing instruction. The interdisciplinary bases of L2 writing have been further expanded.

Section Summary

Before moving on to present results in *Writer*, I would like to summarize the four major findings in *Instruction*. First, as an applied category, *Instruction* showed an emphasis on theoretical foundation. Among empirical studies in *Instruction*, 61.5% explicitly articulated theoretical frameworks. This indicates that most studies in *Instruction* were conducted based on explicit theoretical foundations. Second, a wide range of theories were adopted by studies in

Instruction. The 12 most frequently adopted theories constitute teaching theories and learning theories. The teaching theories, represented by the Process Approach, showed strong cognitive orientation. The learning theories, represented by Constructivist Learning theory, showed a prominent social orientation. Overall, studies with the social orientation outnumbered studies with the cognitive orientation. Third, in terms of the historical changes, it seems that Sociocultural Theories and Genre Approach increased more noticeably over the past two decades. This increase is consistent with the "post-process" movements and the "social turn" in writing studies. Lastly, similar to L2 writing research in the West, Chinese L2 writing studies in *Instruction* also drew theoretical resources mainly from Composition Studies and Applied Linguistics. Under this broad trend, we also saw scholarly efforts that extended the existing interdisciplinary confines to these seemingly more remotely connected disciplines, such as Evolutionary Biology.

Research on L2 Writers

Second language writers are another major focus of L2 writing research. Previous syntheses (e.g., Leki, et al., 2008) found that research on L2 writers mainly focused on influencing variables and writing processes. Influencing variables contain variables that are internal and external to L2 writers. Internal variables include but not limited to language proficiency (both L1 and L2), writing proficiency (both L1 and L2), motivation, identity, and learning styles. External variables include instructional model, task type, and task complexity. Composing processes are traditionally investigated from a cognitive perspective, informed by multiple Cognitive Models of Composing. More recently, they have been investigated from social or sociocognitive perspectives. From this brief description, we can see that, like L2 writing instruction, L2 writers are also multifaceted. Therefore, we expect to see a range of theories being adopted to investigate writers from different perspectives. Similar to the previous subsection on *Instruction*, the results of the theory identification and analysis in *Writer* will also be presented from three aspects: the percentage of theory-identifiable studies, the most frequently adopted theories, and disciplinary roots of these theories.

Theory-identifiable Studies in Writer

Following the aforementioned identifying methods, studies in *Writer* were also classified as theory-identifiable and theory-not-identifiable studies. Again, when the information provided in an article was insufficient to warrant confident identification, that study was classified as "Theory not identified". Overall, it was found that studies with identifiable theories outnumbered studies without identifiable theories in *Writer*, although the difference between these two seemed minor. Over half (54.6%) of the empirical studies in *Writer* explicitly articulated their theoretical frameworks. Table 10 summarizes the exact numbers and indicates the percentage of change across four periods.

Table 10: Theory-identifiable and Theory-not-identifiable Studies in *Writer*

	1978-1989	**1990-1999**	**2000-2009**	**2010-2017**	**Total**
Theory-identifiable	0 (0%)	5 (55.6%)	29 (52.7%)	66 (55.9%)	100(54.6%)
Theory-not-identifiable	1 (100%)	4 (44.4%)	26 (47.3%)	52 (44.1%)	83 (45.5%)
Total	1 (100%)	9 (100%)	55 (100%)	118 (100%)	183 (100%)

Firstly, Table 10 displays an overall increasing trend of empirical studies on L2 writers, as evidenced by the growing numbers from each period. For example, over the first two periods, there were only 10 empirical studies on L2 writers. This number increased to 55 in the third period and grew to 118 in the last period. In terms of the percentage of theory-identifiable studies, there were slightly more studies with explicit theories than studies without. It is also interesting to see that the percentages of theory-identifiable study over the past three decades remained almost the same, very similar to the overall average (54.6%).

In *Writer*, 45.5% of the empirical studies were not identified with an explicit theoretical framework. Although this percentage is higher than the that in *Instruction* (38.5%), it is very similar to the overall percentage of theory-not-identifiable studies (47.5%) found by Riazi et al. (2018). Based on the findings from in this study, it is safe to say that more empirical research on L2 writers was conducted based on explicit theoretical foundations. This might also suggest that the significance of theoretical frameworks for research design has been widely acknowledged and appreciated among Chinese L2 writing scholars.

Frequently Adopted Theories in Writer

Each of the theory-identifiable studies in *Writer* was carefully read to identify its theories. Similar to what was found in *Instruction*, a wide range of theories were adopted by empirical studies on L2 writers. Overall, 51 theories were identified among 183 empirical studies. These 51 theories occurred 113 times in total. Again, in this subsection, I will only present the 12 theories that occurred at least three times among all studies. These 12 theories made up 59.39% of the total theory occurrences. For the full list of the 51 theories and their occurrence frequency and percentage, please see Appendix D. The following Table 11 lists the 12 theories and their percentages.

Table 11: The Most Frequently Adopted Theories in *Writer*

Name of the theory	**Number**	**%**	**Cumulative %**
Cognitive models of composing	24	21.24%	21.24%
Metacognition theory	9	7.96%	29.20%
Dynamic systems theory	5	4.42%	33.62%

Table 11 continued

Process approach	4	3.54%	37.16%
Sociocultural theory	4	3.54%	40.70%
Cognition hypothesis	3	2.66%	43.36%
Cohesion theory	3	2.66%	46.02%
Constructivist learning theory	3	2.66%	48.68%
Continuation task approach	3	2.66%	51.34%
Frequency effects theory	3	2.66%	54.00%
Language transfer theories	3	2.66%	56.66%
Task-based teaching approach	3	2.66%	59.32%

Like theories in *Instruction*, theories in *Writer* also showed great multiplicity. To better describe these 12 theories, I divided them into four broad categories: writing theory, teaching theory, learning (acquisition) theory, and linguistic theory. Writing theory includes only one – Cognitive Models of Composing. Although only including one, writing theory is the largest category in terms of the total number of theory occurrences. Teaching theories include Process Approach, Continuation Task Approach, and Task-based Teaching Approach. These three approaches also appeared as the most frequently adopted theories in *Instruction*. Learning (acquisition) theories comprise Metacognition Theory, Dynamic Systems Theory, Sociocultural Theory, Cognition Hypothesis, Constructivist Learning Theory, Frequency Effect Theory, and Language Transfer Theories. The last theory, Cohesion Theory, was categorized as linguistic theory.

The only theory that appeared over 10 times in *Writer* is Cognitive Models of Composing, represented by models from Flower and Hayes (1981) and Scardamalia and Bereiter (1987). Cognitive Models of Composing take a process orientation towards L2 writing research. Unlike Process Approach, which concentrates on the pedagogical aspects, Cognitive Models of

Composing explore the cognitive and psychological aspects of writing, seeing L2 writing as a psychological process of problem-solving (Cummings, 2016). Although research on cognitive aspects of writing process started and flourished in the 1980s in the West, the high adoption frequency of these models found in this study indicates that they still maintain significant influence on empirical studies on L2 writers in China. One significant reason is that these models provide researchers with frameworks with which they can further investigate writing skills and strategies that account for differences in writing quality.

Three teaching theories appeared in Table 11. It is interesting to find that Process Approach, Continuation Task Approach, and Task-based Teaching Approach, which appeared as frequently adopted theories in *Instruction*, appeared again in *Writer*. Unlike how researchers used these theories to foster curriculum innovations in *Instruction*, researchers in *Writer* mainly concentrated on how writers develop under varied pedagogical conditions. For example, Wang (2001) investigated how writers' cognitive styles and anxiety influence pre-writing planning time. The theoretical foundation for this study was Process Approach since pre-writing is seen as one of the emphases of Process Approach. Concentrating on writer development as well, Zhang (2016) investigated how writers' L2 writing processes are influenced by writing activities under Continuation Task Approach.

Seven theories from Table 11 were classified as learning or acquisition theories, among which three appeared in *Instruction*. These three are Metacognition Theory, Sociocultural Theories, and Constructivist Learning Theories. The four new learning theories appeared in Table 11 are Dynamic Systems Theory, Cognition Hypothesis, Frequency Effects Theory, and Language Transfer Theories. Dynamic Systems Theory (DST) is relatively new to SLA research. Originating in mathematics, DST was first introduced to SLA by Larsen-Freeman (1997). Over the past decades, its popularity has been growing in research on first and second language acquisition. Different from other models of language acquisition, which generally follow an Information Processing (IP) model and adhere to a linear view of language acquisition, DST views language as a dynamic system and language acquisition as a dynamic process. One property of DST is complete interconnectedness. This means that all variables in a developmental process are interconnected, and changes in one variable will have an impact on other variables. Therefore, the entire developmental process is highly intricate, complex, and even unpredictable (De Bot, Lowie, & Verspoor, 2007). Since its introduction to SLA, DST has been regarded as a candidate for the overall theory of language development since it includes both cognitive and social aspects and the interaction between them.

Unlike DST, Cognition Hypothesis, Frequency Effects Theory, and Language Transfer Theories are less dynamic and systematic, and they contain fewer variables. Cognition Hypothesis has a close relation to task demands in L2 development. Taking a cognitive-interactionist approach, Cognition Hypothesis maintains that task demands increase if the complexity in resource-direction increases. These increases further lead to different language complexity, accuracy, and fluency (Jackson & Suethanapornkul, 2013). The main pedagogical implication of the Cognition Hypothesis is that communicative tasks should be carefully designed and sequenced in accordance with learners' cognitive complexity (Robinson & Gilabert, 2007). Frequency Effect Theory is deeply rooted in the exemplar-based language development tradition, adhering to an information-processing model of language acquisition. It contends that language processing is based on input frequency and probabilistic knowledge. Language users tend to process the most probable syntactic and sematic information based on the frequencies of input, and they tend to produce the most probable language for a given meaning based on previous frequencies of input (Ellis, 2002). Thus, Frequency Effect Theory understands language learning as an implicit learning process; however, it does not deny the effect of explicit instruction. Language Transfer Theories are harder to define because none of the three studies identified with Language Transfer Theories explicitly articulated the transfer theories they were working with. However, their background information all indicated that they were dealing with L1 interference/transfer in L2 writing from a psychological perspective; therefore, they were identified as studies adopting Language Transfer Theories. Overall, language transfer means the transfer of thinking or structural patterns of one's native language to a foreign language. More recently, researchers have started to investigate transfer from one's L2 to L1.

The distribution among cognitive, social, and socio-cognitive orientations in learning theories in *Writer* is different from that found in *Instruction*. Unlike learning theories in *Instruction*, which are primarily social, learning theories found in *Writer* are more cognitive (55.6%), represented by Metacognition Theory, Cognition Hypothesis, Frequency Effects Theory, and Language Transfer Theories. Learning theories with a social orientation only made up 25.9% of the total appearances. The rest 18.5% were under a socio-cognitive orientation, represented by DST. This overall distribution indicates that when studying the learning processes of L2 writers, researchers tend to draw from learning theories that have a cognitive orientation.

Cohesion Theory is the only linguistic theory identified among the top 12 most frequently adopted theories in *Writer*. It is one of the discoursal theories proposed by Halliday and Hasan (1976) in their book *Cohesion in English*. It contends that parts of text are connected by cohesive ties. There are five major classes of cohesive ties: reference, substitution, ellipsis, conjunction, and lexical cohesion (Halliday & Hasan, 1976). In the examined studies on L2 writers, researchers investigated how writers use cohesive devices in their L2 writing. For example, Yang

(2008) conducted a multiple case study to investigate issues of cohesion and narrative structure in EFL writers' narrative writing.

Table 11 lists the 12 most frequently used theories in *Writer*. For further analysis, I also examined how often each of these theories was adopted by studies on L2 writers over four periods. Table 12 presents the results in detail.

Table 12: Theory Adoption Frequency over Time in *Writer*

Name of the theory	**1978-89**	**1990-99**	**2000-09**	**2010-17**	**Total**
Cognitive Models of Composing	0	3	8	13	24
Metacognition Theory	0	0	7	2	9
Dynamic Systems Theory	0	0	0	5	5
Process Approach	0	0	1	3	4
Sociocultural Theory	0	0	0	4	4
Cognition Hypothesis	0	0	0	3	3
Cohesion Theory	0	0	1	2	3
Constructivist Learning Theory	0	0	2	1	3
Continuation Task Approach	0	0	0	3	3
Frequency Effects Theory	0	0	0	3	3
Language Transfer Theories	0	2	1	0	3
Task-based Teaching approach	0	0	1	2	3

The relatively small numbers of the theory occurrences do not allow much interpretation. Therefore, I will only focus on five theories that showed noticeable developmental trends. These five theories are Cognitive Models of Composing, Metacognition Theory, Dynamic Systems Theory, Sociocultural Theories, and Language Transfer Theories. These five theories represent three developmental trends – seemingly stable, seemingly increasing, and seemingly decreasing. Cognitive Models of Composing retained their popularity over the past 40 years. Their appearances covered the last three decades since their debut in the 1990s. It is also interesting to see higher adoption frequencies of these models in recent decades, suggesting that their popularity is still growing.

The adoption frequencies of the Dynamic Systems Theory and Sociocultural Theories seem to be increasing recently. Table 12 displays that studies adopting DST and Sociocultural Theories started to appear after 2010. This indicates that attending to the social and socio-cognitive aspects of L2 writer development has been the latest research trend and has attracted more scholarly attention. The increasing trend of Sociocultural Theories was also found in *Instruction*. This suggests that more researchers are extending beyond the cognitive orientation, which is characterized by traditional SLA theories, to explore other alternatives by taking a more social stance.

The theories that seemed to be decreasing over the years are Metacognition Theory and Language Transfer Theories. Metacognition Theory decreased from seven in the third period to two in the fourth. In terms of Language Transfer Theories, their appearance kept decreasing over the last three decades. In the last period, no study with transfer theories was identified. Although the small numbers do not guarantee significantly decreasing trends, it is safe to say that these two theories are not as frequently adopted as they used to be by researchers investigating L2 writers.

Disciplinary Roots of Theories in Writer

Like theories found in *Instruction*, theories in *Writer* also came from multiple disciplines, some are closer to L2 writing while others are further. After analyzing the disciplinary roots of the 12 theories, seven major disciplines were identified, namely, Composition Studies, Psychology, SLA, (Second) Language Teaching, Mathematics, Education, and Linguistics. Table

13 shows the detailed information of the names of the theories, their original disciplines, number of occurrences, and the percentages.

Table 13: Theories in *Writer* and Their Disciplinary Roots

Discipline	**Theory Name**	**N**	**%**
Composition Studies	Cognitive Models of Composing	24	21.24%
	Process Approach	4	3.54%
	Total	**28**	**24.78%**
Psychology	Metacognition Theory	9	7.96%
	Sociocultural Theories	4	3.54%
	Total	**13**	**11.50%**
Second Language Acquisition	Cognition Hypothesis	3	2.66%
	Frequency Effects Theory	3	2.66%
	Language Transfer Theories	3	2.66%
	Total	**9**	**7.98%**
(Second) Language Teaching	Continuation Task Approach	3	2.66%
	Task-based Approach	3	2.66%
	Total	**6**	**5.32%**
Mathematics	Dynamic Systems Theory	5	4.42%
	Total	**5**	**4.42%**
Education	Constructivist Learning Theory	3	2.66%
	Total	**3**	**2.66%**
Linguistics	Cohesion Theory	3	2.66%
	Total	**3**	**2.66%**
Total		67	59.32%

Table 13 shows that Composition Studies remained the discipline that contributed most substantially to the theoretical foundations in *Writer* in addition to its biggest contribution in *Instruction*. Its contribution was mainly made by Cognitive Models of Composing, which significantly outnumbered the Process Approach from the same discipline. Ranked as the second, Psychology contributed two theories to the top 12 – Metacognition Theory and Sociocultural Theories. These two appeared 13 times altogether, accounting for 11.50% of all theory appearances in *Writer*. Theories from the other five fields all appeared less than 10 times.

Among the seven disciplines listed above, six of them seemed to come from L2 writing's discipline family, except mathematics, which exported Dynamic Systems Theory. Like Theory of Memetics found in *Instruction*, DST is another example to suggest that the theoretical scope of L2 writing research has expanded beyond language and literacy studies to fields that are traditionally less related. These exploring efforts will bring fresh insights to L2 writing research and further increase the theoretical diversity within the field.

Section Summary

Before moving on to present results in *Text*, I will summarize the four major findings in *Writer*. First, like *Instruction*, *Writer* showed an emphasis on theoretical foundations. Among empirical studies in *Writer*, 54.6% explicitly articulated theoretical frameworks. This indicates that more studies in *Writer* were conducted based on explicit theoretical foundations. Second, a wide range of theories (51 in total) were adopted by studies in *Writer*. The 12 most frequently adopted theories comprise mainly writing theories, teaching theories, learning theories, and linguistic theories. Overall, theories with a cognitive orientation outnumbered theories with a social orientation. Third, in terms of historical changes, it was found that Cognitive Models of Composing remained popular over the past few decades. Sociocultural Theories and Dynamic Systems Theory increased more noticeably over the past decade. Metacognition Theory and Language Transfer Theories showed signs of decreasing. Lastly, theories in *Writer* came from a number of disciplines. The most representative disciplines are Composition Studies, SLA, and Language Teaching. We also saw theories from non-language-related disciplines, such as DST from Mathematics.

Research on L2 Written Texts

Written texts are the artifacts of L2 writing activities. Studies on L2 written texts provide not only information about textual features but also implications for pedagogical practices. Studies on L2 written texts are normally conducted from two perspectives: formal and functional. A formal perspective includes but is not limited to issues concerning lexical, syntactic, and grammatical features. A functional perspective investigates textual features that perform social functions, such as rhetorical moves, reporting verbs, and hedges. Similar to the previous two subject matter categories, the results from *Text* will also be reported from three aspects: the number of theory-identifiable studies, the most frequently adopted theories, and disciplinary roots of these theories. In addition, this section will also provide a list of analytical frameworks used by the studies in *Text* to complement the findings on the theoretical frameworks.

Theory-identifiable Studies in Text

Table 14 presents the numbers of theory-identifiable and theory-not-identifiable studies in *Text*. Unlike the findings in *Instruction* and *Writer*, theory-not-identifiable studies slightly outnumbered theory-identifiable studies in *Text*, although the differences in number and percentage seemed minor. Slightly less than half (49.0%) of the studies in *Text* explicitly articulated their theoretical frameworks.

Table 14: Theory-identifiable and Theory-not-identifiable Studies in *Text*

	1978-1989	**1990-1999**	**2000-2009**	**2010-2017**	**Total**
Theory-identified	0 (0%)	3 (50.0%)	56 (59.6%)	42 (39.6%)	101(49.0%)
Theory-not-identified	0 (0%)	3 (50.0%)	38 (40.4%)	64 (60.4%)	105(51.0%)
Total	0 (0%)	6 (100%)	94 (100%)	106 (100%)	206 (100%)

One of the noticeable developmental trends showed by Table 14 is the overall increasing tendency in terms of the quantity of empirical studies in *Text*. The number of empirical studies kept growing over the past four decades, soaring from less than 10 in the first two decades to over 100 in the last decade. In terms of the percentages of theory-identifiable studies, the results did not show a consistent increasing trend. Comparing to the period 2000-2009, the number and percentage of theory-identifiable studies decreased during the period 2010-2017. This decreasing trend over the last period does not suggest that empirical studies on L2 written texts are becoming athoeretical; the reason might be that recent studies employed more analytical frameworks as their theoretical bases than named theoretical frameworks. The analysis and results of analytical frameworks employed in studies on L2 written text will be presented later in this section.

In *Text*, 51.0% of the studies were not identified with explicit theoretical frameworks. This percentage is higher than what was found in *Instruction* (38.5%) and *Writer* (45.5%). However, when comparing this percentage to the overall percentage of theory-not-identifiable studies (47.5%) found by Riazi et al. (2018), there seems to be no big difference. Based on the overall percentage of theory-identifiable and theory-not-identifiable studies in *Text* found in this study, it is safe to say that no significant difference regarding quantities was found between empirical studies with and without explicit theoretical frameworks.

Frequently Adopted Theories in Text

In total, 40 theories (see Appendix E) were identified among empirical studies on L2 written texts. These theories occurred 101 times in total. In this section, I will only report the nine theories that occurred at least three times, which made up 66.33% of the total theory occurrences in this category. For the full list of the 40 theories and their occurrence frequencies and percentages, please see Appendix E. The following Table 15 lists the nine theories that were most frequently adopted in *Text*.

Table 15: The Most Frequently Adopted Theories in *Text*

Name of the theory	**Number**	**%**	**Cumulative %**
Models of genre analysis	13	12.87%	12.87%
Contrastive rhetoric	12	11.88%	24.75%
Cohesion theory	11	10.89%	35.64%
Error analysis approach	10	9.90%	45.54%
Thematic progression theory	6	5.94%	51.48%
Appraisal theory	5	4.95%	56.43%
Metadiscourse theory	4	3.96%	60.39%
Interlanguage theory	3	2.97%	63.36%
Language transfer theory	3	2.97%	66.33%

The nine theories listed in Table 15 showed rich diversity. To better describe these theories, I divided them into three broad categories: writing theory, linguistic theory, and learning (acquisition) theory. Writing theory includes Models of Genre Analysis and Contrastive Rhetoric (CR). Linguistic theory subsumes Cohesion Theory, Thematic Progression Theory, Appraisal Theory, and Metadiscourse Theory. It is the biggest category among the three in terms of the number of theories and their occurrences. Learning (acquisition) theory consists of Error Analysis Approach, Interlanguage Theory, and Language Transfer Theories.

Both writing theories listed in Table 15 occurred more than 10 times. Models of Genre Analysis, as members in the genre theory family, are models for analyzing the genre structures of texts produced in different discourse communities. As Hyland (2003) observed, genre analysis models from the English for Specific Purposes (ESP) approach were found to be the most popular in *Text*. Representative models include overall textual models of English academic writing (e.g., Swales, 1990; 2004) and textual models that are specific to research papers in Applied Linguistics (e.g., Dos Santos, 1996; Yang & Desmond, 2003). Contrastive Rhetoric is the only L2 writing theory listed in Table 15. Originating directly from observations of compositions written by L2 students in the United States, CR aims to provide a framework for analyzing the structure and rhetorical patterns that appear in L2 written texts. Since CR is a theory based on textual analysis, it is unsurprising to see its wide application in empirical studies in *Text*. One interesting thing is that the application of CR has declined in the West since the 1980s due to the wide criticism it has received; however, this theory remains one of the major frameworks for studies on L2 written texts in China.

Four out of the nine most frequently adopted theories are linguistic. Cohesion Theory, which also appeared as one of the top-used theories in *Writer*, was found to be the most frequently adopted linguistic theory in *Text*. Unlike studies in *Writer* which used Cohesion Theory to investigate writers' behaviors, studies in *Text* used it to examine the uses of cohesive devices appearing in texts created by different groups. For example, using Cohesion Theory, Zhao (2012) investigated the pragmatic failure of English transition markers in Chinese EFL writers' academic writing. Besides Cohesion Theory, the other three linguistic theories all occurred a similar number of times, and all these theories were used to investigate texts from a functional perspective. Studies adopting Thematic Progression Theory normally investigated issues surrounding cohesion and coherence. For example, Yang and Wang (2017) investigated the transfer of coherence features by Chinese secondary EFL learners by applying Thematic Progression Theory. Studies adopting Metadiscourse Theory were concerned more with the interactive features of target texts. For example, Wang and Lü (2017) investigated how the use of self-mentions, one of the metadiscourse resources, enabled writers to demonstrate authorial stance and construct writer/reader relationships. Studies adopting Appraisal Theory examined the evaluative meanings that the texts convey. For example, Zhou and Liu (2012) investigated the distribution, employment, and evaluative meaning of projection in Chinese English learners' discourse using Appraisal Theory.

The remaining three theories, Error Analysis Approach, Interlanguage Theory, and Language Transfer Theory, are categorized as learning (acquisition) theories. Initiated by early efforts emphasizing the significance of learners' errors (Corder, 1967), Error Analysis Approach promotes the idea that language learning can be facilitated by conducting systematic analysis of errors. Therefore, analyzing errors in L2 written texts becomes a way to understand learners' needs and to inform pedagogical decisions. For example, Jia and Qiao (2014) used the Error Analysis Approach to analyze English language errors in the MA thesis of Chinese English major students. The other two theories, Interlanguage Theory and Language Transfer Theory, are traditional language acquisition theories. Studies adopting these theories mainly investigated how interlanguage features and L1 influence are represented in L2 written texts. For example, adopting Interlanguage Theory, Hong and Yu (2007) conducted a pragmatic analysis of modality in Chinese students' written interlanguage. In another study, Wang (2012) conducted a textual analysis to investigate the effect of language transfer on Chinese college students' writing.

Unlike theories in *Instruction* and *Writer*, which were categorized into cognitive, social, or sociocognitive orientations, theories in *Text* were classified into a structural (or formal) orientation and a functional orientation. As their names indicate, the structural orientation attends to language structure, while the functional orientation investigates the functions that languages perform. The top nine theories from Table 15 showed a slight tendency towards the functional orientation. Among the nine theories, five of them can be classified as theories addressing the functional aspects of language – Models of Genre Analysis, Cohesion Theory, Thematic Progression Theory, Appraisal Theory, and Metadiscourse Theory. These five theories made up 58.2% of the total appearances of the top adopted theories. The other four, Contrastive Rhetoric, Error Analysis Approach, Interlanguage Theory, and Language Transfer Theory, mainly deal with structural features, especially through analyzing language errors and interlanguage linguistic features. The analysis of the theoretical orientations in *Text* seemed to suggest a healthy balance between structural and functional orientations towards L2 written texts analysis.

Besides identifying the nine most frequently used theories in *Text*, I also calculated how often each of the nine theories was adopted over four periods. Table 16 displays the results in detail.

Table 16: Theory Adoption Frequency over Time in *Text*

Name of the theory	**1978-89**	**1990-99**	**2000-09**	**2010-17**	**Total**
Models of Genre Analysis	0	0	4	9	13
Contrastive Rhetoric	0	0	11	1	12
Cohesion Theory	0	0	9	2	11
Error Analysis Approach	0	1	8	1	10
Thematic Progression Theory	0	0	3	3	6
Appraisal Theory	0	0	2	3	5
Metadiscourse Theory	0	0	1	3	4
Interlanguage Theory	0	1	1	1	3
Language Transfer Theory	0	0	1	2	3

The developmental trends of the top four theories in Table 16 seemed to be more salient than the lower five. Therefore, I will only focus on these four theories: Models of Genre Analysis, Contrastive Rhetoric, Cohesion Theory, and Error Analysis Approach. Models of Genre Analysis is the only set of theories that show a clearly increasing trend. This might be caused by the growing interest in genre studies in L2 writing. This interest did not only show up in *Text* but also in *Instruction*. This growing interest indicates that genre approach, which sees writing as “purposeful, socially situated” (Hyland, 2003, p. 17), is adding social elements to the understanding of L2 writing.

Contrastive Rhetoric (CR), Cohesion Theory, and Error Analysis Approach seemed to show a decreasing trend. The decrease in the adoption of CR might be caused by the criticism this theory has received. Although it provides a framework for textual analysis, CR has been widely criticized since the 1980s for overgeneralizing cultural impact and oversimplifying textual variations (see Cumming, 2016). As a result, the ideas represented by CR were reoriented into “Intercultural Rhetoric” (Connor, 1996, 2001). The development of CR in China seemed to follow the declining trend, and major ideas were also reoriented from an intercultural perspective. For example, in the most recent study identified with CR, researchers referred to their theoretical framework as Intercultural Rhetoric (Chen, Xiao, & Xiao, 2016). In terms of Cohesion Theory and Error Analysis Approach, there seemed to be no obvious criticism causing their decrease. One reason might be that these two theories have been serving the field for a while. To keep their studies current and to seek greater publishing possibilities, researchers might want to draw on more recent theoretical frameworks which have not been over adopted.

Disciplinary Roots of Theories in Text

Like theories found in *Instruction* and *Writer*, theories in *Text* also came from multiple disciplines. After analyzing the nine theories, I identified three major disciplines, namely, Second Language Writing, Second Language Acquisition, and Linguistics. The number of disciplines found in *Text* is smaller than that found in *Instruction* and *Writer*. Table 17 presents the detailed information on the names of the theories, their original disciplines, number of occurrences, and their percentages.

Table 17: Theories in *Text* and Their Disciplinary Roots

Discipline	**Theory Name**	**N**	**%**
Linguistics	Models of Genre Analysis	13	12.87%
	Cohesion Theory	11	10.89%
	Thematic Progression Theory	6	5.94%
	Appraisal Theory	5	4.95%
	Metadiscourse Theory	4	3.96%
	Total	**39**	**38.61%**
Second Language Acquisition	Error Analysis Approach	10	9.90%
	Interlanguage Theory	3	2.97%
	Language Transfer Theories	3	2.97%
	Total	**16**	**15.84%**
Second Language Writing	Contrastive Rhetoric	12	11.88%
	Total	**12**	**11.88%**
Total		**66**	**66.33%**

Unlike studies in *Instruction* and *Writer* that drew the most from Composition Studies, studies in *Text* were importing most of their theories from linguistics, especially functional linguistics. This trend is to be expected since Linguistics, either structural or functional, offers frameworks for textual analysis. According to introductions to the Functional Grammar (e.g., Thompson, 2013), the five theories listed in Linguistics belong to the Functional Grammar. Compared to Linguistics, Second Language Acquisition and Second Language Writing contributed less substantially. Three theories appeared in Second Language Acquisition, among which Error Analysis Approach took the dominant position. Only one theory, Contrastive Rhetoric, was categorized as L2 writing theory, and it appeared frequently among all theories in

Text. Overall, the findings from the disciplinary roots of theories were unsurprising, and they confirmed scholars' expectations of the theoretical frameworks for L2 written text analysis.

Analytical Frameworks in Text

Adding analytical frameworks to this theoretical review in *Text* is primarily due to one reason, that is, regarding theory-not-identifiable studies in *Text* as not theoretically grounded is misleading. Based on my reading, most of the theory-not-identifiable studies were conducted based on certain widely adopted frameworks in textual analysis. These frameworks describe certain structural or functional features of the textual issues under analysis, such as lexical bundles and stance markers. When we consider the functions of a theory as describing, explaining, and predicting, as noted in Chapter Two, these frameworks fulfill the three functions fairly well by categorizing structural and functional features. Therefore, when analytical frameworks were presented and adopted in a study on L2 written texts, the boundaries among theory, methodology, and examined linguistic features became blurred. Being positioned in the overlapping area, analytical frameworks worked as both theoretical frameworks and methodological frameworks. Therefore, to accurately represent the current status of studies in *Text*, I re-examined the theory-not-identifiable studies and identified the analytical frameworks that, from my understanding, were working partially as the theoretical foundations for these studies. Altogether, 37 analytical frameworks were identified among the 105 theory-not-identified studies. Please see Appendix F for the full list. For the sake of space, I will only present those that appeared at least three times in the following Table 18.

Table 18: The Most Frequently Adopted Analytical Frameworks in *Text*

Name of the framework	**Number**	**%**	**Cumulative %**
Lexical bundle/chunk analytical framework	10	14.71%	14.71%
Stance marker analytical framework	5	7.35%	22.06%
Multi-dimensional analysis model	4	5.88%	27.94%
Syntactic complexity analytical framework	4	5.88%	33.82%
Hedge analytical framework	3	4.41%	38.23%
Reporting verb analytical framework	3	4.41%	42.64%

The framework for lexical bundle analysis is the most frequently adopted analytical framework in *Text*. Lexical bundle, which refers to "multi-word units" (Biber, Conrad, & Cortes, 2004, p. 373), were normally investigated from both structural and the functional perspectives. Researchers normally adopted the structural categories developed by Biber and his colleagues (Biber, Johansson, Leech, Conrad, & Finegan, 1999) and functional categories by Biber and Hyland (Biber, Conrad, & Viviana, 2003; Hyland, 2008) to conduct textual analysis. Stance markers are linguistic devices used to convey "a particular stance relative to a preposition in the surrounding discourse" (Gray & Biber, 2014, p. 220). Common frameworks used for analyzing stance markers include Biber's stance marker framework (Biber & Finegan, 1989; Biber et al., 1999) for English grammar and Hyland's stance marker framework for academic discourse (Hyland, 2005). Multi-dimensional Analysis Model was created by Biber (1998) to investigate register variations, and this analysis model was used to examine the textual variations among different writer groups.

Syntactic Complexity Analytical Framework includes multiple measurements that are commonly used for measuring syntactic complexity, including length of sentences, length of T-units, embeddedness, dependent and independent clauses, coordination clauses, etc. Two of the studies on syntactic complexity used the L2 Syntactic Complexity Analyzer (L2SCA) developed by Lu (2010), which was based on 13 common syntactic measures. Unlike syntactic complexity that concentrates on the structure of texts, hedges and reporting verbs attend to the function of certain textual features. Hedge Analytical Frameworks identified included the categories and frameworks developed by Prince, Frader, and Bosk (1982), Hyland and Milton (1997), and Yang (2013). Reporting Verb Analytical Frameworks included Thompson and Ye (1991), Halliday (2000), and Hyland (2002).

One thing that stood out from this short report of the analytical frameworks was multiplicity. Although researchers focused on similar linguistic features, such as lexical bundles or hedges, their analytical frameworks tended to come from varied sources. These sources might be closely related or distinctively different. Therefore, the names of the frameworks listed in Table 18 are umbrella terms, under which multiple structural and functional categories exist. This extreme multiplicity needs to be investigated by further research.

Section Summary

This section represented the most frequently adopted theories in *Text*. There were five major findings. First, among empirical studies in *Text*, 49.0% explicitly articulated theoretical frameworks. This percentage was smaller than those found in *Instruction* and *Writer* but still indicated a great significance of theory in the examined studies. Second, 40 theories were identified in *Text*. The nine most frequently adopted theories constituted linguistic theories, writing theories, and learning (acquisition) theories. Overall, theories in *Text* showed a stronger functional orientation. Third, in terms of the historical changes, it was found that researchers' interest in genre analysis was increasing over the decades, but their interests in Contrastive Rhetoric, Error Analysis, and Cohesion Theory were decreasing. Fourth, studies in *Text* drew theoretical resources mainly from Linguistics, SLA, and SLW. This finding matched researchers' expectations of the disciplinary connections. Lastly, analytical frameworks in studies on L2 writing texts worked partially as theoretical frameworks. These frameworks found in this study also showed great multiplicity.

Research on L2 Writing Assessment

Second language writing assessment is the smallest category among the four, consisting of 58 empirical studies. Studies in *Assessment* addressed a number of issues concerning in-class writing assessment and high-stakes writing tests. In-class writing assessment included automatic evaluation, formative assessment, self-assessment and teacher-assessment, etc. Issues concerning high-stake writing tests (e.g., College English Test) included tests' validity and reliability, rating scale validation, rater training, and rating process comparison. Researchers in *Assessment* also validated various constructs in writing assessment, such as writing ability, content quality, and text complexity. The results in *Assessment* will also be presented from three perspectives: the percentage of theory-identifiable studies, the most frequently adopted theories, and disciplinary roots of these theories.

Theory-identifiable Studies in Assessment

Table 19 shows the numbers of theory-identifiable and theory-not-identifiable studies in *Assessment* over the past four decades.

Table 19: Theory-identifiable and Theory-not-identifiable Studies in *Assessment*

	1978-1989	**1990-1999**	**2000-2009**	**2010-2017**	**Total**
Theory-identifiable	0 (0%)	2 (100%)	6 (24.0%)	11 (35.5%)	19(32.8%)
Theory-not-identifiable	0 (0%)	0 (0%)	19 (76.0%)	20 (64.5%)	39(67.2%)
Total	0 (0%)	2 (100%)	25 (100%)	31 (100%)	58 (100%)

It can be seen from Table 19 that the number of empirical studies in *Assessment* has kept increasing over the past four decades. Over the first two decades, only two empirical studies were published on L2 writing assessment; however, this number increased to 31 in the latest decade. The percentages of theory-identifiable studies also increased from the third decade to the fourth decade. However, in *Assessment*, only 32.8% of the studies were successfully identified with explicit theoretical frameworks. This percentage is noticeably lower than those found in the previous three categories (61.5%, 54.5, and 49.0%). This result suggests that studies in *Assessment* adopted theoretical frameworks less frequently than studies in *Instruction*, *Writer*, and *Text*.

Although the percentage of theory-identifiable studies in *Assessment* is smaller, this percentage seemed to be aligned with Riazi et al. (2018), where they found that only 25% of the empirical studies in their assessment category were identified with theories. They did not investigate specific reasons for this low theory adoption rate other than attributing it to the overall observation that not all studies in L2 writing are theory-driven (e.g., Cumming, 2010). Based on my reading, the major reason for the low percentage of theory-identifiable studies in *Assessment* might be the different academic discourse between studies on assessment and studies on other subject matter, such as instruction and writers. Two of the central issues found in *Assessment* were validity and reliability, and most studies in *Assessment* were conducted to address practical problems surrounding these two issues. In this case, studies in *Assessment* were less dependent on teaching, learning, and linguistics theories, which are the major theories found in *Instruction*, *Writer*, and *Text*.

Frequently Adopted Theories in Assessment

As the smallest category, *Assessment* accommodated 15 theories among its 58 empirical studies. Since this amount of information is manageable, I will list all the 15 theories and their percentages in the following Table 20 and report how each theory was used to investigate assessment issues. Although only 15 theories were identified, they showed great diversity. According to the issues each of them theorizes, I classified them into seven categories: writing theory, language teaching theory, second language acquisition theory, psychology theory, mathematics theory, linguistic theory, and education theory.

Table 20: The Identified Theories in *Assessment*

Name of the theory	**Number**	**%**	**Cumulative %**
Cognitive models of composing	4	19.05%	19.05%
Generalizability theory	2	9.52%	28.57%
Item response theory	2	9.52%	38.09%
Noticing hypothesis	2	9.52%	47.61%
Cohesion theory	1	4.76%	52.37%
Constructivist learning theory	1	4.76%	57.13%
Continuation task approach	1	4.76%	61.89%
Dynamic systems theory	1	4.76%	66.65%
Focus on form	1	4.76%	71.41%
Metacognition theory	1	4.76%	76.17%
Model of task complexity	1	4.76%	80.93%
N-gram theory	1	4.76%	85.69%
Process approach	1	4.76%	90.45%
Task-based language teaching	1	4.76%	95.21%
Toulmin model of argument	1	4.76%	99.97%
Total	21	99.97%	99.97%

Writing theories included Cognitive Models of Composing, Process Approach, and Toulmin Model of Argument. The first two are under the process family, and Toulmin Model of Argument describes the elements that support good arguments. Based on Cognitive Models of Composing, researchers established formative assessment criteria, investigated the impact of auto writing assessment, and examined the theory-based validity of the writing test in TEM 8 (Test for English Majors, Band 8). Researchers also drew on Cognitive Models of Composing to create the writing strategy description pool for China's standards of English. The Process Approach was used to investigate how writing assignments that are with and without time limits influence the assessments of students' writing abilities. The last writing theory, Toulmin Model of Argument, was adopted to establish content quality assessment criteria.

Two theories from Table 20 were classified as language teaching theory, namely Task-based Language Teaching and Continuation Task Approach. Both theories appeared in *Instruction* and *Writer* and were introduced in previous sections. Researchers adopted Task-based Language Teaching to investigate the impact of task complexity and task condition on students' EFL writing. Continuation Task Approach was adopted to investigate the possibilities of incorporating continuation tasks in writing tests. As a feeder field of language teaching, SLA also contributed to writing assessment studies by providing three theories: Noticing Hypothesis, Focus on Form, and Model of Task Complexity. The previous two were introduced in previous sections, and the last one, Model of Task Complexity, refers to the cognitive task complexity framework created by Skehan (1998). Noticing Hypothesis co-occurred with two other theories. It first appeared with Task-based Language Teaching to investigate the impact of task complexity on students' writing, and it then co-occurred with Focus on Form to evaluate the feedback from automatic essay rating systems. The Model of Task Complexity was adopted to investigate the cognitive aspects of writing tests.

Psychology and mathematics mainly contributed theories of measurement for studies in *Assessment*. Theories from psychology included Metacognition Theory, Generalization Theory, and Item Response Theory. The theory from mathematics was Dynamic Systems Theory. In *Assessment*, Metacognition Theory was used to investigate how time limits influence students' writing scores. Generalization Theory, a major measurement theory in psychology, was used by researchers to investigate rater reliability in high-stakes writing tests. As another major measurement theory in psychology, Item Response Theory was also used to measure the reliability of test raters and the validity of newly created rating scales. As the only mathematics theory, Dynamic Systems Theory was used to investigate the dynamic influence of formative assessment on students' EFL writing.

Two theories from Table 20 fell into the linguistic category. Cohesion Theory and N-gram Theory were mainly used for textual assessment. Cohesion Theory was adopted to investigate the automatic assessment model for textual cohesion. N-gram Theory, an analysis theory in computational linguistics, was used to explore the automatic detection of language errors in automatic assessment systems. The last theory, Constructivist Learning Theory, refers specifically the constructivist view of reading and writing. This theory was used to test the construct validity of reading-to-write tasks in large-scale writing assessment in China.

In terms of the orientations of these theories, it was found that theories with a cognitive orientation dominated *Assessment*. Writing theories, such as Cognitive Models of Composing and Process Approach, psychology theories, such as Metacognition Theory and Generalization Theory, and SLA theories, such as the Noticing Hypothesis, all showed a clear cognitive orientation. When we exclude the two linguistic theories, as they do not fall on this cognitive-social continuum, we find that writing theories, psychological theories, and SLA theories which showed a clear cognitive orientation accounted for more than 70% of all theories in *Assessment*. Therefore, it is safe to say that theories in *Assessment* showed a strong cognitive orientation.

Disciplinary Roots of Theories in Assessment

The seven major disciplines that contributed theoretically to studies in *Assessment* have been briefly presented in the previous part. These seven disciplines are: Composition Studies, Psychology, Language Teaching, SLA, Linguistics, Education, and Mathematics. Table 21 presents the details of the theories, their original disciplines, number of occurrences, and their percentages.

Table 21: Theories in *Assessment* and Their Disciplinary Roots

Discipline	**Theory Name**	**N**	**%**
Composition Studies	Cognitive models of composing	4	19.05%
	Process approach	1	4.76%
	Toulmin model of argument	1	4.76%
	Total	**6**	**28.57%**
Psychology	Generalizability theory	2	9.52%
	Item response theory	2	9.52%
	Metacognition theory	1	4.76%
	Total	**5**	**23.80%**
Second Language Acquisition	Noticing hypothesis	2	9.52%
	Focus on form	1	4.76%
	Model of task complexity	1	4.76%
	Total	**4**	**19.04%**

Table 21 continued

Language Teaching	Continuation task approach	1	4.76%
	Task-based language teaching	1	4.76%
	Total	**2**	**9.52%**
Linguistics	Cohesion theory	1	4.76%
	N-gram theory	1	4.76%
	Total	**2**	**9.52%**
Education	Constructivist learning theory	1	4.76%
	Total	**1**	**4.76%**
Mathematics	Dynamic systems theory	1	4.76%
	Total	**1**	**4.76%**
Total		15	99.97%

According to Table 21, Composition Studies, Psychology, and SLA are the three disciplines that contributed most substantially to the theoretical frameworks in *Assessment*. Composition Studies' position as the largest theoretical contributor was achieved through the Cognitive Models of Composing. As the second largest contributor, Psychology exported measurement theories to facilitate writing assessment/testing activities. This theoretical exportation is understandable considering the fact that Psychology has a longer tradition in cognitive/psychological measurement, and the measurement frameworks from Psychology are more mature than those in second language studies. Second Language Acquisition remained a significant theoretical source. Its theories provided insights to the learning processes and further supported learning assessment. Overall, there was no new source discipline identified in *Assessment*. All these seven disciplines appeared in the previous categories of *Instruction*, *Writer*, and *Text*.

Section Summary

This section provided a theoretical review of studies in *Assessment*. The major findings are summarized as follows. First, only 32.8% of empirical studies in *Assessment* were identified with explicit theoretical frameworks. This percentage was smaller than those found in the previous three categories. The reason might be that a huge number of studies on assessment primarily addressed pragmatic issues surrounding test validity and reliability, which required less theoretical support. Second, a total of 15 theories were identified in *Assessment*. These theories attended to different aspects of L2 writing assessment. The most frequently adopted theories included Cognitive Models of Composing, Generalizability Theory, Item Response Theory, and Noticing Hypothesis. Overall, theories in *Assessment* showed a strong cognitive orientation. Finally, the theories identified in *Assessment* came from disciplines that are closely related to L2 writing, such as Composition Studies, Psychology, Language Teaching, and Linguistics. This finding provided support for researchers' intuitions about the disciplinary roots of theories in *Assessment*. Since each theory only appeared a limited number of times, the available data was insufficient to support meaningful interpretation of the developmental trends.

An Overall Discussion

This section will be devoted to an overall discussion of the major findings in this chapter. The discussion consists of two subsections: theories in an applied field and L2 writing in the post-process era. Due to the large amount of information reported in this chapter, I will first summarize and synthesize the major findings to better contextualize the discussion.

Summary of Major Findings

Table 22 provides an overall summary of the major findings regarding theory adoption in empirical studies on L2 writing in China across four subject matter categories. Information synthesized in this table included the number of theory-identifiable studies, the total number of theories identified, the four most frequently adopted theories, the major theoretical orientations, noticeable developmental trends, and the top three source disciplines. The aim of Table 22 is to provide a condensed summary of the main points. The discussion in the following subsections will be based on these major findings.

Table 22: Summary of Major Findings from Four Categories

	Instruction	***Writer***	***Text***	***Assessment***
No. of theory-identifiable studies	131 (61.5%)	100 (54.6%)	101 (49.0%)	19 (32.8%)
No. of theories	58	51	40	15
The most frequently used theories	Process approach; Constructivist learning theory; Sociocultural theory; Collaborative learning theory;	Cognitive models of composing; Metacognition theory; Dynamic systems theory; Process approach;	Models of genre analysis; Contrastive rhetoric; Cohesion theory; Error analysis approach;	Cognitive models of composing; Generalizability theory; Item response theory; Noticing Hypothesis;
Theoretical orientation	More social	More cognitive	More functional	More cognitive

Table 22 continued

Developmental trends	*Stable:* Process approach; *Increasing:* Sociocultural theories; Genre approach;	*Increasing:* Cognitive models of composing; Dynamic systems theory; Sociocultural theory;	*Increasing:* Models of genre analysis; *Decreasing:* Contrastive rhetoric; Cohesion theory; Error analysis approach;	Data insufficient to tell;
Major source disciplines	Composition studies; Language teaching; Psychology;	Composition studies; Psychology; SLA;	Linguistics; SLA; SLW;	Composition studies; Psychology; SLA;

Theories in an Applied Field

In this subsection, I argue that it would be more appropriate to describe L2 writing as a "theoretically applied" (Knapp & Antos, 2016, p. ix) field of research. This term complexifies the traditional distinction between "pure" and "applied" sciences and acknowledges L2 writing's strong motivation for problem-solving and heavy dependence on theoretical frameworks.

Recognizing L2 writing as a theoretically applied research field first acknowledges its applied orientation. It seems an accepted fact that L2 writing is an applied field, since teacher scholars have worked extensively to find solutions to solve practical problems surrounding writing teaching, writer development, written texts, and writing assessment. The applied orientation of L2 writing is also determined by its parent disciplines. For example, (Rhetoric and) Composition Studies has featured a long and vigorous discussion regarding its pedagogical imperative (Kopelson, 2008). Applied Linguistics, as its name indicates, features a more obvious applied orientation. Considering L2 writing's self-developing as well as inherited applied orientation, scholars claim that this field is "issue-driven, rather than theory or method driven", and L2 writing is "what people in the field do"; thus, "we [L2 writing scholars] do not define the issues; issues define us [L2 writing scholars]" (Matsuda, 2013, p. 448).

In terms of the nature of the L2 writing research field, I agree with the arguments about "issue-driven". However, I argue that putting "theory-driven" on the opposite of "issue-driven" might be misleading, since studies can be driven by both. Highlighting the significance of *issue* might dwarf the significance of *theory*, which misrepresents the research activities in the L2 writing community. Unlike previous claims that indicated that *theory* is less significant than *issue* in research motivation, the findings from this study suggest that L2 writing research is highly theoretically dependent, evidenced by the number of theory-identifiable studies across the four categories as well as the number of theories being identified. I understand that Matsuda's (2013) argument was made based on the examination of the eclectic nature of L2 writing regarding its theoretical orientations. That is, there is no single theory that describes and explains L2 writing activities comprehensively. However, the binary between "theory-driven", which indicates a top-down approach, and "issue-driven", which indicates a bottom-up approach, oversimplified the relations between *theory* and *issue*. Issues may not be theoretically innocent. Instead, a lot of them are deeply embedded in certain theoretical frameworks, such as students' metacognition, cognitive composing processes, and usages of lexical bundles. This means that the identification of issues might have already been theory-driven. Even when issues are theoretically neutral, research is not possible without targeting issues being theoretically defined and framed. Therefore, being theoretical is the default. The role of theory in research should not be fixed (Cumming, 2008). Studies on L2 writing may not be driven by one single overarching theory, but they are always theoretically shaped and framed, explicitly or implicitly, by multiple theories from multiple disciplines, as indicated by the findings from this study.

Based on L2 writing's theoretical dependence and applied orientation, I argue that the term "theoretically applied" describes the current status of L2 writing research in China better than other alternatives, such as "applied" and "issue-driven". On one hand, "theoretically applied" recognizes the applied orientation of L2 writing and acknowledges its theoretical informedness, as elaborated in previous paragraphs; on the other hand, it reflects the latest developmental trends in the understanding of science, which blur the boundary between "pure" and "applied" sciences.

The distinction between "pure" and "applied" sciences enjoys a long history. It is documented that this distinction was made by the Swedish chemist Wallerius back in 1751 (Knapp & Antos, 2016). In a more traditional view, "pure" sciences address issues surrounding theory, and "applied" sciences concentrates on issues with practice. In L2 writing research, this division of labor is still prevalent. Under this traditional view, the relationship between "pure" and "applied" sciences is unidirectional, meaning insights from "pure" sciences are applied to "applied" sciences following a top-down direction. As a result, "applied" sciences take on negative connotations such as atheoretical, secondary, lower academic status, and lacking in originality (Knapp & Antos, 2016).

Even though this traditional view on "pure" and "applied" sciences still plays significant roles in both academia and institutional configurations, the changing demand on sciences has gradually cultivated a more blurred understanding between "pure" and "applied" as well as "theory" and "practice". This changing demand mainly refers to the increasing amount of application pressure being put on the evaluation of theories (Carrier, Stöltzner, & Wette, 2004, as cited in Knapp & Antos, 2016). That is, the expectations of sciences have gone beyond simply providing theories and knowledge, and, more often than not, sciences are regarded as tools with which people can better solve practical problems. When “pure” sciences are turning to application, and “applied” sciences are theoretically informed, the boundary between “pure” and “applied” becomes blurred.

It is under this changing scientific atmosphere and on the basis of results from this study that I argue that “theoretically applied” is a better term to characterize L2 writing research in China. Under this orientation, researchers identify issues, examine them against theoretical and methodological backgrounds, and develop possible solutions. In this process, theories and issues are ecologically intertwined; thus, simplistically separating one from the other or emphasizing one over the other would influence the valid interpretation of L2 writing research.

L2 Writing in the Post-process Era

The theories found in this chapter showed greater diversity than theories documented in other syntheses. Based on this result, it is inappropriate to say that one or a couple theories dominated L2 writing research in China over the past 40 years. Even in this great diversity, two theories seemed to stand out – Process Approach and Cognitive Models of Composing. Although they did not dominate the four categories, they ranked as the most frequently adopted theories in *Instruction*, *Writer*, and *Assessment*. These two theories are normally categorized into the “process paradigm” (Bizzell, 1992). My arguments are that 1) L2 writing research in China is primarily in the process era, and it is in transition from the process era to the post-process era; 2) in the post-process era, studies in China would not be as ideological as their Western counterparts due to their EFL context; and 3) in the post-process era, theories with the social orientation are complementing, rather than replacing, process-oriented theories.

The claim that L2 writing research in China is primarily in the process era was made based on the strong influence process theories have on *Instruction*, *Writer*, and *Assessment*, although the percentages of these two theories did not show overwhelming dominance. Multiple reasons can explain the strong influence of process-oriented theories on L2 writing research in China. First, process theories themselves are highly influential all over the world. As Hyland (2003) suggested, process models dominated L2 writing pedagogy for more than three decades. Although process theories' cognitive orientation and individualist developmental view of writing were criticized in the United States since late 1980s, they remain popular in other parts of the world, such as Europe. Considering the strong influence that the process theories have, it is unsurprising to see them prosper in the Chinese context. The second reason is that Process Approach and Cognitive models of Composing might be the only theories available to L2 writing teacher who value tenets such as writing conferences, peer review, and formative assessment. As writing teachers move away from grammar-based teaching, they tend to seek pedagogical practices that promote meaning-making, negotiation, and feedback. Among existing writing theories, process theories seem to well accommodate these writing tenets from pedagogical and cognitive perspectives. Besides the aforementioned two reasons, other factors also contributed to the popularity of process theories in China. For example, process theories might have accelerated the construction and stabilization of academic community of L2 writing research in China, as they did for the Composition Studies in the United States decades ago (Miller, 1991). Also, the student-centered approach advocated by process theories aligns with the student-centered curriculum reform promoted by the Ministry of Education of China since the 1990s (Dello-Iacovo, 2009). Therefore, both theoretical and social reasons contributed to the significant influence of process theories on L2 writing research in China.

Over the past decade, research on L2 writing in China showed signs of transition from the process era to the post-process era, evidenced by of the growth of social and sociocognitive theories, such as Sociocultural Theories, Models of Genre Analysis, and Dynamic Systems Theories. Process theories capture writing as an individualized, abstract, and internal process (Kent, 1999), and its pedagogy, as a result, emphasizes the development of the inner self through somewhat abstract and limited connection with social contexts. In contrast, the post-process era features concepts like “social”, “post-cognitivist”, “literacy as an ideological arena”, and “composing as a cultural activity” (Atkinson, 2003, p. 4). The appearance and increase of socially and sociocognitively oriented theories in *Instruction*, *Writer*, and *Text* indicate that researchers started to see writing as a socially situated or socially mediated activity, and researchers’ conceptualization of writing had gone beyond the cognitive and internal views that characterize process theories. However, compared to the post-process movement in the United States, the movement in China is more social but less ideological.

Seeing writing as ideological is one of the key tenets of the post-process movement in the United States. However, in the Chinese context, where English and other languages are taught and used as foreign languages, this ideological tenet might be less obvious than it is in the US. Literacy is a social and ideological issue in the US context, where people argue that literacy is as important as democracy (Bizzell, 1992). Thus, literacy is a political tool for negotiating differences within a “divided and unequal citizenry” (p. 108). Under this ideological view, writing is perceived as a process in which “writers position and reposition themselves in relation to their own and others’ subjectivities, discourse, practice, and institutions” (Bizzell, 1992, p. 109). Due to this, arguments about writing are made from ideological perspectives rather than process perspectives. However, in a context where a foreign language does not perform many political functions, L2 literacy does not seem to take on great ideological and political commitments. Instead, L2 reading and writing are performed primarily for the purpose of language acquisition. For example, Zhang (2013), who sees L2 writing as an "important source of support for SLA" (p. 446), observed that L2 writing courses offered in tertiary educational institutions in EFL countries are primarily serving students' needs for language development. Similarly to Zhang's language development view towards L2 writing, Qu (2018), who has taught college English in China for decades, argued that it is always the problem of language when L2 writers' write. To some extent, this comparison between literacy in the US and L2 literacy in China mirrors the ideological vs. pragmatic debate (Benesch, 1993; Santos, 1992, 2001) in the early L2 writing literature. Although I tend to agree that literacy is always ideological, as Benesch (1993) argued, I have to admit that the strong pragmatic orientation towards L2 writing instruction might constrain the presence of ideology in L2 literacy in China. As a result, the "social turn" in L2 writing research in China might focus its attention more on the social and sociocognitive aspects of SLA rather than the ideological and political aspects of literacy.

My last argument in this subsection is regarding the compatibility among process theories and post-process theories. I argue that post-process theories are brought into L2 writing to complement process theories rather than to replace them and that theories from diverse orientations complexify our understanding of L2 writing. This argument is similar to Matsuda's (2003) comment on the post-process movement, where he claimed that "the notion of post-process needs to be understood not as the rejection of process but as the recognition of the multiplicity of L2 writing theories and pedagogies" (p. 65). My argument on this issue was developed based on two major reasons: 1) cognitive composing processes will remain a significant aspect of L2 writing research; and 2) scientific development does not follow a linear progressive model. The divide between cognitive and social orientations is not unique to L2 writing research. In SLA, there is a long discussion on how a language is acquired. The question about whether a language is learned through internal cognitive processes, through external social mediation, or through the interaction of both remains unsolved. However, this division seems to be a closed discussion in SLA. Almost all researchers recognize the significance of both, and this recognition does not seem to influence them purposing their own research agendas. It is based on the similar situations in related fields that I argue that process theories will not be replaced in L2 writing research. As Dekeyser and Juffs (2005) argued, “nobody would doubt that language, whether first or second, is an aspect of human cognition” (p. 437). Additionally, scientific development does not follow a linear progressive model, and what comes after is not more advanced than what come earlier (Canagarajah, 2016; Matsuda, 2003). Therefore, in L2 writing, it would be dangerous to follow theoretical trends blindly, assuming that newer theories would replace older ones. More often than not, newer theories are providing different insights, not the ultimate solution.

Section Summary

In this section, I provided an overall discussion of the major findings from the theoretical review in this study. Based on what was found in this study, I argued that researchers in China need to see L2 writing as a theoretically embedded applied field rather than an innocent applied field. Seeing L2 writing simply as an applied field would overlook its theoretical sophistication. I also argued that L2 writing research in China has primarily been in the process era over the past few decades, but recent theory adoption trends indicated that it is transitioning to the post-process era. However, this does not mean that post-process theories are rejecting process theories. Post-process theories, which take more social and ideological orientations, are complicating our understanding of L2 writing, instead of replacing exiting theories.

Chapter Summary

In this chapter, I reported and discussed the theories identified among empirical studies on L2 writing research in China. Before presenting the results in each subject matter category, I briefly reported the results from the first two stages of data coding – 1) identifying studies that are exclusively on L2 writing; and 2) categorizing empirical studies according to their subject matter. After presenting the overall statistics, I looked at the identified theories in detail in four broad categories: *Instruction*, *Writer*, *Text*, and *Assessment*. In each category, I presented the number of theory-identifiable studies, the total number of theories identified, the most frequently adopted theories and their orientations, theoretical developmental trends (except *Assessment*), and the disciplinary roots of the most frequently used theories. After presenting the results from each category, I provided a brief summary of the major findings from all subject matter categories and an overall discussion based on the major findings. In the following chapter, Chapter Five, I will report and discuss the methodological reviews in these four subject matter categories.

A METHODOLOGICAL REVIEW OF EMPIRICAL L2 WRITING RESEARCH IN CHINA

Chapter Four was devoted to the theoretical review of empirical L2 writing studies in China. In that chapter, I divided the studies into four categories, *Instruction*, *Writer*, *Text*, and *Assessment*, and analyzed the theories identified in each category. This chapter on the methodological review will also be structured based on these four categories, within which the methodologies and methods were identified and analyzed. This chapter comprises four main sections. In the first section, I will provide a brief overview of the current status of methodologies in L2 writing and a brief review of the major statistics in each category. The second section, which is the major part of this chapter, will be devoted to the methodological review of the empirical studies in each category: *Instruction*, *Writer*, *Text*, and *Assessment*. The results of the methodology identification in each category will be presented and the approach each methodology represents will be analyzed. In the third section, I will provide an overall discussion based on the major findings from this chapter. Finally, to conclude this chapter, I will provide a summary to highlight the main content covered in this chapter.

Methodologies in L2 Writing Research – An Overview

Methodologies and Methods

In language studies, a great deal of attention has been paid to issues concerning research methodology. Scholars in applied linguistics argue that "methodological investment is as fundamental as theory building to disciplinary development" (Choi & Richards, 2016, p. 1). This argument applies to L2 writing research as well. Since L2 writing is a cognitive process as well as a socially situated activity, researchers tend to adopt different approaches to investigate different questions. This diversity regarding research approach is seen as a positive sign of L2 writing research. Quantitative approaches are used to investigate cognitively oriented questions; qualitative approaches are used for examining socially oriented issues; and mixed methods approaches complement the previous two (Polio & Friedman, 2017). However, facing this considerable diversity, L2 writing researchers need systematic efforts to help them organize the wide range of research tools in a relatively coherent manner. With this purpose in mind, I conducted a methodological review of empirical studies on L2 writing in China in addition to the theoretical review that was presented in the previous chapter.

Compared to the types of theories, the types of methodologies identified are relatively limited. Adopting the lists of methodologies provided by Hyland (2016) and Polio and Friedman (2017), I developed a coding scheme that consists of six methodologies: Experimentation, Ethnography, Auto-ethnography, Critical Analysis, Textual Analysis, and Case study. In addition to coding methodologies, I also documented the data collection methods used in each study. The method coding process did not go beyond documenting the actual information provided in each study. Adhering to the actual information avoided the risk of over-interpretation. In general, the methods identified in this study did not extend beyond the list of methods provided by Hyland (2016), such as elicitation methods, introspection methods, observation methods, and text sample methods. Lastly, these empirical studies were classified into three categories on the basis of their research approaches, namely quantitative, qualitative, and mixed methods. This classification was first based on researchers' self-identification. When self-identification was unavailable, I coded the research approaches using the criteria presented in Chapter Three.

Subject Matter Categories

This methodological review kept using the subject matter categories reported in Chapter Four. Results from this review will also be presented based on the four categories: *Instruction*, *Writer*, *Text*, and *Assessment*. Table 23 reviews the number of studies identified in each category.

Table 23: Empirical Studies with Different Subject Matter

Subject Matter	**Number (%)**
Instruction	213 (32.3%)
Text	206 (31.2%)
Writer	183 (27.7%)
Assessment	58 (8.8%)
Total	660 (100%)

Unlike theory-identification, which showed a relatively low success rate, methodology identification was straightforward with a much higher success rate, since every empirical study was conducted based on systematic data collection. Even in cases where researchers did not articulate a clear methodology, they documented methods for data collection. This indicates that the tokens of methodologies will be noticeably higher than the tokens of theories, although the types of methodologies are much fewer than that of theories.

Methodologies/methods Adopted by Empirical L2 Writing Research in China

In this section, I will present the results of the methodology/method identification. This section consists of four subsections in accordance with the research subject matter: research on L2 writing instruction, research on L2 writers, research on L2 written texts, and research on L2 writing assessment. In each subsection, I will present the results and provide a short analysis.

Research on L2 Writing Instruction

Instruction is the largest category in the empirical scholarship on L2 writing. As discussed previously, teaching L2 writing is a multifaceted endeavor. In an ideal situation, the wide range of influencing factors involved in the instructional processes do not allow a specific methodology to dominate research in *Instruction*. Therefore, one would expect a number of methodologies to be represented in this category. The results of the methodology/method identification and analysis in *Instruction* will be presented from four perspectives: the percentage of methodology-identifiable studies, the most frequently adopted methodologies, the most frequently adopted methods, and the distribution of research approaches.

Methodology-identifiable Studies in Instruction

Methodology-identifiable studies refer to studies that adopted one of the six pre-identified methodologies. These studies were designed with the assistance of frameworks or principles that direct and organize method selection. In the present study, each methodology-identifiable study only adopted one methodology, and the methods used in that study should be included in that methodology. In a study where methods were not systematically organized, this study was categorized as methodology-not-identifiable. One controversial issue involves textual analysis. It can be regarded both as a methodology and a method, and L2 writing methodologists (e.g., Hyland, 2016; Polio & Friedman, 2017) did not establish clear criteria to distinguish its two functions. To avoid confusion, in the present study, textual analysis was regarded as a method when it appeared with other methods, such as interview or writing test, and it was regarded as a methodology when an entire study was solely based on textual analysis.

Overall, it was found that close to 80% of the studies in *Instruction* had identifiable methodologies. The percentages of methodology-identifiable studies also increased over time. Table 24 displays the detailed information.

Table 24: Studies with Identified and Unidentified Methodologies in *Instruction*

	1978-89	**1990-99**	**2000-09**	**2010-17**	**Total**
Methodology identified	0 (0%)	4(57.1%)	57(74.0%)	107(84.3%)	168(78.9%)
Methodology unidentified	2 (100%)	3 (42.9%)	20(26.0%)	20 (15.7%)	45 (21.1%)
Total	2 (100%)	7 (100%)	77 (100%)	127(100%)	213 (100%)

Two pieces of information can be obtained from Table 24. First, the percentages of methodology-identifiable studies kept increasing over the past four decades. The strongest evidence is the change between the third and the fourth period. The number of methodology-identifiable studies in the fourth period almost doubled the number in the third period; however, the number of methodology-not-identifiable studies in the third and the fourth period remained the same. Second, methodology-identifiable studies took the dominant position (78.9%) among all empirical studies in *Instruction* as they considerably outnumbered their methodology-not-identifiable counterparts (21.1%). These results indicate the significant roles that methodology has played in the studies in *Instruction*.

The dominant position that methodology took in *Instruction* is a positive sign indicating increasing soundness in research design. As Hyland (2016) suggested, methodology works at a higher level than method, bridging the overall purpose of the study and the actually methods for data collection. Therefore, methodology is the "operating model for conducting research" (p. 117), with which the combination of methods was carefully explained and justified. Thus, the high percentage of methodology-identifiable studies is encouraging, suggesting more serious research design processes that researchers went through to address issues on "how research is done, how we (researchers) find about things, and how knowledge is gained" (Hyland, 2016, p. 117).

Frequently Adopted Methodologies in Instruction

Although it has been a widely accepted fact that there is no perfect methodology for any question, researchers tend to prefer certain methodologies to others. In *Instruction*, the preferred methodology was Experimentation because the overwhelming majority of methodology-identifiable studies in this category adopted Experimentation to test the effect of certain pedagogical practices. Table 25 shows the names of the identified methodologies and their percentages.

Table 25: Methodologies Identified in *Instruction*

Name of the methodology	**Number**	**%**	**Cumulative %**
Experimentation	153	91.07%	91.07%
Case Study	12	7.14%	98.21%
Textual Analysis	3	1.79%	100%
Total	168	100%	100%

Unlike theories found in *Instruction*, methodologies in this category did not show much diversity. Among the six methodologies, only three were identified, among which Experimentation took the overwhelmingly dominant position, accounting for 91.07% of the total methodology appearances. The other two, Case Study and Textual Analysis, made up slightly less than 10% of the total methodology appearances.

Experimentation involves controlling and manipulating variables to examine the effects of certain treatments (Hyland, 2016; Polio & Friedman, 2017). Since it needs to control and isolate variables, Experimentation is frequently criticized for taking a “reductionist” (Polio & Friedman, 2017, p. 19) approach and being insufficient in taking account of the complexity and embeddedness of writing activities. Despite this criticism, Experimentation remains a significant methodology in investigating the effectiveness of instruction and feedback on L2 writing. Its significance seemed more profound in L2 writing research on instruction in China, as showed by Table 25. To provide concrete examples, I selected two studies to showcase how Experimentation was implemented. For example, Cheng (2017) investigated the effectiveness of genre-based pedagogy in EAP writing instruction. To measure its effectiveness, he divided students into control and experimental groups and conducted a 16-week teaching experiment. Based on the results of pre-test and post-test and the semi-structured interview, he found that genre-based pedagogy enhanced students’ linguistic development and writing competence. In another study on the effects of instructor feedback and peer feedback, Zhang (2017) conducted an experiment for one semester. From the results of the pre-test and post-test and a survey, she found that, given sufficient training, peer feedback is similar to instructor feedback in terms of their effectiveness.

Case Study is the second most frequently used methodology in *Instruction*. Although ranking second, its appearance frequency was considerably lower than that of Experimentation. Case Study is “a choice of what is to be studied” (Stake, 2000, p. 435). Normally, it studies a phenomenon in a natural setting and collects data from multiple sources to explore it in depth. In *Instruction*, 12 empirical studies adopted Case Study as their methodology. For example, Sun (2017) conducted a case study to investigate the effectiveness of teacher-students collaborative assessment (TSCA) in writing instruction. In this study, the case was not an individual participatant; instead, it was the class that adopted the TSCA. Collecting data from classroom recordings, students' texts, student interviews, and teacher reflections, the researcher found a number of viable guidelines for TSCA implementation. In another case study, Lin and Zhan (2015) investigated college English teachers' assessment and use of writing textbooks. Their data sources include a survey and semi-structured interviews conducted with three English writing teachers. Although both Experimentation and Case Study tend to use multiple methods for data collection, Case Study is more likely to collect data in a natural setting. This characteristic allows Case Study to identify more variables involved in writing instruction and the complex interactions among them.

As the last methodology listed in Table 25, Textual Analysis was used three times to investigate pedagogical issues. For example, Lin (1991) discussed EFL writing teaching based on the language error examples he found in writing tests. Zhao (1995) discussed writing teaching based on her analysis of rhetorical patterns that her students demonstrated in their writing assignments. Liang (2003) did a discourse analysis of students' texts to examine the effectiveness of discourse guides in writing teaching. One thing we can find from the three examples is that they were all published in the early years of the examined period. This indicates that recent studies tend to use multiple data sources to examine the effectiveness of pedagogical practices, rather than depending on textual data alone. This change might be caused by the "triangulation" movement that has influenced research design in applied linguistics and L2 writing over the past two decades (see Hashemi & Babaii, 2013; Polio & Friedman, 2017).

Frequently Adopted Methods in Instruction

In this part, I will present the most frequently adopted methods in studies in *Instruction*. Research methods were organized into three categories: methods used in Experimentation, methods used in Case Study, and methods used in methodology-not-identifiable studies. Since

Textual Analysis refers to studies using only textual data, methods used in this methodology will not be reported. The aim of this part is to identify the most commonly used methods for data collection in L2 writing studies on instruction.

Table 26: Methods Used in Experimentation in *Instruction*

Name of method	**Number**	**%**	**Cumulative %**
Writing test	98	29.97%	29.97%
Survey	81	24.77%	54.74%
Interview	57	17.43%	72.17%
Written text	50	15.29%	87.46%
Observation	11	3.36%	90.82%
Feedback	7	2.14%	92.96%
Reflection	7	2.14%	95.10%
Communication/conversation	3	0.91%	96.01%
Self-assessment	3	0.91%	96.92%
Think-aloud protocol	2	0.61%	97.53%
Vocabulary test	2	0.61%	98.14%
Critical thinking test	1	0.31%	98.45%
Journal	1	0.31%	98.76%
Language proficiency test	1	0.31%	99.07%
Mind record	1	0.31%	99.38%
Writing portfolio	1	0.31%	99.69%
Writers' autobiography	1	0.31%	100%
Total	327	100%	100%

Table 26 lists the 18 methods that were used by researchers to collect data when they adopted Experimentation as their methodology. Among the 18 methods, five of them were used most frequently, accounting for over 90% of the total method appearances. These five methods are Writing Test, Survey, Interview, Written Text, and Observation. Writing Test and Written

Text measure the quality of texts. Survey and Interview investigate participants' attitudes towards and perceptions of pedagogical interventions. Observation documents participants' activities, providing process-oriented data to evaluate the effectiveness of the interventions.

It is not surprising to see Writing Test and Written Text as the major data collection methods for experimentation. These two accounted for almost half (45.26%) of the total method appearances in Experimentation. This finding is consistent with Polio and Friedman's (2017) observation that "the majority of experimental studies use either text quality or some text feature …as their dependent variable" (p. 19). Since text is the most common dependent variable in L2 writing instructional experiments and its quality is normally evaluated through score and textual features, it is unsurprising to see the significant roles Writing Test and Written Text play in data collection. Among the top five methods in Table 26, Survey and Interview belong to the category called Elicitation (Hyland, 2016). Their popularity among L2 writing experimentalists is a product of their advantages. For example, a survey can collect a huge amount of "easily analysable" (p. 117) information about participants' beliefs and attitudes, which cannot be collected through writing tests and textual analyses (Hyland, 2016). The advantage of Interview is that it provides one of the easiest way to collect qualitative data. As observed by Polio and Friedman (2017), researchers, especially those who adopt a mixed method approach, tend to collect interview data to add emic perspectives and to conduct triangulation. Therefore, considering the advantages of Survey and Interview and the fact that they are relatively easy to conduct, it is not surprising to see that L2 writing experimentalists in China adopted them frequently to collect data that could complement textual data.

While methods in Elicitation, like Survey and Interview, collect data on how participants say what they think and what they do, Observation provides evidence for these claims (Hyland, 2016). In addition, Observation also provides valuable data and perspectives that could be associated with writing tests/written texts to explain why writers' under examination performed in certain ways. Although Observation could provide unique data, it was not widely adopted, occurring only 10 times. For example, Zhang (2006) used classroom observation as one of her data sources to investigate the application of collaborative learning in Chinese English major students' writing classes. In another study, Sang (2017) recorded two sessions of join production instruction in addition to collecting textual and interview data to investigate the effect of join production, which means teacher-student collaboration in the production processes, on EFL students' writing accuracy. It seems that Observation will more likely be adopted when the writing process involves a certain amount of collaboration.

The remaining 12 methods are familiar to L2 writing researchers and applied linguists, except for mind record. A mind record, similar to a personal reflection, is a written record completed by a writer to document the mental activities while he/she was writing. Activities recorded focus on the meta-awareness of the writers, like how they perceive the writing task and their writing processes. Mind record was used by Liu (2014) to investigate students' metacognitive ability development in English writing. She asked her participants to complete two writing tasks, one before and the other after the teaching experiment, and to write a mental record after each task. By analyzing students' mental records together with a survey they completed, Liu found significant improvements among different aspects of students' metacognitive abilities.

In addition to methods used in Experimentation, I also calculated methods used in Case Study. Since the number of case studies was significantly smaller than that of experimental studies, the method types were fewer and the frequency of occurrences was lower. Table 27 displays the major methods used in Case Study in *Instruction*.

Table 27: Methods Used in Case Study in *Instruction*

Name of method	**Number**	**%**	**Cumulative %**
Interview	8	24.25%	24.25%
Observation	6	18.18%	42.43%
Written text	6	18.18%	60.61%
Survey	3	9.09%	69.70%
Teaching materials	3	9.09%	78.79%
Communication	2	6.06%	84.85%
Reflection	2	6.06%	90.91%
Feedback	1	3.03%	93.94%
Reading test	1	3.03%	96.97%
Teaching plan	1	3.03%	100%
Total	33	100%	100%

Table 27 shows that 10 methods were used by case studies in *Instruction*. Most methods listed in Table 27 appeared in Experimentation, except for Teaching Materials, Reading Test, and Teaching Plan. Another major difference between methods in Experimentation and Case Study is the adoption of Writing Test. It was the most frequently adopted method in Experimentation; however, it did not appear in Case Study. Since research that adopts Case Study normally studies its case(s) in depth, it is unsurprising to see Interview, Observation, Communication, and Reflection, which collect detailed and individualistic data, play significant roles in data collection. Since studies in *Instruction* concentrated on pedagogical practices, Teaching Materials and Teaching Plan were used to provide supporting data.

To conduct in-depth analysis, case study researchers normally collect multiple sources of data (Polio & Friedman, 2017). This is what I observed in the data coding process. Seven out of the 12 case studies adopted at least three methods; only two adopted a single data source. Huang, Nan, and Yang (2003) conducted a case study to investigate the teaching of register knowledge in EFL writing. The case in their study was the connective “because”; therefore, their study only adopted text as their data source. In another study, Zhang and Zhou (2017) conducted a case study to investigate writing instruction practice in China’s tradition of foreign language education. They conducted in-depth interviews with eight senior English professors and summarized the fundamental elements and features of their writing instruction. In this multiple case study, the researchers only used interview for data collection.

The last part of this method report will be devoted to the methods adopted by the methodology-not-identifiable studies. These studies did not specify clear methodologies, and their usage of methods was not bound by methodological principles and guidance. Table 28 lists the 10 methods used by the methodology-not-identifiable studies in *Instruction*. Among these 10 methods, only Textbook Analysis and Stimulated Recall were not used by studies that were reported in the previous parts.

Table 28: Methods Used in the Methodology-not-identifiable Studies in *Instruction*

Name of method	**Number**	**%**	**Cumulative %**
Survey	24	36.37%	36.37%
Interview	14	21.21%	57.58%
Written text	11	16.67%	74.25%
Writing test	4	6.06%	80.31%
Textbook analysis	4	6.06%	86.37%
Feedback	3	4.55%	90.92%

Table 28 continued

Reflection	2	3.03%	93.95%
Stimulated recall	2	3.03%	96.98%
Email exchange	1	1.51%	98.49%
Think-aloud protocol	1	1.51%	100%
Total	66	100%	100%

Textbook Analysis refers to the analysis of textbook content, and it does not specify one specific way of doing it. Normally, analyses were conducted under different frameworks according to the questions each study was set out to address. There were four studies in *Instruction* that used Textbook Analysis. For example, Cai (2005) analyzed 21 sets of English writing textbooks in China, trying to examine the existing problems in textbook compiling to facilitate writing teaching. The three aspects that she analyzed were compiling principles, contents, and textbook foci. A more recent study that adopted Textbook Analysis was conducted by Yu (2015), where he analyzed the intertextuality in business English communication textbooks in China. What he concentrated on was the intertextuality of these textbooks at a micro level.

Stimulated Recall is a type of retrospective method. Researchers normally ask participants to reflect their behaviors with the assistance of some type of reminder, such as video (Polio & Friedman. 2017). Two studies adopted Stimulated Recall to collect retrospective data. Wang (2015) used Stimulated Recall together with Think-aloud Protocols to investigate the L2 learning mechanism of continuation task. In the other study, Wang (2015) adopted Stimulated Recall and Interview to investigate the influence of corrective feedback on ESL writers' writing proficiency.

To sum up, I reported the methods used in Experimentation, Case Study, and the methodology-not-identifiable studies in *Instruction*. It was found that Survey, Interview, and Written Text are among the most frequently adopted methods across three categories. Writing Test is the most frequently adopted method in experimental studies, but it was not frequently used in case studies and methodology-not-identifiable studies. Its popularity in Experimentation might be caused by the need for measurements of text quality as a dependent variable. In the following part, I will present the numbers and percentages of studies that adopted quantitative, qualitative, and mixed method approaches in *Instruction*.

Studies with Different Research Approaches

Categorizing studies into quantitative, qualitative, and mixed methods categories is complex and controversial. Scholars have argued that it is the underlying philosophical beliefs and assumptions that distinguish qualitative from quantitative, rather than data collection and analysis (Willis et al., 2007). Since the underlying beliefs and assumptions are invisible, I only examined the ways in which researchers collected and analyzed data to categorize the research approaches, as other L2 writing researchers did in their studies (e.g., Casanave, 2016; Manchón, 2016; Polio & Friedman, 2017; Riazi et al.,2018). When a study did not provide sufficient information to identify its research approach, it was categorized as *Not Clear*. As mentioned in Chapter Three, the first step in research approach identification was to find self-identifications from researchers. When the approach was not self-identified in a study, I coded it following the criteria provided in Chapter Three. Table 29 presents the numbers and percentages of studies in different approaches in *Instruction*.

Table 29: Studies with Different Research Approaches in *Instruction*

Research Approach	**Number (%)**
Mixed Method	105 (49.30%)
Quantitative	89 (41.78%)
Qualitative	15 (7.04%)
Not Clear	4 (1.88%)
Total	213 (100%)

Among the 213 studies in *Instruction*, 60 of them specified their research approaches: 15 Quantitative, 38 Mixed Methods, and seven Qualitative. The remaining 153 studies were coded by the researcher. Table 29 shows that Mixed Methods approach and Quantitative approach dominated empirical studies in *Instruction*, and they accounted for more than 90% of all studies. A closer look at the Mixed Methods studies revealed that 77 out of 105 were experimental studies. Among these 77 studies, 45 used interview as the primary means of qualitative data collection. These 45 studies tend to fall into the “QUAN-qual” category (Polio & Friedman, 2017, p. 75), which means that these studies were primarily quantitative. Considering the fact that almost half of the Mixed Methods studies were primarily quantitative, it is safe to say that the Quantitative approach significantly influenced the empirical studies in *Instruction*. Although qualitative data were collected and analyzed, they were primarily included in Mixed Methods studies. Only a very small percentage (7.04%) was entirely based on qualitative data.

Section Summary

There are four major findings regarding the methodology/method use in *Instruction*. First, the majority (78.9%) of the empirical studies in *Instruction* had identifiable methodologies. This finding indicates that most researchers selected their data collection methods under the principles and guidance of methodologies. This further contributed to the informedness of method adoption and research design. Second, among the three methodologies identified, Experimentation was the overwhelmingly dominant one. This suggests that conducting pedagogical experiments by controlling and manipulating variables was preferred by L2 writing researchers to investigate the effectiveness of instructional interventions. Third, Writing Test, Survey, Interview, and Written Text were the four most frequently adopted methods in *Instruction*. Among these four, Writing Test appeared mostly in Experimentation. Finally, studies in *Instruction* showed a strong Quantitative preference. Qualitative data were mainly collected and analyzed by Mixed Methods studies. Very few studies relied entirely on qualitative data. In the following section, I will present the results of the methodology/method usage in empirical studies on L2 writers.

Research on L2 Writers

Writer is another category that involves multiple variables. The social, cognitive, and socio-cognitive aspects of L2 writer might invite a number of methodologies to be adopted for in-depth investigations. The results of the methodology/method identification and analysis in *Writer* will also be presented from four perspectives: the percentage of methodology-identifiable studies, the most frequently adopted methodologies, the most frequently adopted methods, and the distribution of research approaches.

Methodology-identifiable Studies in Writer

Regarding the methodology-identifiable and methodology-not-identifiable studies in *Writer* and *Instruction*, there are similarities and differences. One similarity is that the percentages of methodology-identifiable studies in *Writer* has kept increasing over the past four decades, and this increasing trend is consistent with the trend found in *Instruction*. This indicates an increasing awareness of the significance of methodology among researchers who concentrated on L2 writers, and they were more dependent on methodologies for method selection. One difference lies in the percentages of methodology-identifiable studies between *Writer* and *Instruction*. In *Instruction,* almost 80% of studies had identifiable methodologies; however, in *Writer*, this number fell to 55.2%. The following Table 30 provides the detailed numbers and percentages of methodology-identifiable and methodology-not-identifiable studies in *Writer* over time.

Table 30: Studies with Identified and Unidentified Methodologies in *Writer*

	1978-89	**1990-99**	**2000-09**	**2010-17**	**Total**
Methodology identified	0 (0%)	3 (33.3%)	26(47.3%)	72 (61.0%)	101 (55.2%)
Methodology unidentified	1 (100%)	6 (66.7%)	29(52.7%)	46 (39.0%)	82 (44.8%)
Total	1 (100%)	9 (100%)	55(100%)	118(100%)	183 (100%)

There might be several reasons causing the lower percentage of the methodology-identifiable studies in *Writer* compared to *Instruction*. One of them is the decreasing number of studies that adopted Experimentation as their methodology. It was found that a large number of studies in *Instruction* were based on pedagogical experiments; thus, Experimentation was found to be the dominant methodology in *Instruction*. When the research foci were shifted from pedagogical practices to individual writers, the number of teaching experiments was reduced. Although researchers could also conduct other types of experiments to investigate L2 writers, the loss of teaching experiments influenced the total number.

Although there was a decrease in the percentage of methodology-identifiable studies in *Writer*, it is still reasonable to argue that methodology played a significant role in empirical research on L2 writers. The fact that over half of the studies in *Writer* had identifiable methodologies and that the percentages of methodology-identifiable studies kept increasing over the past four decades provides strong evidence to support that argument. Considering the significance of methodology to research design, it is encouraging to see that the value of methodology was widely appreciated by researchers in this category.

Frequently Adopted Methodologies in Writer

As with *Instruction*, only three methodologies were identified among empirical studies in *Writer*: Experimentation, Case Study, and Textual Analysis. Although the types of methodologies remained the same, the numbers and percentages of each varied. Table 31 provides the detailed information about the identified methodologies and their percentages.

Table 31: Methodologies Identified in *Writer*

Name of the methodology	**Number**	**%**	**Cumulative %**
Experimentation	51	50.50%	50.50%
Textual Analysis	26	25.74%	76.24%
Case Study	24	23.76%	100%
Total	101	100%	100%

Experimentation remained the major methodology adopted by studies in *Writer*. Table 31 shows that slightly over half of the methodology-identifiable studies (50.50%) were conducted based on experiments. Although this percentage was significantly smaller than that (91.07%) in *Instruction*, it is still noticeably higher than the percentages of Textual Analysis and Case Study, indicating the strong influence this methodology has had on studies on L2 writers.

As aforementioned, Experimentation involves manipulating variables to examine the effects of these variables. In *Writer*, the variables being manipulated extended beyond the confines of pedagogical practices and involved a wider range of social, cognitive, and task complexity variables. For example, Wang and Pu (2016) conducted an experiment to examine the effects of pre-task planning and online planning (without pre-writing planning) on timed L2 writing performance. The variable being manipulated in this study was planning time – one group had pre-writing time to plan but the other had to plan while writing. Another experimental study investigated the effects of task type variables on planning and writing production in online EFL writing (Wang & Zhang, 2017). The three types of tasks were Narrative, Explanatory, and Argumentative essays. The researchers found that task type variables influenced pre-task planning activities and the fluency, accuracy, and complexity of the written texts.

The increases of numbers and percentages of Textual Analysis and Case Study are the other differences between *Writer* and *Instruction*. The increase of Textual Analysis is bigger than that of Case Study. In *Instruction*, Textual Analysis was only adopted three times; however, it was adopted 26 times in *Writer*, accounting for 25.74% of the total methodology appearances. Case Study in *Writer* was adopted 24 times, and this number doubled that in *Instruction*. Textual Analysis tended to investigate writing behaviors through the examination of written texts. For example, Xu (2016) investigated the developmental features of citation competence in L2 academic writing through examining Bachelor, Master, and PhD students' written texts. She found that the ideational aspect of citation kept increasing but the interpersonal aspect did not develop until students reached the doctoral level. Textual Analysis also showed longitudinal characteristics. At least seven out of 26 Textual Analysis studies explicitly indicated that they were longitudinal studies. For example, Zhu and Wang (2013) built a corpus of 120 English compositions on the same topic written by 30 Chinese English major students throughout the four years of their college study. By analyzing these texts, the researchers investigated the developmental features of lexical richness of these participants in their English writing.

The advantages of adopting Case Study to investigate L2 writers are obvious. As case studies normally have a limited number of participants and collect multiple types of data, they can provide an in-depth understanding of L2 writers. This advantage also contributed to the increase of the usage frequency of Case Study in *Writers*. Multiple aspects of L2 writers were investigated by the case studies. For example, Chen (2017) conducted a one school-year longitudinal multiple case study of six students to track their development of writing fluency. She collected the written texts composed by these six participants over a year and conducted interviews to gain the emic perspectives of the participants' learning developmental trends. In a similar study, Wu (2017) studied an English CSL (Chinese as a Second Language) learner to explore changes in lexis and grammar.

Frequently Adopted Methods in Writer

The most frequently adopted methods in *Writer* will also be presented in three parts: methods used in Experimentation, methods used in Case Study, and methods used in the methodology-not-identifiable studies.

Table 32: Methods Used in Experimentation in *Writer*

Name of method	**Number**	**%**	**Cumulative %**
Written text	32	35.56%	35.56%
Writing test	19	21.11%	56.67%
Survey	16	17.78%	74.45%
Interview	5	5.56%	80.01%
Input recording	4	4.45%	84.46%
Recitation test	2	2.22%	86.68%
Working memory test	2	2.22%	88.90%
Assessment form	1	1.11%	90.01%

Table 32 continued

Conversation	1	1.11%	91.12%
Feedback	1	1.11%	92.23%
Introspective recall	1	1.11%	93.34%
Observation	1	1.11%	94.45%
Planning draft	1	1.11%	95.56%
Reflection	1	1.11%	96.67%
Think-aloud protocol	1	1.11%	97.78%
Vocabulary test	1	1.11%	98.89%
Writing portfolio	1	1.11%	100%
Total	90	100%	100%

Table 32 lists the 17 methods that were used by researchers when they conducted experiments to investigate L2 writers. Among the top five methods, four of them were listed as the most frequently used methods in *Instruction*, namely Written Text, Writing Test, Survey, and Interview. Therefore, it is safe to say that these four methods were most frequently used to collect data by L2 writing experimentalists to examine the dependent variables. Writing Test and Written Text measure text quality variables, and Survey and Interview measure attitudinal variables.

Input Recording is a new method identified in *Writer*. It refers to the recording of writers' actions when they are writing on a computer with the assistance of software such as Inputlog. It collects keyboard input and mouse movement data to investigate writers' composing processes, mostly cognitive processes. Since this method mainly collects data about cognitive composing processes, it is unsurprising to see its appearance in *Writer*. Four studies adopted Input Recording to collect data. For example, Yuan and Xu (2016) investigated the psychological activities of automatic processing of formulaic sequences in L2 writing processes. They collected keyboard and mouse input data with the assistance of screen recording and written texts to investigate writers' composing processes. In another study, Ke (2017) investigated the discreteness of pauses in L2 writing planning processes by collecting Inputlog data and analyzing this data with the help of students' written texts.

The above Table 32 listed the methods used in the experimental studies, and the following Table 33 lists the methods used in the case studies. Table 33 indicates that Written Text, Interview, and Observation remained the most frequently used methods, and Written Text was the most frequently adopted among these three. This is unsurprising since written texts are the immediate outcomes that L2 writing studies want to analyze, and it was observed that texts were normally combined with other sources of data to investigate learner development over time in case studies (Polio & Friedman, 2017).

Table 33: Methods Used in Case Study in *Writer*

Name of method	**Number**	**%**	**Cumulative %**
Written text	16	33.33%	33.33%
Interview	12	25.00%	58.33%
Think-aloud protocol	7	14.58%	72.91%
Observation	4	8.34%	81.25%
Survey	4	8.34%	89.59%
Stimulated recall	2	4.17%	93.76%
Teaching materials	1	2.08%	95.84%
Journal	1	2.08%	97.92%
Presentation profile	1	2.08%	100%
Total	48	100%	100%

One noticeable difference between methods in case studies in *Instruction* and *Writer* is the appearance of Think-aloud Protocol. This method appeared seven times among the 24 case studies in *Writer*; however, it did not show up in case studies in *Instruction*. Think-aloud

Protocol collects verbal report data and provides researchers with an access to writers' cognitive activities. Considering Cognitive Models of Composing were found to be the most frequently adopted theories in *Writer*, it is expected that Think-aloud Protocol would be used in these studies on L2 writers' composing processes. For example, Sun and Zhao (2008) did a case study of four Chinese EFL writers with different English proficiency levels. They collected think-aloud data and investigated their participants' L1 and L2 writing processes. In another case study, Lu (2016) used Think-aloud Protocols and Stimulated Recalls to investigate six non-English major graduate students' L2 writing processes based on an automated essay evaluation tool.

The last set of methods reported in this part are those adopted by the methodology-not-identifiable studies in *Writer*. Table 34 lists the 15 methods used by these studies in *Writer*. Among these 15 methods, Think-loud Protocol, Input Recording, Stimulated Recall, and Eye Tracker collected data about writers' composing processes and reflected a unique feature of the category of *Writer*.

Table 34: Methods Used in the Methodology-not-identifiable Studies in *Writer*

Name of method	**Number**	**%**	**Cumulative %**
Survey	53	35.57%	35.57%
Interview	28	18.79%	54.36%
Writing test	23	15.44%	69.80%
Written text	20	13.42%	83.22%
Think-aloud protocol	5	3.36%	86.58%
Language proficiency test	4	2.68%	89.26%
Input recording	3	2.01%	91.27%
Stimulated recall	3	2.01%	93.28%
Observation	2	1.35%	94.63%
Reflection	2	1.35%	95.98%

Table 34 continued

Critical thinking test	1	0.67%	96.65%
Eye tracker	1	0.67%	97.32%
Feedback	1	0.67%	97.99%
Group discussion	1	0.67%	98.66%
Journal	1	0.67%	99.33%
Judgement card	1	0.67%	100%
Total	149	100%	100%

From this table we can identified that the most frequently used methods in previous categories, such as Survey, Interview, Writing Test, and Written Text, remained the most popular methods among the methodology-not-identifiable studies in *Writer*. The methods for collecting cognitive process data, such as Think-aloud Protocol, Input Recording, and Stimulated Recall, also appeared in previous categories. The only three new methods are Eye Tracker, Group Discussion, and Judgement Card, although each of them was only used once among the methodology-not-identifiable studies.

Eye Tracker is a method that is frequently used in cognitive psychology to investigate participants' psychological processes. It collects data that might not be successfully collected by Think-aloud Protocols because not every psychological process can be completely verbalized (Polio & Friedman, 2017). For example, Wang (2016) utilized Eye Tracker with the help of Input Recording to investigate the writing processes of L2 Chinese writers. Group Discussion refers to the method of collecting data through organizing and analyzing group discussion. This method was used by Shi (1998) when she investigated the dynamics of talking to write in adult ESL classes. She analyzed the quality of spoken discourse in three classes and nine peer pre-writing discussions of 47 ESL students and investigated how quality of spoken discourse influenced students' written texts. The last method, Judgement Card, refers to plagiarism judgement cards, and it was used to collect students' perceptions of different types of plagiarism. In the example study, Gui, Ma, and Huang (2016) investigated non-English major college students' recognition of different types of plagiarism and their attitudes toward plagiarizing practices by showing them plagiarism examples on cards and asking them to judge.

To conclude this part, I will provide a brief summary of the major findings of method adoption in *Writer*. Overall, Written Text, Writing Test, Survey, and Interview remained the dominant methods for data collection in *Writer*. This finding aligns with that in *Instruction*, and it further strengthens the argument about the dominant positions of these methods. The frequent appearances of cognitive data collection methods, such as Think-aloud Protocol, Stimulated Recall, Input Recording, and Eye Tracker, highlighted a unique characteristic of studies on L2 writers. Since many of them investigated the cognitive composing processes of L2 writers by adopting Cognitive Models of Composing (as indicated in Chapter Four), they tended to rely on cognitive data collection methods more heavily. In the following part, I will present the numbers and percentages of studies that adopted quantitative, qualitative, and mixed methods approaches in *Writer*.

Studies with Different Research Approaches

Among the 183 studies in *Writer*, 57 of them (31.15%) explicitly articulated their research approaches (Quantitative, 19; Mixed Methods, 28; Qualitative, 10). For the remaining 126 studies, I coded based on the ways they collected and analyzed data. In *Writer*, only one study was coded as *Not Clear* due to the lack of information about how data were collected and analyzed. Table 35 presents the numbers and percentages of studies in different approaches in *Writer*.

Table 35: Studies with Different Research Approaches in *Writer*

Research Approach	**Number (%)**
Quantitative	99 (54.10%)
Mixed Methods	70 (38.25%)
Qualitative	13 (7.10%)
Not Clear	1 (0.55%)
Total	183 (100%)

Table 35 indicates that Quantitative approach surpassed Mixed Methods approach and became the most frequently used approach in *Writer*, being adopted by 54.10% of the studies. Mixed Methods followed closely, with 38.25%. Compared to Quantitative and Mixed Methods approaches, Qualitative approach remained marginalized, being only adopted 13 times. Although the number of case studies showed a noticeable increase in *Writer*, the number of studies that were entirely qualitative dropped slightly. This indicates that not all case studies were qualitative in nature, although we tend to associate case studies with qualitative approaches. It is also interesting to find that 10 out of 13 (76.92%) studies using Qualitative approach explicitly self-identified their research approaches. This might indicate an assumption among researchers that Quantitative or Mixed Methods are the norm and default, and studies need to be self-labelled as Qualitative when they deviate from the perceived norms. The broad picture showed by Table 35 is a skewed distribution of research approaches in *Writer* – Quantitative and Mixed Methods were dominating, and Qualitative was marginalized. This distribution is consistent with the research approach distribution found in *Instruction* with only minor differences.

Section Summary

The major findings regarding the methodology/method use in *Writer* can be summarized from four perspectives. First, more than half (55.2%) of the empirical studies in *Writer* had identifiable methodologies. Although there was a drop in percentage compared to that in *Instruction*, this percentage still represented the significance of methodology in empirical research on L2 writers. Second, the distribution of the three identified methodologies became less skewed with signs of decrease in Experimentation and increase in Textual Analysis and Case Study. But Experimentation still remained the most frequently adopted methodology (50.50%) in *Writer*. Third, Writing Test, Survey, Interview, and Written Text remained the most frequently adopted methods in *Writer*. What were added to the existing method pool were cognitive data collecting methods, such as Think-aloud Protocol, Stimulated Recall, and Input Recording. This change highlights the research focus on cognitive composing processes that characterizes the category of *Writer*. Finally, studies in *Writer* showed a strong Quantitative and Mixed Methods preference. Qualitative approach remained marginalized. In the following section, I will present the results of the methodology/method usage in empirical studies in *Text*.

Research on L2 Written Texts

The methodologies used in *Text* showed greater homogeneity than those found in *Instruction* and *Writer*. This homogeneity is understandable since studies on L2 written texts primarily worked with textual data; therefore, most of them adopted Textual Analysis as their methodology. Considering this unique feature, the results in *Text* will only be presented from three perspectives: the percentage of the methodology-identifiable studies, the most frequently adopted methodologies, and the distribution of research approaches.

Methodology-identifiable Studies in Text

The percentage of the methodology-identifiable studies in *Text* (97.6%) is higher than that in *Instruction* (78.9%) and *Writer* (55.2%). This high percentage is a result of the domination of Textual Analysis in this category. Since Textual Analysis is broadly defined in this study, including analyses of both formal and functional features, all the studies that were entirely based on textual data fell into the methodological category of Textual Analysis. The following Table 36 displays the numbers and percentages of the methodology-identifiable and the methodology-not-identifiable studies in *Text* over time.

Table 36: Studies with Identified and Unidentified Methodologies in *Text*

	1978-89	**1990-99**	**2000-09**	**2010-17**	**Total**
Methodology identified	0 (0%)	6 (96.8%)	91(47.3%)	104 (98.1%)	201 (97.6%)
Methodology unidentified	0 (0%)	0 (0%)	3 (3.2%)	2 (1.9%)	5 (2.4%)
Total	0 (0%)	6 (100%)	94(100%)	106(100%)	206 (100%)

Among the 206 studies, only five were categorized as methodology-not-identifiable. These five studies primarily used other sources of data in addition to textual data to investigate target questions, and their selections of methods were not made under the guidance of certain methodologies. For example, Cao (2003) investigated organizational patterns in Chinese ESL writers' comparison-and-contrast essays. To complement the textual data, she conducted open-ended surveys to collect learners' decision-making information. In another study, Yu and Cao (2015) investigated authorial voices in 39 argumentative essays written by Chinese EFL learners. In addition to textual data, which were analyzed quantitatively, they also collected interview data to add qualitative insights to their study.

Frequently Adopted Methodologies in Text

The three methodologies that appeared in *Instruction* and *Writer* also appeared in *Text*; however, their distribution was highly skewed. It is unsurprising to see that Textual Analysis dominated completely, accounting for 95.52% of the total methodology occurrences.

Experimentation and Case study combined appeared nine times, accounting for less than 5% of the total occurrences. The following Table 37 shows the appearance frequency of each methodology and their percentages.

Table 37: Methodologies Identified in *Text*

Name of the methodology	**Number**	**%**	**Cumulative %**
Textual Analysis	192	95.52%	95.52%
Experimentation	5	2.49%	98.01%
Case Study	4	1.99%	100%
Total	201	100%	100%

Experimentation in *Text* involved variable control in textual analysis. For example, Zhao (2004) conducted an analysis of the structures and placement of nominal groups in EFL students' writing. In this study, she also considered language proficiency as a variable and divided students into groups to compare performances among groups. In the other experimental study, Zhang and Zhang (2017) investigated the differences in alignment and language error frequency produced in the continuation tasks of narration and argumentation. In this study, the two types of continuation tasks were used as control variables to investigate how the textual features were influenced by these two tasks. In both experimental studies, the researchers used only text as the dependent variable.

Case studies in *Text* focused on analyzing the textual features of selected cases in-depth rather than finding generalizable patterns. They also collected interview or survey data to assist textual data interpretation. For example, Yang (2005) investigated the influence of L1 rhetorical patterns and reasoning on L2 writing. She asked two writing teachers, one L1 English speaker and one L2 English speaker, to evaluate an English essay written by an English major college student and analyzed their comments regarding the text's reasoning problems and rhetorical patterns. In another case study, Zhang (2011) analyzed multiple cases of L2 written texts to investigate the construction of ideational meanings in the narrative genre.

Studies with Different Research Approaches

Among the 206 studies in *Text*, 68 of them (33.01%) explicitly articulated their research approaches (Quantitative, 20; Mixed Methods, 48). In this category, only one study was coded as *Not Clear* due to insufficient information about methodology. Table 38 presents the numbers and percentages of studies in different approaches in *Text*.

Table 38: Studies with Different Research Approaches in *Text*

Research Approach	**Number (%)**
Mixed Methods	127 (61.65%)
Quantitative	65 (31.55%)
Qualitative	13 (6.31%)
Not Clear	1 (0.49%)
Total	206 (100%)

As Polio and Friedman (2017) pointed out, Textual (Discourse) Analysis can be quantitative, qualitative, or both. Quantitative textual analysis means using frequency calculation and/or statistical analyses to analyze texts, and qualitative analysis means taking an interpretative approach to analyze specific instances (Lazaraton, 2002). Table 38 indicates that Mixed Methods is the major research approach in *Text*, being taken by 61.65% of the studies. This means that L2 writing researchers tend to combine quantitative and qualitative approaches in textual analyses, balancing both broad and in-depth analyses. The advantage of Mixed Methods approach in textual analyses is obvious – this approach describes “how often something happens” and explores “why and how things happen” (Lazaraton, 2002, p. 33).

The advantage of Mixed Methods might influence the appearances of Quantitative and Qualitative approaches. Table 38 shows that Quantitative approach appeared 65 times, about half of the number of Mixed Methods. Compared to Mixed Methods and Quantitative approaches, Qualitative approach was poorly represented, only being taken by 6.31% of the studies. Qualitative approach's underrepresented status in *Text* aligns with its status in *Instruction* (7.04%) and *Writer* (7.10%). Overall, Table 38 shows that Mixed Methods was the major approach that was adopted by studies in *Text*. Quantitative approach was also well presented, accounting for 31.55% of the total approaches. Qualitative approach remained a minority in *Text*, only being taken by 6.31% of the studies.

Section Summary

Since the concentrations of studies in *Text* were L2 written texts, the methodologies in this category were less diverse that those in *Instruction* and *Writer*. There are mainly three findings regarding methodology use in *Text*. First, almost all studies (97.6%) had identifiable methodologies. This might be caused by the strong presence of Textual Analysis in this category. Second, the distribution of the three identified methodologies was highly skewed. Textual Analysis appeared 195 times but Case Study and Experimentation combined only appeared six times. Third, studies in *Text* showed a clear preference for Mixed Methods approach. Quantitative approach was fairly well represented, but Qualitative approach remained marginalized. In the following section, I will present the results of the methodology/method usage in empirical studies in *Assessment*.

Research on L2 Writing Assessment

The findings about methodology use in *Assessment* showed great similarity with the findings in *Instruction* regarding the percentage of the methodology-identifiable studies and the most frequently used methodologies. The results in *Assessment* will be presented from four perspectives: the percentage of the methodology-identifiable studies, the most frequently adopted methodologies, the most frequently adopted methods, and the distribution of research approaches.

Methodology-identifiable Studies in Assessment

Assessment is the smallest category among the four. In *Assessment*, 42 out of 58 studies (72.4%) were identified with methodologies. This percentage is similar to the percentage found in *Instruction* (78.9%), lower than that in *Text* (97.6%) and higher than that in *Writer* (55.2%). The following Table 39 displays the numbers and percentages of the methodology-identifiable and methodology-not-identifiable studies in *Assessment* over time.

Table 39: Studies with Identified and Unidentified Methodologies in *Assessment*

	1978-89	**1990-99**	**2000-09**	**2010-17**	**Total**
Methodology identified	0 (0%)	2 (100%)	17 (68%)	23 (74.2%)	42 (72.4%)
Methodology unidentified	0 (0%)	0 (0%)	8 (32%)	8 (25.8%)	16 (27.6%)
Total	0 (0%)	2 (100%)	25 (100%)	31 (100%)	58 (100%)

One trend that can be observed from the above table is that the number of the methodological-not-identifiable studies remained stable over the recent two decades. Due to the fact that the number of the methodology-identifiable studies increased slightly in the last decade, the percentage of methodology-not-identifiable studies fell slightly. However, since the dataset was relatively small, this claim should not be overgeneralized. The methodology-not-identifiable studies in *Assessment* used a single method or multiple unguided methods for data collection. For example, Jian and Lu (2000) used a survey to investigate college students’ and English teachers’ perceptions of the writing test rating criteria in College English Tests. In their study, Survey was the only method used for data collection. In another study, Chen (2016) investigated English test raters’ social and psychological considerations in their rating processes. Chen used think-aloud protocols and interviews to collect cognitive data in the raters’ rating processes.

Frequently Adopted Methodologies in Assessment

The same three methodologies were identified in *Assessment*: Experimentation, Case Study, and Textual Analysis. Similar to the methodology distribution found in *Instruction*, the distribution in *Assessment* was uneven, showing a strong preference for Experimentation. Experimentation alone accounted for over 80% of the total methodology occurrences, and Case Study and Textual Analysis combined accounted for slightly over 15%. The following Table 40 presents the appearance frequencies of the three methodologies and their percentages.

Table 40: Methodologies Identified in *Assessment*

Name of the methodology	**Number**	**%**	**Cumulative %**
Experimentation	35	83.33%	83.33%
Case study	4	9.52%	92.85%
Textual analysis	3	7.15%	100%
Total	42	100%	100%

Experimentation in *Assessment* was adopted to investigate the impact of assessment criteria on students’ writing performances or the impact of rating procedures on raters’ reliability. For example, Zeng and Wu (2010) conducted an experimental study to investigate the impact of test type variables. They compared students’ performances in a multimedia task-based writing test with their performances in other tests and found that test type had a significant influence on students' writing performances. In an experimental study of rating procedures, Li (2015) investigated the effect of the holistic and analytic scales on the reliability of EFL essay rating. In addition to the effect of test types and rating procedures, Experimentation was also used to develop and validate measurement scales. For example, Li and Kong (2010) conducted an experiment to validate the new analytic rating scale for the TEM-4 (Test for English Majors) writing test.

Case Study and Textual Analysis combined appeared seven times. Case Study was mainly adopted to investigate the impact of assessment methods. For example, Zhang and Sheng (2015) conducted a case study to investigate the feedback effect of an automated writing evaluation system. They conducted in-depth analyses of 10 writing samples and compared feedback from the automated writing evaluation system with the feedback from human raters. Textual Analysis was primarily adopted to develop measurements based on textual data. For example, Zhao and Chen (2012) tested the validity of some measurements of the grammatical complexity in Chinese students' EFL writing based on analyses of collected texts.

Frequently Adopted Methods in Assessment

The methods found in *Assessment* will be presented in two parts: methods used in Experimentation and methods used in the methodology-not-identifiable studies. Since the number of case studies was small, their methods will not be presented independently.

Table 41 lists the nine methods that were identified in Experimentation. The three most frequently used methods were Writing Test, Test Rating, and Survey, which accounted for over 80% of the total method appearances. Among these three, Writing Test was used the most times, which is unsurprising considering that *Assessment* is heavily dependent on testing. All the methods listed in Table 41 appeared in previous categories except for Test Rating. This method also reveals the unique research foci in *Assessment* – rating behavior and reliability.

Table 41: Methods Used in Experimentation in *Assessment*

Name of method	**Number**	**%**	**Cumulative %**
Writing test	32	39.02%	39.02%
Test rating	19	23.17%	62.19%
Survey	16	19.51%	81.70%
Written text	5	6.10%	87.80%
Interview	4	4.88%	92.68%
Journal	2	2.44%	95.12%
Observation	2	2.44%	97.56%
Reflection	1	1.22%	98.78%
Self-assessment	1	1.22%	100%
Total	82	100%	100%

Test Rating is used as an umbrella term in this study to refer to the method that collects data about rating processes and rating results. For example, in one of the aforementioned studies (Li, 2015), the researcher investigated the effects of holistic and analytical scales on the reliability of EFL essay scoring. In this study, Li collected rating results from nine raters who used a holistic rating scale and an analytical rating scale, respectively, for scoring the same essays and conducted a Rasch analysis of the corresponding rating results. In another study, Zhang and Yu (2010) investigated the effectiveness of rater training in the CET-4 writing test. They collected results from pre-training and post-training rating and found that rater training helped raise rater reliability.

Table 41 above lists the methods used in Experimentation, and the following Table 42 lists the methods used in the methodology-not-identifiable studies. Since the total number of methods was relatively small, the number of each method did not show large differences. Survey and Writing Test, as the two most frequently adopted methods, each appeared seven times; and Writing Task Analysis, as the least adopted method, only appeared once. Writing Task Analysis is a method that only appeared in the methodology-not-identifiable studies in *Assessment*.

Table 42: Methods Used in the Methodology-not-identifiable Studies in *Assessment*

Name of method	**Number**	**%**	**Cumulative %**
Survey	7	25.00%	25.00%
Writing test	7	25.00%	50.00%
Written text	5	17.86%	67.86%
Interview	4	14.29%	82.15%
Test rating	2	7.14%	89.29%
Think-aloud protocol	2	7.14%	96.43%
Writing task analysis	1	3.57%	100%
Total	28	100%	100%

Writing Task Analysis refers to a method that collects data through analyzing writing tasks that appeared in previous writing tests. The only study using this method was conducted by Gu and Yang (2009) where they analyzed writing test tasks of the College English Test (CET) from 1989 to 2008 from two perspectives: writing test content and writing test design. Based on their results, they provided suggestions for the CET writing test development and college English instruction.

Studies with Different Research Approaches

Among the 58 studies in *Assessment*, 15 of them (25.86%) explicitly articulated their approaches (Quantitative, 8; Mixed Methods, 7). The remaining 43 articles were coded based on their methodologies. The following Table 43 provides the numbers of studies identified in each research approach and their percentages.

Table 43: Studies with Different Research Approaches in *Assessment*

Research Approach	**Number (%)**
Quantitative	41 (70.69%)
Mixed Methods	16 (27.59%)
Qualitative	1 (1.72%)
Total	58 (100%)

Table 43 shows that Quantitative approach was the dominant approach in *Assessment*. It was adopted 41 times in this category, accounting for over 70% of the total research approaches. This finding is easy to understand since language assessment and testing have a close relationship with measurement, which features a strong quantitative orientation. Mixed Methods was the second most frequently adopted approach in *Assessment* with 16 appearances, accounting for about 30% of the total research approaches. Most studies with the Mixed Methods approach were studies that incorporated qualitative data, such as interview data, into experimental studies or methodology-not-identifiable studies.

Qualitative approach remained the marginalized approach in *Assessment*, and this finding is consistent with the findings in the previous three categories. Only one study was found to be conducted entirely based on qualitative data. Liu (2016) conducted a case study based on qualitative textual analysis to investigate English writing assessment from an intercultural perspective. The small number of studies identified with the Qualitative approach in *Assessment* further supports the overall observation that scholarly attention to qualitative orientations was insufficient in empirical L2 writing studies in China.

Section Summary

The findings from this subsection can be summarized from four perspectives. First, most studies (72.4%) in *Assessment* had identifiable methodologies. Second, the distribution of the three identified methodologies was uneven. Experimentation appeared 35 (83.33%) times but Case Study and Experimentation combined only appeared seven times. Third, Writing Test, Test Rating, Survey, and Written Text were the four most frequently adopted methods in *Assessment*. Test Rating was a unique method found in this category. Finally, studies in *Assessment* showed a strong preference for Quantitative approach. Mixed Methods approach was fairly well represented (27.59%), but Qualitative approach remained marginalized.

Changes of Methodologies and Approaches

After identifying the methodologies adopted and the research approaches represented in each subject matter category, I analyzed their changes overtime. Since the types of methodologies and research approaches are limited, I will present all changes using two tables. Table 44 presents the changes regarding methodology adoption in the four categories over the four periods, and Table 45 presents the changes regarding research approaches.

Since the methodology distributions found in most categories were highly skewed, meaning that there were dominant methodologies in each category, the methodological changes are not significant. Table 44 indicates that the adoption frequency of every identified methodology in every subject matter category increased over the past 40 years. This is primarily caused by the increasing number of studies on L2 writing being conducted over the past decades. More empirical studies led to higher methodology adoption frequencies. Among all the changes, the change of Case Study in *Instruction* seems most noticeable. The results indicate that Case

Study has showed an increasing developmental trend, evidenced by noticeably more case studies conducted in the past decade.

Table 44: Methodology Adoption Frequency over Time

	Methodology	**1978-89**	**1990-99**	**2000-09**	**2010-17**	**Total**
	Experimentation	0	2	54	97	153
Instruction	Textual analysis	0	2	1	0	3
	Case study	0	0	2	10	12
	Total	**0**	**4**	**57**	**107**	**168**
	Experimentation	0	0	13	38	51
Writer	Textual analysis	0	1	8	17	26
	Case study	0	2	5	17	24
	Total	**0**	**3**	**26**	**72**	**101**
	Experimentation	0	1	2	2	5
Text	Textual analysis	1	4	87	100	192
	Case study	0	0	2	2	4
	Total	**1**	**5**	**91**	**104**	**201**
	Experimentation	0	2	15	18	35
Assessment	Textual analysis	0	0	0	3	3
	Case study	0	0	1	3	4
	Total	**0**	**2**	**16**	**24**	**42**

In terms of the changes of research approaches, Table 45 shows similar patterns as methodology adoption changes – the adoption frequency of nearly every identified research approach in every subject matter category increased over the past four decades, mainly caused by the increasing number of studies on L2 writing conducted in China. Among the four categories, the changes in *Instruction* seemed most noticeable. In this category, the increasing use of the Mixed Methods approach and the Qualitative approach was greater than the increasing use of the

Quantitative approach. This suggests that researchers tended to adopt more mixed methods approaches and qualitative approaches in recent decades when investigating issues concerning L2 writing instruction.

Table 45: Changes of Research Approaches over Time

	Approach	**1978-89**	**1990-99**	**2000-09**	**2010-17**	**Total**
	Quantitative	0	3	39	47	89
Instruction	Mixed methods	0	4	33	68	105
	Qualitative	1	0	2	12	15
	Total	**1**	**7**	**74**	**127**	**209**
	Quantitative	1	4	27	67	99
Writer	Mixed methods	0	2	24	44	70
	Qualitative	0	3	2	8	13
	Total	**1**	**9**	**53**	**119**	**182**
	Quantitative	0	0	27	38	65
Text	Mixed methods	0	6	58	63	127
	Qualitative	0	0	7	6	13
	Total	**0**	**6**	**92**	**107**	**205**
	Quantitative	0	2	15	24	41
Assessment	Mixed methods	0	0	9	7	16
	Qualitative	0	0	0	1	1
	Total	**0**	**2**	**24**	**32**	**58**

One specific point that interests me was the developmental trend of the Qualitative approach. Its increasing trend in *Instruction* was more noticeable than it was in other categories. However, the overall number of qualitative studies was very small. In this case, I would say that the evidence for an increasing trend of the Qualitative approach was not strong. There were signs of increase, but these signs were insufficient to warrant a claim that qualitative approaches are receiving more attention from Chinese L2 writing researchers.

An Overall Discussion

This section provides an overall discussion of the major findings in this chapter. The discussion consists of two subsections: the underrepresented qualitative approach in L2 writing research in China and the role of Mixed Methods approach in L2 writing investigation. Since the information represented in this chapter is substantial, I will first summarize and synthesize the major findings to better contextualize the methodological discussion.

Summary of Major Findings

Table 46 provides a summary of the major findings regarding methodology and method adoption across four subject matter categories. The synthesized findings include the number of methodology-identifiable studies, the most frequently adopted methodologies, the top four most frequently adopted methods, and the major methodological orientations represented in each category.

Table 46: Summary of Major Findings from Four Categories

	Instruction	***Writer***	***Text***	***Assessment***
No. of methodology-identifiable studies	168 (78.9%)	101 (55.2%)	201 (97.6%)	42 (72.4%)
The most frequently used methodologies	Experimentation (91.07%); Case Study (7.14%); Textual Analysis (1.79%);	Experimentation (50.50%); Textual Analysis (25.74%); Case Study (23.76%);	Textual Analysis (95.52%); Experimentation (2.49%); Case Study (1.99%);	Experimentation (83.33%); Case Study (9.52%); Textual Analysis (7.15%);

Table 46 continued

The most frequently used methods	Writing test; Survey; Interview; Written text;	Writing test; Survey; Interview; Written text;	Written text;	Writing test; Test rating; Survey; Written text;
Dominant methodological orientation	Mixed Methods	Quantitative	Mixed Methods	Quantitative

The Underrepresented Qualitative Approach

In this section, I argue that qualitative approaches were considerably underrepresented in L2 writing empirical research in China. This underrepresented status is distinctly different from the status of qualitative approaches in L2 writing research in the West. I further argue that the lack of attention to qualitative orientations has to do with the process-centered theoretical orientation found in Chinese L2 writing research and with the still developing social turn that was undergoing in L2 writing research in China.

The insufficient attention to qualitative approaches was one of the striking findings from this chapter. This insufficient attention was manifested by both the number and types of qualitative studies identified. For example, across the four subject matter categories, only 42 studies were found to be entirely qualitative in nature, and this small number means that qualitative research only accounted for 6.36% of the examined empirical L2 writing research in China. This percentage is significantly lower than similar percentages found in the Western L2 writing literature. For example, Riazi et al. (2018) found that 39.0% of the empirical studies published in the *JSLW* over the past three decades adopted qualitative orientations. Based on this finding, they argued that the L2 writing studies under their examination were predominantly conducted within a “constructivist paradigm” (p. 51). In another study, Yang (2018) reviewed over 1,000 L2 writing articles that were published in English academic journals from 2012 to 2017 and found that, on average, 25% of the examined studies were qualitative studies. Compared to the percentages of qualitative research found by these two studies based on the Western L2 writing literature, the percentage found in this study is significantly smaller. In addition to the shortage of numbers, the types of qualitative research were also limited. Only two types of qualitative research were identified: case studies and textual analysis studies. Other types, such as ethnography and auto-ethnography, were not identified in the examined literature.

Many factors contributed to the insufficient attention to qualitative approaches, including theoretical and pragmatic factors. Theoretically, methodology selection is not independent of theories and how researchers understand writing. As Hyland (2016) stated, “we [researchers] may select methods in order to understand writing but at the same time we select them because of the way we understand writing”. The predominant position of quantitative and mixed methods approaches in L2 writing empirical research in China suggests that the research questions that L2 writing researchers in China proposed based on their understanding of language and writing can be best answered by these two research approaches. The pragmatic factor means that the choices made by researchers in light of the given time and resources and in the tradition of domestic research *Discourse* (Gee, 1990) lean more towards the quantitative and mixed methods approaches.

Casanave (2016) observed that the rise of qualitative approaches in L2 writing research was theoretically related to the shift from cognitive and expressive processes to the social dimensions of writing. That is, the growing popularity of the social aspects of writing emphasized by genre theories, “situated” approaches (e.g., Atkinson), and sociocultural theories promoted the growth of qualitative approaches. However, when we look at the theoretical frameworks in the empirical L2 writing literature presented in Chapter Four, especially in *Instruction* and *Writer*, we find that the Process Approach and the Cognitive Models of Composing remained the most frequently adopted theories, and theories in *Writer* showed clear cognitive orientations. It was based on this finding that I argued in Chapter Four that L2 writing research in China was primarily in the process era. This strong process-centered ideology reflects how Chinese researchers understand L2 writing. In most studies, it was understood as an internal and cognitive process, and this overall tendency did not encourage qualitative approaches.

The lack of qualitative approaches was associated partially with the process-centered theoretical orientation in L2 writing research in China; however, the reality regarding this association in each subject matter category is more complicated than the general tendency. Here, I will only discuss qualitative approaches in *Instruction* and *Writer*, since the qualitative textual analysis in *Text* is slightly different from the qualitative approaches in studies with human participants, which feature naturalistic, participant-oriented, and holistic views. The lack of qualitative approaches in *Instruction* has more to do with the ways researchers deal with qualitative data than the lack of socially oriented theories. In *Instruction*, the number and occurrences of socially oriented theories, such as the Constructivist Learning Theory and Sociocultural Theories, had surpassed the number and occurrences of cognitive oriented theories, although the Process Approach remained the most frequently adopted theory. However, these socially oriented theories did not result in an increase in qualitative studies. That is, rather than conducting studies entirely based on qualitative data, researchers more often combined qualitative data with quantitative data and made their research mixed methods in nature. This explains why mixed methods research accounted for almost half of the total research in *Instruction*. The lack of qualitative research in *Writer* seemed to have a more direct relation with the cognitive theoretical orientations in this category. Theories in *Writer* showed strong cognitive orientations, represented by Cognitive Models of Composing, the Process Approach, and Metacognition Theory, and only a few theories showed social orientations. This distribution in theoretical orientation was reflected in the distribution of research approaches; that is, over half of the studies in *Writer* were conducted using quantitative approaches and only around 7% of the studies adopted qualitative approaches.

The above discussion reveals that the lack of qualitative research was partially related to the theoretical orientations in L2 writing research in China. The underrepresented status of qualitative research was also caused by social and pragmatic factors in the academic community. For example, the dominance of Experimentation in *Instruction*, *Writer*, and *Assessment* suggests that most Chinese L2 writing researchers still see research from the “logical-positivistic” (p. 428) perspective and recognize research as a way to obtain objective data by controlling and manipulating variables (Davis, 1995). This perception disadvantages qualitative research and might lead to the association of qualitative approaches with unscientific status, which indicates illegitimacy for research use.

The legitimacy of qualitative approaches is an old issue in both applied linguistics and L2 writing research. This discussion has almost closed in the Western research community in the past decade as most scholars have started to take an eclectic approach toward methodological differences. I am not arguing that this “paradigm war” (Polio, 2012, 294) is currently going on in the L2 writing community in China, since if it is almost over in the West, it is almost over in China, as China is closely connected to the global community in many ways. What I want to highlight is the unintended impact this insufficient attention to qualitative approaches might have on novice researchers in China. Incoming L2 writing researchers are socialized into the research

Discourse (Dee, 1990) by taking classes, interacting with professors, and negotiating with academic gatekeepers. If qualitative approaches keep being marginalized in both research training and academic publication, it would be unrealistic to expect novice researchers to use qualitative approaches more frequently under the existing apprentice system. That is, the development of one approach depends on how much researchers are exposed to it. Changes might occur slowly without intentional effort.

There are other pragmatic concerns that might have constrained the qualitative approaches in L2 writing research in China. For example, good qualitative research, such as ethnography, normally takes a huge amount of time and effort to complete. Under the pressure of publishing quickly, researchers might prefer something quicker and less holistic (Casanave, 2016). Also, as Davis (1995) observed, researchers who were trained in qualitative research, especially in ethnography, might tend to publish outside applied linguistics in fields such as education and anthropology. In addition, journals' limited space for articles normally does not allow the representation of rich data and "thick description" (Geertz, 1973, p. 3) that characterize in-depth qualitative research. Although qualitative approaches were marginalized and their development still faces theoretical and practical challenges, researchers should understand that a comprehensive understanding of L2 writing requires input from multiple approaches, and each approach needs to be respected since L2 writing has already benefited much from its methodological multiplicity (Polio, 2012).

The Mixed Methods Approach to the Rescue?

Mixed methods research (MMR) has been warmly welcomed in the social sciences (Grenne, 2008), and the advantages of this approach to second language and L2 writing studies are highlighted in previous research (e.g., Hashemi & Babaii, 2013; Polio & Friedman, 2017).

The values of the MMR are obvious, but will it be the methodological solution to the many problems that could only be partially solved by a single method of research in L2 writing? In this section, I argue that the MMR is unlikely to be the ultimate solution to many methodological problems that researchers are facing when investigating multi-faceted L2 writing activities, since high-quality MMR requires high levels of integration throughout all stages of research, and the paradigmatic disagreements between quantitative and qualitative approaches remain unsolved in current MMR.

The popularity of MMR in L2 writing research in China is evident based on the findings in this study. It was the most frequently adopted approach in *Instruction* and *Text*. The potential benefits that MMR brings to L2 writing research make its popularity understandable. As researchers noted, in MMR, quantitative and qualitative approaches can complement each other, and their strengths and weaknesses can be counterbalanced (Polio & Friedman, 2017). Since L2 writing is both a cognitive process and a socially situated activity, the characteristics possessed by MMR are extremely valuable. For example, experimental research on L2 writing instruction adopting a mixed methods design, which was the most common type of design in *Instruction*, could investigate the effectiveness of the instruction both quantitatively through writing tests and qualitatively through interviews and reflections. In textual analysis, the values of MMR manifest in the way that both general patterns and specific examples could be analyzed and presented in a single study, and this co-existence allows researchers to understand the target textual features fully.

A high quality MMR requires more than the presence of both quantitative and qualitative elements; instead, it requires both elements to be integrated through multiple stages, such as forming research questions, sampling, data collection and analysis, and to contribute to the study substantially (Polio & Friedman, 2017; Yin, 2006). However, according to studies on the usage of MMR in applied linguistics, only a small a number of studies integrated qualitative and quantitative approaches closely throughout the research, and the mixed methods designs discussed in MMR literature were underrepresented in existing MMR in applied linguistics (Hashemi & Babaii, 2013). The results of the method adoption in *Instruction* also suggested that interview data was the major source of qualitative data in the mixed methods experimental studies, primarily functioning as a source of triangulation for the quantitative data. Therefore, the issue of integration needs to be fully discussed in applied linguistics and L2 writing research before MMR can realize its full potential.

Mixed methods research did not mean integrating qualitative and quantitative approaches when it was first proposed. It mainly referred to the adoption of multiple qualitative methods to crosscheck research findings under the influence of the concept “triangulation” (Campbell, 1953). When MMR evolved to mean an integration of qualitative and quantitative research, a fundamental problem occurred – the incompatibility of different ontological and epistemological stances that qualitative and quantitative approaches represent. Quantitative approaches represent a realist ontology and an objectivist epistemology and qualitative approaches represent a constructivist ontology and a subjectivist epistemology, but is integration of both possible? Does the philosophical incommensurability influence the superficial mixing? If yes, how? In addition, could the mixing of both lead to a “corruption of methods” (Bazeley, 2004, p. 144)? These issues remain the biggest theoretical debate surrounding MMR. Although this debate seems unlikely to be settled, researchers tend to compromise under the pressure of practical utility. That is, the practical value of MMR is evident, thus the philosophical incompatibility should not be a hindrance (Feilzer, 2010; Morgan, 2007). This compromise is a typical instance of how pragmatism challenges and overrides theoretical and methodological integrity. However, this compromise further influences theory construction in L2 writing research.

In this subsection, I argued that mixed methods research is unlikely the methodological solution to problems that could not be fully solved by either quantitative or qualitative approach, although MMR keeps receiving increasing attention and has shown strong influence on the L2 writing research in China. This argument is based on the fact that MMR in applied linguistics and L2 writing still lacks a strong integration of quantitative and qualitative approaches, and the theoretical debate about the incompatible philosophical assumptions of quantitative and qualitative approaches in MMR does not seem to be able to settle down. However, using Silva's (2005) analogy, we do not want to throw out the MMR baby with its bathwater. As a relatively new research approach, MMR still has much to say about L2 writing, especially when there is now a research community that is fully devoted to it. In the years to come, we could expect more sophisticated research designs using the mixed methods approach, which can bring us deeper insights into the intricate nature of L2 writing activity.

Section Summary

In this section, I provided an overall discussion of two major findings from the methodological review in this study, primarily focusing on qualitative and mixed methods approaches. Based on what was found, I argued that there was a paucity of qualitative approaches in L2 writing research in China. This situation was caused by both theoretical and practical reasons. I also argued that although MMR is popular among L2 writing researchers in China, this approach is not the methodological solution to many problems that could not be solved by single method research. Both the extent of integration in MMR and its underlying philosophical incompatibility need further exploration before this approach achieves its potential.

However, this does not mean that MMR's value should be questioned. As it continues developing, it will advance our understanding of L2 writing.

Chapter Summary

In this chapter, I reported and discussed the methodologies and methods identified in empirical studies on L2 writing in China. Before presenting the results in each subject matter category, I briefly reviewed the results of the studies identified in each category. Then, I reported the identified methodologies and methods in four categories: *Instruction*, *Writer*, *Text*, and *Assessment*. In each category, I presented the number of methodology-identifiable studies, the most frequently adopted methodologies, the most frequently adopted methods, and the distribution of research approaches. After presenting the results, I summarized the major findings and provided an overall discussion based on two of the major findings. In the following chapter, Chapter Six, I will provide a discussion of the major theoretical and methodological findings from a philosophical perspective.

EMPIRICAL L2 WRITING RESEARCH IN CHINA – A PHILOSOPHICAL DISCUSSION

The previous two chapters reported the findings regarding theory and methodology/method adoption in empirical research on L2 writing in China. This chapter will concentrate on the discussion of these results from a philosophical perspective. Prior to conducting this research, I expected to find a paradigm shift from positivist to relativist in L2 writing research in China, since this shift has been widely acknowledged in the Western literature on applied linguistics and L2 writing. However, looking at the research results now, I realize that attributing the changes in L2 writing research in China over the 40 years to one single type of paradigm shift will oversimplify the reality, as this shift was observable in some categories while less so in others. In addition, the changes of research orientations did not follow a linear paradigm shift model; instead, they broke the constraints of the Kuhnian model and achieved a metaparadigmatic realization (Harrits, 2011). Therefore, in this chapter, I will present and discuss the positivist-relativist paradigm shift and the metaparadigmatic accommodation I saw in the results.

Paradigm Shift – Sufficient and Insufficient Evidence

Paradigm has been widely used however loosely defined in the applied linguistics and L2 writing studies. In addition to the positivist and relativist paradigms mentioned before, other paradigm pairs include cognitive and social paradigms, quantitative and qualitative paradigms, process and post-process paradigms, and modernist and postmodernist paradigms (or orientations). Although these usages of *Paradigm* can work effectively within specific discourse communities, using them interchangeably without clarification can lead to confusion. In this study, *Paradigm* only refers to the positivist, the relativist, and the humble pragmatic rationalist (HPR) (Silva, 2005) paradigms. The terms *Cognitive* and *Social* collocate with *Perspective*, namely cognitive perspectives and social perspectives. These two types of perspectives are used mainly to describe theoretical changes, specifically describing how a second language and its writing are learnt. The terms *Quantitative* and *Qualitative* collocate with *Approach*. These approaches are mainly used to describe how studies are conducted. At the paradigmatic level, cognitive perspectives and quantitative approaches are in line with the positivist paradigm, and social perspectives and qualitative approaches are in line with the relativist paradigm. Sociocognitive perspectives and the mixed methods approach are under the HPR paradigm. Modern and post-modern views are regarded as orientations, namely modernist orientations and post-modernist orientations. Orientations work at a higher level than paradigms. The positivist paradigm and the relativist paradigm are informed and influenced respectively by modernist orientations and post-modernist orientations.

The Cognitive-social Perspective Shift

The cognitive-social perspective shift was more observable in *Instruction*, but less so in *Writer* and *Assessment*. Thus, the paradigm shift between the positivist and the relativist varies in extent in each subject matter category. This suggests that claims regarding paradigm shifts in a research field should be carefully made after taking into consideration the internal variations and inconsistences, which are particularly true for an interdisciplinary field like L2 writing. Similar internal variations are also observed in L2 writing's neighboring disciplines. For example, Canagarajah (2016) observed that the developmental trajectories within TESOL were not consistent across professional domains. Each professional domain, such as teacher development and instructional methods, featured unique developmental stages. Although L2 writing is narrower in scope compared to TESOL, the differences among subject matter categories are big enough to make noticeable impacts.

The changes in perspective between cognitive and social are mainly documented in the SLA literature. For example, the seemingly parallel cognitive and sociocultural perspectives and the transitions between them in SLA were analyzed by Zuengler and Miller (2006). They observed that SLA was traditionally dominated by cognitive perspectives; however, sociocultural perspectives were more recently brought to SLA by Vygotskian sociocultural theory and other language socialization trends. As for the current theoretical perspectives, they maintained that social perspectives are growing rapidly but cognitive perspectives remain significant in SLA. Ortega (2013) also observed similar diversification in terms of research perspectives. The major contributor to this diversity, according to Ortega, was the social turn in SLA in the mid-1990s. As a result of this social turn, key concepts in SLA, such as cognition, grammar, interaction, learning, and identity, were redefined, and some research attention was directed from universal mechanisms to contextualized variations. According to Ortega, this social turn seemed to be completed already in the West.

As briefly discussed in Chapter Four, the social turn was also identified in the empirical L2 writing research in China. However, this turn was more noticeable in *Instruction* than in *Writer* and *Assessment*. Among the most frequently adopted theories in *Instruction*, theories with social orientations slightly outnumbered theories with cognitive orientations, causing the overall orientation in *Instruction* to be more social. For example, the Constructivist Learning Theory, the Sociocultural Theories, and the Collaborative Learning Theory all share a constructivist epistemology, which sees language learning as mediated by social interactions. When social interactions are involved, language learning becomes more situated and contextualized. In addition to universal cognitive information processing models, individualistic language developmental patterns have started to interest an increasing number of researchers. Thus, it is safe to say that research on L2 writing instruction in China has experienced a perspective shift and a potential paradigm shift regarding theory adoption. As a result, social perspectives and the relativist paradigm have started to function as the mainstream in this category.

Compared to the evidence in *Instruction*, the evidence found in *Writer* and *Assessment* did not seem to be sufficient to support any perspective or paradigm shift argument. As I summarized in Chapter Four, *Writer* and *Assessment* were still dominated by cognitive perspectives. Although theories like the Sociocultural Theories appeared in *Writer*, social perspectives did not receive equal scholarly attention as cognitive perspectives, primarily because of researchers' obsession with the Cognitive Models of Composing over the past decades. Cognitive perspectives in *Assessment* were more prevalent as this category has a closer connection with measurement, which has a stronger preference for universality and standards. Based on these findings, I argue that the theoretical evidence found by this study does not support an explicit shift from cognitive to social; thus, the potential positivist to relativist paradigm shift, which was identified in *Instruction*, was not detected in *Writer* and *Assessment*. This demonstrates the differences in developmental trajectories across subject matter categories.

The social turn in *Text* has a different representation. Cognitive and social perspectives are mainly represented by form-focused studies and function-focused studies. The form-focused studies, as observed by Canagarajah (2016), represent a structuralist and/or a Chomskyan point of view, seeing textual features as universal and context-free. The function-focused studies, which are influenced by the social turn in textual analysis, see textual features as conventions within certain discourse communities and highlight the functions that language features can perform. The results from the theory identification in *Text* indicate that studies on L2 written texts in China are more function-oriented, informed by theories such as the Models of Genre Analysis and Cohesion Theory. Based on this finding, I argue that research on L2 written texts in China has experienced a shift from cognitive to social perspectives, indicating a potential positivist to relativist paradigm shift. This shift was evidenced by the most frequently adopted theories and their weights in this category.

The previous paragraphs described the complex situation in L2 writing research in China in terms of its paradigm shift from a theoretical perspective. The safest way to argue is that, from the evidence of theory adoption, different categories are at different stages along the positivist-relativist paradigm shift process. This shift seems to be nearly completed in *Instruction* and *Text* but is still undergoing in *Writer* and *Assessment*. How much time do *Writer* and *Assessment* need to finish this shift is unclear, but we may expect *Assessment* to be the last one to finish. Although the argument above seems to be the safest, my main argument is more conservative in terms of how much progress L2 writing in China has made toward this relativist turn. To be more specific, the paradigm in L2 writing research in China largely remains positivist despite the considerable evidence of the relativist turn found in *Instruction* and *Text*. Evidence that is additional to what was represented above is the lack of theories that have a unique Chineseness.

In an article that called for English writing research with Chinese characteristics, You (2012) highlighted the significance of Chineseness in L2 writing research in China. He argued that seeking the Chineseness means understanding the unique features of Chinese L2 writers and, ultimately, serving the purpose of L2 writing instruction in China. However, the findings from this study did not reveal a remarkable Chineseness from a theoretical perspective. Among all the theories identified, only two were originally created by Chinese scholars based on the second language instructional realities in China. These two theories, the Continuation Task Approach and the Production-oriented Approach (only shown in Appendix C due to low adoption frequency), are foreign language teaching approaches, not specific to L2 writing instruction. Besides these two, all the remaining theories were created mostly in the West and are widely applied in the global literature.

What is more interesting to me is the underlying messages that this lack of Chineseness regarding theory adoption conveys. The messages are that how Chinese L2 writers write and how they should be taught are not distinctly different from those of L2 writers from other contexts; thus, what appeared to work in Western contexts should (or hopefully will) work in the Chinese context. These messages and assumptions are clear indications of thought patterns under modernist orientations, assuming that writing and writing instruction are not specific to each unique linguistic and cultural context, and there are universal L2 writing developmental patterns and instructional models that can work across contexts. This belief of the existence of universal cognitive processes and teaching methods, according to Canagarajah (2016), is a typical representation of modernist ideologies, which directly inform the positivist paradigm. Therefore, it is based on this extra evidence of lacking Chineseness in theory adoption that I argue that L2 writing research in China remains largely under the positivist paradigm, if we see it from a theoretical point of view.

The Quantitative-qualitative Approach Shift

Second language writing research in China has shown some evidence of a cognitive-social perspective shift, especially in *Instruction* and *Text*; however, the evidence for a quantitative-qualitative approach shift was minimal. The results from the methodology identification revealed that only around 7% of the studies in *Instruction*, *Writer*, and *Text* adopted qualitative approaches. The percentage in *Assessment* was even smaller (1.72%). If we only consider the ratio between quantitative and qualitative approaches, we may easily find that quantitative approaches have taken the completely dominant position, and the signs of a quantitative-qualitative approach shift are too obscure to be noticed.

However, the quantitative-qualitative relation does not mirror exactly the positivist-relativist relation. As Silva (2005) notes, "quantitative designs need not be positivistic in orientation, and … qualitative designs can be positivistic …, [and] it is all a matter of researchers' epistemologies" (p. 12). Although the researchers' epistemologies are not directly accessible, the triangulation of research approaches and methodologies helps to reveal researchers' epistemological stances. Since only three methodologies (Experimentation, Textual Analysis, and Case Study) were identified in the examined L2 writing research, it is safe to conclude that quantitative approaches were mainly adopted by experimental and textual analysis studies, and qualitative approaches were mainly used in case studies and textual analysis studies. Experimentation is a typical methodology in the positivist paradigm. Case studies normally represent constructivist and interpretivist epistemologies, aligning more with the relativist paradigm. For textual analyses, if extensive data were analyzed for common features and patterns across individuals, normally through quantitative analyses, this represents the positivist paradigm; if individualized data were analyzed for uniqueness, normally through qualitative analyses, this represents the relativist paradigm. Therefore, since the types of methodologies identified in the examined L2 writing studies were limited, it is reasonable to argue that the quantitative-qualitative ratio reflects the positivist-relativist ratio well.

Taking into consideration the cognitive-social perspective shift, the quantitative-qualitative approach shift, and their relationship to respective paradigms, I argue that L2 writing empirical research in China over the past 40 years was primarily conducted under the positivist paradigm, although evidence for transition towards the relativist paradigm was found in some subject matter categories. Adopting the cake analogy used by Sharwood Smith (1991, cited by Zuengler & Miller, 2006), we can say that the “cake” of L2 writing research in China is positivist and its “icing” is relativist.

Why Did the Positivist Paradigm Dominate?

Finding WHAT is hard, but finding WHY is harder. There are multiple explicit and implicit reasons causing the dominance of the positivist paradigm in L2 writing research in China. In the following paragraphs, I will only discuss two reasons, one is socio-economic, and the other is disciplinary.

When people wonder why there was so much modernity, they need to take into consideration the socio-economic context and the socio-political ideologies that nurture intellectual movements. I argue that the domination of the positivist paradigm has to do with how the Chinese social science community perceives research, which is informed by the current modernization process of the Chinese society and the Marxist research philosophy. Modernization is a developmental direction that frequently appears in Chinese socio-economic discourse. Since modernity in China started temporally later than that in the West, and due to the unique socio-economic reality, China has not yet fully achieved modernity at the national level at this point. Under this historical circumstance, it is unsurprising to see the enormous value of modernist ideologies, which promote notions such as “progress, optimism, rationality, depth, essence, universality, and totality” (Silva, 2005, p. 13).

China is still in its progress toward modernity. According to its developmental blueprint, China will complete its modernization around the year 2035. This developmental difference between China and major Euro-American countries is primarily caused by the differences in the modernization starting time and the social systems. The Euro-American modernization started from the industrial revolution and was fueled by colonization; however, China started modernization through revolution and socialism (Dirlik & Zhang, 1997), and it was not until the national economic reform and the integration into the global market after 1978 that China accelerated its modernization. In addition, the pace of modernization between Chinese urban areas and rural areas are inconsistent. Metropolitan citizens in China have long been exposed to global products and international ideologies, while in rural areas, their residents' survival needs, such as health and education resources, can barely be met. This imbalanced development across regions is another obstacle that needs to be overcome in China's process of modernization.

In addition to the Chinese developmental stage mentioned in the previous paragraph, the Marxist ideology that is predominant in China further strengthens the domination of the positivist paradigm. The influence of Marxism on China needs no further justification. The Chinese political system is termed as "Socialism with Chinese Characteristics", whose essence is a nativization of Marxism. Although Marxism adopts an eclectic orientation towards social and historical research, its main epistemology echoes what is now termed "realist empiricism", meaning that scientific research can generate statements about unobservable nature that are approximately true, and hypotheses should be evaluated based on empirical methods, such as observation and experimentation (Little, 2007). Marx's own research did not support a relativist argument. His central scientific goals, as summarized by Little (2007), included providing an empirically-based description of the institutional features of economic systems and illuminating historical processes through investigations of these features. Therefore, his scientific ideologies represented structure, totality, and universality rather than relativity, fragmentation, and contextual-orientation. Considering the overwhelming influence of Marxism on Chinese socio-political and scientific ideologies, it would be unsurprising to see a positivist dominance in L2 writing research and other forms of social sciences in China.

With an understanding of the current Chinese modernization progress and the influence of the Marxist philosophy of science, one might reasonably expect to see a strong modernist influence on the intellectual endeavors. I agree with Dirlik and Zhang (1997) that postmodernist orientation is a product of late capitalism, and “it does not make much sense to apply it to situations where even modern … remains to be achieved” (p. 3). I further argue that it might be questionable in the first place to apply a capitalist philosophy in a socialist context. To sum up, the appreciation of scientific progression and technological advancement that prevails in contemporary China’s scientific discourse and the Marxist realist ontology and objective epistemology have endorsed the validity of the positivist paradigm among Chinese social sciences, L2 writing research included.

In addition to the socio-economic and political reasons, a disciplinary factor also causes the domination of the positivist paradigm in L2 writing research in China. This reason has to do with L2 writing’s disciplinary parents – Composition Studies and Applied Linguistics. According to Silva and Leki (2004), Composition Studies leans towards a relativist paradigm; applied linguistics, towards a positivist paradigm. The differences in inquiry paradigms between these two disciplines seem to suggest that Applied Linguistics has exerted a stronger impact on L2 writing research in China than has Composition Studies, which is in conflict with the findings regarding the theoretical disciplinary roots found in Chapter Four that indicated Composition Studies was the most influential discipline across three subject matter categories. However, these findings are not conflicting since the most frequently adopted theories in Composition Studies were the Process Approach and Cognitive Models of Composing. Although Composition Studies has progressed theoretically towards the relativist paradigm in the post-process era, the theoretical advancements were not incorporated in Chinese L2 writing research. Thus, Applied Linguistics, together with SLA and Psychology, did exerted a stronger influence upon the paradigm formation in empirical L2 writing research in China.

The Relativist Paradigm as the Target Direction?

The social and relativist turns and their impact on L2 research were documented in a number of papers by applied linguists and L2 writing specialists in the West. For example, Canagarajah (2015) claimed that with the relativist and postmodern turns in literacy studies, the key concepts in language, such as literacy, language development, native speaker, and target language, were redefined, and the boundaries among languages and between text and other semiotic resources were redrawn. The recent development of the translingualism in American composition studies and applied linguistics is a typical example of this pro-relativism movement. For L2 writing research in China, is the relativist paradigm the right direction to move towards? In the following paragraphs, I argue that the relativist paradigm should not be the direction towards which L2 writing in China should progress, since this paradigm is not ontologically and epistemologically superior to its positivist counterpart, and the modern-postmodern trajectory in China might not mirror the trajectory in the Western countries which was based on their own socio-historical realities.

The positivist-relativist paradigm shift did not occur in the Western literacy studies without controversy. For example, SLA specialists debated the feasibility of theory construction on the basis of the relativist paradigm. Pro-positivism scholars (e.g., Beretta, 1991; Beretta & Crookes, 1993; Gregg, 1993) argued that theory should be built based on the positivist paradigm.

To avoid the situation that every theory is accepted, as advocated by extreme relativists, Gregg (1993) argued for only "let[ting] a couple of flowers bloom" (p. 276). This argument provoked responses from the relativist camp. Using a similar analogy, Lantolf (1996) argued for "letting all the flowers bloom" (p. 713). He also coined a term *relativaphobia* (p. 731) to describe scholars' fear of the relativism and accused them of "physics envy" (p. 717). This example reveals the conflicts between the positivist and the relativist paradigms in second language studies. More often than not, this cross-paradigm criticism does not lead to conclusive solutions, since neither paradigm is more advanced ontologically and epistemologically than its opponent.

The positivist paradigm typically has a realist ontology and an objectivist epistemology; the relativist paradigm, a constructivist ontology and a subjectivist epistemology. Ontology and epistemology are metaphysical notions that describe how a human being perceives reality and knowledge construction. In essence, they are individualized beliefs developed depending on one's social and educational experiences, meaning that there is not a logical and progressive sequence between these two. Therefore, it is unwise to assume a natural, logical, and historical order that facilitates the positivist-relativist paradigm shift. This is the main reason why I argue against the idea that the relativist paradigm is the pre-determined direction for L2 writing research development. In addition, relativism, especially extreme or radical relativism, has a logical contradiction. As Taylor (2001) noted, the primary mission of the relativism is to present the marginalized (otherness) by resisting the structures that totalize. However, relativists' arguments always represent the same idea, that is "systems and structures inevitably totalize by excluding difference and repressing otherness" (p. 48). Since this argument remains the same, Tayler concluded that "difference in effect collapses into identity in such a way that this undeniably influential critical trajectory negates itself and turns into its own opposite" (p. 48).

This is why Silva (2005) commented with regard to relativism that the new boss turned out to be the same as the old boss. Relativism opposes positivist's totalization by totalizing.

Besides the aforementioned philosophical equality between the two paradigms and the logical flaw of radical relativism, I am arguing against blind relativist shift with a belief that the positivist paradigm still has much to say about how we understand human activities like L2 writing. After all, we are all indebted to the Age of Enlightenment which endowed us with intellectual inspiration and tools to acquire the knowledge we possess today. The statements from Harris' (1992) *Against relativism* best describe how I perceive the relation between the positivism and the radical relativism:

> *It must count as one of the great ironies in the history of ideas that the movement which provided the mechanism to free the human race from the chains of ignorance and superstition and elevated human reason to the level where people could control not only their own affairs but their relationship with their environment should itself be accused of enslaving people* (p. 2).

Without doubt, the relativist paradigm complements the dominant positivist paradigm by bringing *difference* to the constant pursuing of *sameness*. However, this complementation is by no means a replacement. There are variations, but these variations do not negate the existence of common ground. As Harris (1992) argued, "individual differences amongst people are accounted for by their experiences, but the universally-shared ability of human beings to reason and learn is accounted for on the basis of human nature" (p. 4).

Chinese unique socio-historical developmental trajectory might be another unpredictable variable that prevents the social science community from following the Western modernism-postmodernism transition model. This uniqueness is mainly demonstrated by the differences in socio-economic relations and dominant socio-political ideologies. Unlike developed Western countries, China has a socialist economic system with Chinese characteristics. This unique economic system is manifested in its mixed nature, meaning that it is a combination of pre-capitalist relations, capitalist relations, and socialist relations (Dirlik & Zhang, 1997). How this unique economic system would affect the orientations to which social sciences, especially language studies, would adhere remains unpredictable. In addition to the Chinese unique economic system, how the predominant Marxist ideology and its realist ontology and objective epistemology impact relativist paradigm development in China remains unclear. Therefore, based on the discussion about the philosophical underpinnings of the relativist paradigm and the analyses of Chinese unique socio-economic developmental trajectory, I argue that people should be cautious in claiming that language studies in China, especially L2 writing studies, would soon witness a social and relativist turn, following their Western counterparts' developmental trajectory. Variables such as the philosophical assumptions of the relativist paradigm and the societal uniqueness of China add much unpredictability to the potential positivist-relativist paradigm shift.

I would like to conclude this section with a brief summary of my major arguments. In this section, I mainly examined the potential positivist-relativist paradigm shift in empirical L2 writing research in China. The examination was conducted from two perspectives – the cognitive-social perspective and the quantitative-qualitative perspective. After examining the evidence, I argued that empirical L2 writing research in China largely remains in the positivist paradigm, although there was evidence in the theoretical aspect indicating a social turn. In addition, I discussed the reasons that cause the predominance of the positivist paradigm in L2 writing research. I argued that the Chinese socio-historical developmental stage, the dominant influence of the Marxist ideology, and the disciplinary family heritage all account for the profound influence of the positivist paradigm in L2 writing research in China. Finally, I argued that the relativist paradigm might not be the only progressive direction for Chinese L2 writing research. Both the philosophical assumptions of the relativist paradigm and the uniqueness of Chinese socio-economic system add unpredictable variables to the L2 writing developmental trajectory in China. In the next section, I will discuss the meta-paradigmatic accommodation found in this study.

Paradigm Shifts and Meta-paradigmatic Accommodations

In this section, I will discuss the major findings that support meta-paradigmatic accommodations rather than linear paradigm shifts. I will elaborate the risks of seeing interdisciplinary fields like L2 writing from a linear progressive model and discuss phenomena that characterize meta-paradigmatic accommodations. In the end, I will discuss the pragmatist ideology behind meta-paradigmatic accommodations.

The Risks of Linear Paradigm Shifts

Paradigm is one of the most useful terms for me to understand scientific research. It allows me to penetrate through the superficial differences to see the fundamental converging or diverging trends among studies. However, the danger of "paradigm shift" is as much as its usefulness. On one hand, it reveals the periodical nature of sciences, especially periodical shifts of collective beliefs within a scientific community. On the other hand, it unavoidably indicates binarity, stigmatization, replacement, totalization, and disciplinary progress. This is the biggest risk I see in the application of linear paradigm shifts in language studies. "Paradigm shift" might work well when Thomas Kuhn first published his book, *The structure of scientific revolutions*, in

1962, due to the natural sciences he worked with and the time period within which postmodern ideas did not prevail so widely. However, unlike natural sciences whose knowledge is more accumulative, social sciences, especially language studies, are more circular in nature, with strong interpretative characteristics.

The biggest risk of the "paradigm shift" in language studies, from my perspective, is creating an artificial boundary that distinguishes the new from the old and building up a picture of seeming progress. This boundary might oversimplify and misrepresent the complex relations between the new and the old, overlook the values of the old, and misguide practitioners to switch to the new simply for the fear of falling behind. Progress in language studies is less observable and more debatable than it is in natural sciences, like physics and chemistry. As Matsuda's (2014) comments on the emergence of translingualism in American composition (both L1 and L2) studies, new ideas are not always inherently better than the old. The enthusiastic advocacy for new intellectual trends, a prototype for promoting paradigm shifts, is a rhetorical move to establish new areas of inquiry, either theoretically or methodologically. This move naturally involves contrasting the new with the old and valorizing the new by stigmatizing the old. This intellectual bias creates a misleading impression that the new is superior than the old, as a result, leading language practitioners, who are less invested in theoretical discussion, to find room in the new bandwagon as soon as possible. However, language studies follows a more circular developmental trajectory rather than a linear progressive model (Canagarajah, 2016). What is innovative will soon become the *status quo* (Silva, 2005). Therefore, in this disciplinary reality, understanding research development simply from a paradigm shift point of view is beneficial as well as risky. A comprehensive understanding of the working mechanism of a paradigm requires in-depth historical and philosophical studies, which are less interesting for a large number of researchers and practitioners in this field.

Language studies follows a circular developmental trajectory, but why is it so? The answers have to do with theory construction in language studies, especially L2 writing studies. Taking L2 writing as an example, constructing an overall theory was one of the central issues in the research agenda when the field first established its independent status, as reviewed in the literature review chapter. However, this attempt seems to be over now as almost all L2 writing specialists have joined the “multiplicity camp”, meaning that they believe having multiple theories in L2 writing is more desirable. Theories are unavoidably partial, allowing researchers to see some aspects rather than others and, possibly, mixing what is central with what is peripheral. As our understanding about L2 writing is always partial and fragmentary, the progress we see is no more than a change of orientation, which is subject to variations according to researchers’ interests in different eras and areas. We see L2 writing from multiple perspectives in hope of reaching the seemingly intangible truth (if there is one); however, this ultimate goal will never be met, at least using current theoretical and methodological tools, as fundamental questions remain to be answered, such as what language is and how a language is learnt.

Therefore, considering the current situation of L2 writing research and language studies in general, I argue that taking a paradigm shift view to understand L2 writing is risky since it oversimplifies the complexity in this research field and stigmatizes and overlooks the values of the paradigm that was replaced. Unlike Physics, whose finding of the quantum mechanism is a progress that can never be neglected in studies that follow, the progress we see in L2 writing is no more than a change of perspective, which can be changed back when needed. In this situation, meta-paradigmatic accommodations might better serve L2 writing’s needs.

Meta-paradigmatic Accommodations

Meta-paradigmatic accommodations refer to the co-existence of more than one paradigm in a research field. The appearance of these accommodations has considerable theoretical and practical significance. Theoretically, it means that current disciplinary changes have extended beyond the Kuhnian paradigm displacement models, within which he claimed that only in rare circumstances could multiple paradigms exist peacefully (Kuhn, 1962). Practically, meta-paradigmatic accommodations mean that disciplinary needs have replaced paradigmatic assumptions to guide and direct research. One message under this practical change is that pragmatism has overridden theoretical and methodological essentialism.

The findings in this study provide abundant evidence to support meta-paradigmatic accommodations. From the theoretical perspective, a number of theories identified in L2 writing research in China represent both cognitive and social perspectives, such as the Continuation Task Approach, Socio-cognitive Theories, and Dynamic Systems Theory. All these theories take both social and cognitive aspects into consideration when theorizing L2 writing development, representing an assumption that its development is happening simultaneously and interactively both “in the head” and “in the world” (Atkinson, 2002, p. 525). It should be noted that theories with socio-cognitive perspectives appeared relatively recently in L2 writing research in China, and they have showed an increasing developmental trend, as indicated in Chapter Four. Considering the paradigmatic views that social and cognitive perspectives represent, it is reasonable to conclude that meta-paradigmatic accommodations are happening in L2 writing in China with regard to theory. The evidence for meta-paradigmatic accommodations from the methodological perspective is clearer, as the mixed methods approach is the prototype of incorporating two paradigms. Since the methodological review in this study suggests that the mixed methods approach was the most frequently adopted approach in *Instruction* and *Text*, it is reasonable to argue that meta-paradigmatic accommodations in methodology have been widely accepted by L2 writing researchers in China.

This study provides sufficient evidence to support the observation of meta-paradigmatic accommodations from both theoretical and methodological perspectives. These accommodations are not new to L2 writing studies. For example, Silva (2005) used the term Humble Pragmatic Rationalism (HPR) to describe his observation of mixtures of paradigms and argued that HPR might be the orientation that fits current L2 writing research the best. Although Silva regarded HPR as the third paradigm in addition to the positivist and the relativist paradigms, with its "meta" feature, we can also argue that the HPR is at a higher level than the positivist and the relativist paradigms in the philosophical hierarchy. No matter how we classify HPR, its explanatory power is evidenced by the research findings in this study.

Pragmatism in Meta-paradigmatic Accommodations

Pragmatism is the ideology behind meta-paradigmatic accommodations. This ideology is also literally presented in the term "Humble Pragmatic Rationalism". I argue that the expanding pragmatism in L2 writing research in China is caused by three major reasons: the fundamental relations between theory and practice, the applied turn that is happening in almost all research fields worldwide, and pragmatist ideologies in China's socio-economic development.

The first reason concerns with the theory-practice relationship. If we dig deep enough, we may find that the pragmatism fundamentally originated from L2 writing's nature as an applied research field, which characterizes a "theory of practice" orientation, one of the theory-practice relations reviewed in Chapter Two. Under this orientation, the missions of theories are to serve practical purposes, which are primarily around L2 writing instruction which prepares students to meet varied writing demands across academic institutions (Atkinson, 2018). In this case, theories and paradigms can be transformed as long as these transformations bring practical benefits to instruction. This practice-oriented approach might receive criticism from L2 writing theorists; however, the current status of practice prioritizing theory can hardly be changed as practice and application have been built into the genes of L2 writing worldwide. Therefore, the pro-pragmatism and anti-pragmatism movements in nature derive from different interpretations of the theory-practice relationship. Second language writing theorists and theory/methodology/paradigm purists may see the field from theory-driven perspectives, while others see L2 writing from practice-driven perspectives. Currently, the practice-driven view (or applied research view) has dominated this theory-practice discussion in L2 writing and its ideologies have been widely accepted across the field.

Philosophically, the tension between pro-pragmatism and anti-pragmatism reflects the tension between two ontological stances in social sciences – “anti-ontological pragmatism” and “ontological fundamentalism” (Lohse, 2017). Anti-ontological pragmatist philosophers, who are often referred to as “neopragmatist philosophers” (Lohse, 2017, pp. 3-4), maintain that too much scholarly attention on ontology will slow down disciplinary progress in social sciences and that ontological discussion often leads to “nothing but vicious circles [and] unending battles of intuitions, at the expense of methodologically fruitful debates that might result in improving our social scientific practices” (Kivinen & Piiroinen, 2006, p. 310). In contrast, ontological fundamentalists, who have a realist ontology, argue that ontology is prior to any theory and methodology. The development of theories and methodologies should depend on ontological foundations (Lohse, 2017). As a result, theory and methodology adoption efforts that are simply based on explanatory requests rather than thorough ontological examinations can be problematic, as ontological foundations have a strong power of determination. This cross-paradigmatic debate is still going on in the field of philosophy of social sciences, and it is unlikely to draw any satisfactory conclusion anytime soon. However, as Lohse (2017) argued, the "anti-ontological pragmatism" has been spread widely among social scientists who conduct empirical research and who adopt a hands-on attitude towards research. The widespread pragmatism found in empirical L2 writing research in China seems to support Lohse's argument.

The preference for practice and application is a worldwide scientific trend, not specific to L2 writing research or social sciences in general. As discussed in Chapter Four, this applied turn is also ongoing in the natural sciences, which are traditionally viewed as theory-driven. The changing demands on sciences in the contemporary era add applicability to the evaluative pool of scientific research, meaning that disciplinary progress and theoretical advancement are evaluated partially, if not predominantly, based on benefits brought by applications. Under this pressure, in most cases, scientific research findings become practical tools for problem solving, rather than intellectual tools for knowledge construction. This transition further blurs the boundaries between "pure" and "applied" sciences and between theory and practice. When "pure" sciences are taking an applied turn, there are fewer reasons for "applied" sciences to take a theoretical turn. The doctrine that practice comes first is further validated. Therefore, one would expect to see more meta-paradigmatic accommodations in sciences, especially in applied fields like L2 writing.

Besides theoretical reasons mentioned in the previous paragraphs, pragmatist ideologies that have prevailed in varied social sectors in China also contribute to the pragmatism found in L2 writing research in China. For example, the social system in China is a pragmatic product. "Socialism with Chinese characteristics" is a pragmatic modification of Marxism in the Chinese context. Chinese pragmatic leaders, such as Deng Xiaoping and his followers, continue using pragmatic strategies to accelerate economic development and maximize economic benefits in an effort to speed China's modernization and to provide benefits to the wide public. The "cat theory" proposed by Deng is a classic example of his pragmatism. "A cat, whether it is white or black, is a good one as long as it is able to catch mice" (Zhao, 2005, p. 134). This theory has significantly influenced China's developmental trajectory, especially regarding economic system reform. Therefore, it becomes clear that the pragmatism underlying L2 writing research in China is a multi-layered movement caused by both theoretical/intellectual and socio-economic reasons.

I will close this section with a brief summary of my major arguments. In this section, I concentrated on meta-paradigmatic accommodations observed in L2 writing research in China, evidenced by the emergence of socio-cognitive perspectives in theory adoption and the popularity of the mixed methods approach in methodology adoption. I argued that meta-paradigmatic accommodations (or HPR) characterize current L2 writing research in China better than the paradigm shift model. The paradigm shift model oversimplifies the complex relations between paradigms in L2 writing research and overlooks the values of the "old". I also examined the ideology represented by the meta-paradigmatic accommodations – pragmatism. I argued that both theoretical and socio-economic reasons cause the prevalent pragmatism in L2 writing research in China.

Chapter Summary

In this chapter, I provided a philosophical discussion of the major findings in this study. I concentrated mainly on two issues: the potential paradigm shift and meta-paradigmatic accommodations. Based on the evidence found in this study, I argued that L2 writing research in China was primarily conducted under the positivist paradigm over the past 40 years, although there was evidence indicating the positivist-relativist paradigm shift in some subject matter categories. I also asserted that the relativist paradigm is not necessarily the developmental direction for L2 writing research in China. Based on the meta-paradigmatic evidence I saw in the results, I also acknowledged the values of meta-paradigmatic accommodations to L2 writing by discussing the potential risks brought by a linear paradigm shift model. I hope this chapter has provided the audience with a deeper understanding of L2 writing research in China.

CONCLUSION

This chapter concludes the present dissertation. In the first section, by summarizing and synthesizing research findings, I will first provide answers to the three research questions that this study was set out to address. In the second section, I will briefly discuss the implications of this study, focusing on L2 writing scholars' professional development. In the third section, I will present the limitations of the present study. Finally, I will discuss future research directions.

Summary of Research Findings

This study set out to address the following three research questions: 1) what major theories have been used in L2 writing research in China over the past 40 years, and what changes can be identified regarding theory usage; 2) what major methods and methodologies have been used in L2 writing research in China over the past 40 years, and what changes can be identified regarding methodology usage; and 3) how do theoretical and methodological changes (if there are any) reflect the changes in the philosophical bases of L2 writing inquiry in China? Research findings will be summarized to answer these three questions.

Answers to the First Research Question

A wide range of theories have been used in empirical L2 writing research in China. For example, in *Instruction*, *Writer*, and *Text*, there were more than 40 theories being used in each category. Even in the smallest category *Assessment*, there were 15 theories identified. This large number of theories identified indicates that this field is highly theory-dependent. Researchers also tended to use a good variety of theories to investigate target questions about L2 writing.

The theory adoption frequency varied in different subject matter categories, meaning that research foci determine largely what theory to adopt. For example, the most frequently used theories in *Instruction* were the Process Approach, Constructivist Learning Theory, Sociocultural Theories, and Collaborative Learning Theory. In *Writer*, they were Cognitive Models of Composing, Metacognition Theory, Dynamic Systems Theory, and the Process Approach. In *Text*, Models of Genre Analysis, Contrastive Rhetoric, Cohesion Theory, and Error Analysis Approach were adopted the most. Theories in *Assessment* showed strong psychological features. Cognitive Models of Composing, Generalizability Theory, Item Response Theory, and the Noticing Hypothesis were adopted the most. Theories in each category showed different theoretical orientations. In *Writer* and *Assessment*, more theories adopted cognitive orientations. In *Instruction*, social orientations were stronger than cognitive or socio-cognitive orientations. In *Text*, functional orientations were more prominent.

In terms of changes in theory adoption, there were signs indicating increase in socially-oriented and socio-cognitively-oriented theories in *Instruction* and *Writer*. These findings align with the “social turn” that occurred in L2 writing research in the West. The collected evidence might suggest a tendency toward the social turn; however, the majority of the studies were still conducted under the process-centered tradition. Based on this, I argued that L2 writing research in China remains largely in the process-era, but signs of the social turn have already appeared.

Answers to the Second Research Question

The types of methodologies identified in L2 writing research in China were fewer than those of the theories. Only three types of methodologies were identified in all L2 writing studies, namely Experimentation, Textual Analysis, and Case study. Experimentation was the most frequently adopted methodology in three categories: *Instruction*, *Writer*, and *Assessment*. Among these three categories, Experimentation took overwhelmingly dominant positions in *Instruction* and *Assessment*. Compared to these two categories, methodology distribution in *Writer* was more balanced. This means that although Experimentation was the most frequently adopted methodology, Textual Analysis and Case Study were also well represented in *Writer*. In the category of *Text*, without doubt, Textual Analysis was the most frequently adopted methodology.

In terms of methods used for data collection, there was not much difference across categories. Overall, Writing Test, Writing Text, Interview, and Survey were the most frequently used methods in all L2 writing studies. Regarding research approaches, studies in *Instruction* and *Text* adopted more mixed methods approaches, while studies in *Writer* and *Assessment* adopted quantitative approaches more frequently. In all four categories, qualitative approaches were marginalized. Less than 7% of all examined L2 writing studies adopted qualitative approaches.

Since only a few methodologies were identified in L2 writing research in China and the distributions of methodologies in most categories were highly skewed, there were not many changes found regarding methodology adoption over time. At the macro level, the adoption frequency of nearly every methodology in every category increased over the past 40 years. This increase was mainly caused by the increase in the total number of L2 writing studies over the past decades. At the micro level, the number of studies adopting Case Study in *Instruction* showed noticeable increase. Other increasing trends regarding methodology adoption were less noticeable. In terms of research approaches, qualitative approaches in *Instruction* showed a clear increasing trend. However, due to the small number of qualitative studies identified, this increase in one category was insufficient to warrant an argument that qualitative approaches in L2 writing in China have begun to increase.

Answers to the Third Research Question

The findings about theory and methodology adoption revealed some information about paradigm shift. After reviewing the socio-cognitive perspective shift and the quantitative-qualitative approach shift, I found that empirical L2 writing research in China largely remains in the positivist paradigm, although there were signs indicating a potential positivist to relativist paradigm shift. As for the reasons, I believe that China's current developmental stage, the dominant influence of the Marxist ideology, and the disciplinary family heritage all accounted for the dominant position of the positivist paradigm. In addition, the relativist paradigm might not be the pre-determined developmental direction for L2 writing research in China. Another interesting finding about the philosophical aspect of L2 writing is meta-paradigmatic accommodation, evidenced by more effort on combining cognitive and social perspectives and quantitative and qualitative approaches. Considering the uniqueness of language studies, the meta-paradigmatic accommodation perspective seems to work better than the paradigm shift perspective in characterizing the developmental trajectory of L2 writing research in China.

Implications for L2 Writing Research

As a research synthesis, this study aims to provide a comprehensive review of the current status of L2 writing research in China from theoretical, methodological, and philosophical perspectives. The nature of this study determines that it has more implications for researchers and research gatekeepers than L2 writing instructors.

For L2 writing researchers in China, I hope this study has provided them with sufficient information about the current theoretical and methodological status of L2 writing research. With this information, they can have an integrated understanding of research conducted on issues surrounding L2 writing. This integrated understanding means a type of meta-disciplinary awareness of what researchers in this field do, where this field is at in terms of theoretical, methodological, and philosophical development, and, eventually, what the field needs from future research. This awareness does not mean that researchers need to adopt an integrated theory or methodology to investigate target issues, nor does it mean researchers have to take into consideration as many aspects of L2 writing as possible. Almost all agree that every study is partial and theoretically and methodologically focused. But this meta-disciplinary awareness helps researchers to position their research accurately on a theoretical-methodological-philosophical coordinate. This position allows researchers to realize what story a specific study can and cannot tell, what information it can and cannot reveal, what its limitations are, and what theoretical and methodological resources are available to strengthen the research design. Ultimately, this meta-disciplinary awareness will help researchers to accurately identify research gaps in the field, which further benefits publication and grant application.

As for L2 writing research gatekeepers in China, this study provides them with information about the overused and underused theories and methodologies in current research. For example, the process-oriented theories have been overused in existing L2 writing research; compared to them, theories with social and socio-cognitive orientations seemed underused. In terms of methodology, Experimentation and Textual Analysis have been overused; however, other methodologies, such as ethnography and critical analysis, were seldomly used. Since gatekeepers have already had rich experience working in this field, the aforementioned issues might have been already familiar to them. However, this study provides concrete evidence to support what they have already known intuitively. With this support, they can make more informed decisions on discipline construction, such as granting research projects and editing special issues in journals. The intentional efforts from gatekeepers will further accelerate disciplinary changes towards greater balance and integration.

Limitations of the Study

There are two major limitations in the present study. One concerns the process of data coding; the other concerns the operationalization of theory. As for the first limitation, only one researcher was involved in the data coding processes. For those who care much about rater reliability, they may question the accuracy of data coding since there was no verification of coding results. Although I drew from the researchers' own identifications as much as possible when coding their studies, there was always personal interpretation and decision-making involved in the coding processes. I agree that adding another coder would have increased coding accuracy and consistency and helped me identify new issues that are less visible to me due to my academic training background; however, lacking a second coder is not a fundamental flaw of the current research design since every research involves subjectivity. Researchers' biases and subjectivity influence every aspect of science, be it natural sciences or social sciences. One can never be absolutely objective in conducting research.

The second limitation concerns the operationalization of the construct "theory". In the methodology chapter, I explained that theory identification was primarily based on each researcher's self-report. This decision was made based on two reasons. First, there is no consensus on what theory means in L2 writing research. Each researcher conceptualizes theory differently. Second, adhering to researchers' self-identifications avoids the risk of over interpretation from me. Although this decision was made based on valid reasons, lacking an explicit operationalization of theory caused problems, one of them, as mentioned in Chapter Four, was the co-existence of theories with different scopes. This mixture of theories from different levels made discussion harder to develop. As a result, this study did not go sufficiently in-depth in discussion about the theoretical reality in L2 writing research in China.

Readers should also bear in mind that this study is based on analyses of empirical L2 writing studies that were carried out in China. This research scope indicates that only the empirical epistemology was involved and discussed in this dissertation. As for L2 writing studies employing a rational (or hermeneutical) epistemology, they are beyond the scope of this study and need to be synthesized in future research. One consequence of this empirical epistemology scope is that L2 writing studies reviewed in the present study demonstrated strong social science orientations, as oppose to humanities orientations. Scholars who are interested in humanities aspects of L2 writing research in China need to read other synthesis works.

Future Research Directions

When I was coding and analyzing the collected data, I always felt regret about how little I could do in this project given the limited time and resources I have right now. With this amount of data, multiple studies can be conducted, and, of course, these studies can take different directions.

Besides adding coders to the coding process to bolster the reliability, future research can start by focusing on specific aspects of the dataset to conduct more precise investigations. This is what this study was not able to do given its purpose of providing general and field-wide information. Future studies can select one methodology in one subject matter category to conduct in-depth analyses. For example, how do researchers design Experimentation in studies on L2 writing instruction? Why is Experimentation so popular in studies on instruction? Future research can also touch upon the design of mixed methods research. For example, what types of quantitative and qualitative data were combined in mixed methods research? How are methods mixed and integrated in the MMR? These specific questions are as interesting as the broad questions. In my future research, I will continue working with this dataset by zooming in to investigate more concrete and specific questions.

Concluding Remarks

Since this study is a meta-disciplinary as well as a historical study, I would like to conclude it by presenting a quote I read from *The landscape of history* (Gaddis, 2002):

> *Studying the past is no sure guide to predicting the future. What it does do, though, is to prepare you for the future by expanding experience, so that you can increase your skills, your stamina – and, if all goes well, your wisdom* (p. 11).

After reading this dissertation, I hope your experience has been expanded and your skills increased. I hope you are better prepared for a discussion about L2 writing research in China.

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APPENDIX A. THE COMPLETE LIST OF SOURCE JOURNALS

Chinese Translators Journal (Established in 1979)

Foreign Language and Literature (Established in 1980)

Foreign Languages and Their Teaching (Established in 1985)

Foreign Language Education (Established in 1979)

Foreign Languages in China (Established in 2004)

Foreign Language Learning Theory and Practice (Established in 1981)

Foreign Language Research (Established in 1984)

Foreign Languages Research (Established in 1980)

Foreign Language Teaching and Research (First issue 1957, restarted in 1978)

Foreign Language World (Established in 1980)

Journal of Foreign Languages (Established in 1978)

Journal of PLA University of Foreign Languages (Established in 1978)

Modern Foreign Languages (Established in 1978)

Shandong Foreign Language Teaching (Established in 1980)

Technology Enhanced Foreign Language Education (Established in 1979)

APPENDIX B. THE FULL LIST OF KEY WORDS

English key words	***Chinese key words***
Writing	写作
Second language writing	二语写作
L2 writing/SLW/L2W	英语写作
ESL writing	外语写作
English writing	作文
Foreign language writing	二语作文
EFL writing	英语作文
Composition	外语作文
Second language composition	
L2 composition	
ESL composition	
English composition	
Foreign language composition	
EFL composition	

APPENDIX C. THE FULL LIST OF THEORIES IN INSTRUCTION

Name of the theory	Number	%	Cumulative %
Process approach	28	16.57%	16.57%
Constructivist learning theory	19	11.25%	27.82%
Sociocultural theories	16	9.47%	37.29%
Length approach	11	6.51%	43.80%
Collaborative learning theory	7	4.15%	47.95%
Interaction theory	6	3.55%	51.50%
Genre theories	5	2.96%	54.46%
Input hypothesis	5	2.96%	57.42%
Social cognitive theories	4	2.37%	59.79%
Task-based teaching approach	3	1.78%	61.57%
Communicative language teaching	3	1.78%	63.35%
Metacognition theory	3	1.78%	65.13%
Cohesion theory	2	1.18%	66.31%
Cognitive models of composing	2	1.18%	67.49%
Conceptual grammatical metaphor	2	1.18%	68.67%
Experiential learning(teaching) theory	2	1.18%	69.85%
Focus on form	2	1.18%	71.03%
Intertextuality	2	1.18%	72.21%
Lexical approach	2	1.18%	73.39%
Memetics theory	2	1.18%	74.57%
Motivation theory	2	1.18%	75.75%
Process genre approach	2	1.18%	76.93%
Production-oriented approach	2	1.18%	78.11%
Project-based learning approach	2	1.18%	79.29%
Systematic functional linguistics	2	1.18%	80.47%
Autonomous learning theory	1	0.59%	81.06%
Data driven learning approach	1	0.59%	81.65%
Action learning theory	1	0.59%	82.24%
Adaptation theory	1	0.59%	82.83%
Allosteric learning theory	1	0.59%	83.42%
Assessment for learning theory	1	0.59%	84.01%
Blended learning theory	1	0.59%	84.60%
Community learning theory	1	0.59%	85.19%
Connectionism	1	0.59%	85.78%
Content based instruction	1	0.59%	86.37%
Contrastive rhetoric	1	0.59%	86.96%
Dynamic evaluation theory	1	0.59%	87.55%
Error analysis approach	1	0.59%	88.14%
Formative assessment theory	1	0.59%	88.73%
Generic structure potential theory	1	0.59%	89.32%
Intake hypothesis	1	0.59%	89.91%
Knowledge building theory	1	0.59%	90.50%

Language awareness theory	1	0.59%	91.09%
Language information processing theory	1	0.59%	91.68%
Latent sematic analysis theory	1	0.59%	92.27%
Mediated learning theory	1	0.59%	92.86%
Metadiscourse theory	1	0.59%	93.45%
Monitor hypothesis	1	0.59%	94.04%
Multiliteracies theory	1	0.59%	94.63%
Natural approach	1	0.59%	95.22%
Notice hypothesis	1	0.59%	95.81%
Politeness theory	1	0.59%	96.40%
Self-regulated learning theory	1	0.59%	96.99%
Self-efficacy theory	1	0.59%	97.58%
Situated learning theory	1	0.59%	98.17%
Structural cognitive modifiability theory	1	0.59%	98.76%
Transformative learning theory	1	0.59%	99.35%
Translational writing approach	1	0.59%	99.94%
Total	**169**	**99.94%**	**99.94%**

APPENDIX D. THE FULL LIST OF THEORIES IN WRITER

Name of the theory	Number	%	Cumulative %
Cognitive models of composing	24	21.24%	21.24%
Metacognition theory	9	7.96%	29.20%
Dynamic systems theory	5	4.42%	33.62%
Process approach	4	3.54%	37.16%
Sociocultural theory	4	3.54%	40.70%
Cognition hypothesis	3	2.66%	43.36%
Cohesion theory	3	2.66%	46.02%
Constructivist learning theory	3	2.66%	48.68%
Continuation task approach	3	2.66%	51.34%
Frequency effects theory	3	2.66%	54.00%
Language transfer theories	3	2.66%	56.66%
Task-based teaching approach	3	2.66%	59.32%
Contrastive rhetoric	2	1.77%	61.09%
Genre theories	2	1.77%	62.86%
Learning strategy theories	2	1.77%	64.63%
Lexical bundle theories	2	1.77%	66.40%
Limited attentional capacity model	2	1.77%	68.17%
Noticing hypothesis	2	1.77%	69.94%
Working memory theory	2	1.77%	71.71%
Affective filter hypothesis	1	0.88%	72.59%
Affordance theory	1	0.88%	73.47%
Anxiety theories	1	0.88%	74.35%
Aptitude theory	1	0.88%	75.23%
Avoidance theory	1	0.88%	76.11%
Centering theory	1	0.88%	76.99%
Citation competence theory	1	0.88%	77.87%
Cognitive load theory	1	0.88%	78.75%
Communities of practice theory	1	0.88%	79.63%
Content based instruction	1	0.88%	80.51%
Critical thinking evaluation framework	1	0.88%	81.39%
Dual model system theory	1	0.88%	82.27%
Ecosocial system theory	1	0.88%	83.15%
Field dependence/independence theory	1	0.88%	84.03%
Functional grammar theory	1	0.88%	84.91%
Grammatical metaphor theory	1	0.88%	85.79%
Identity theories	1	0.88%	86.67%
Input hypothesis	1	0.88%	87.55%
Interaction hypothesis	1	0.88%	88.43%
Interactive-alignment model	1	0.88%	89.31%
Macrostructure theory	1	0.88%	90.19%
Metadiscourse theories	1	0.88%	91.07%
Output hypothesis	1	0.88%	91.95%

Process model of L2 motivation	1	0.88%	92.83%
Recursive discourse theory	1	0.88%	93.71%
Self-constructual theory	1	0.88%	94.59%
Self-efficacy theory	1	0.88%	95.47%
Speech act theory	1	0.88%	96.35%
Stratified model	1	0.88%	97.23%
Thematic continuity theory	1	0.88%	98.11%
Theory of emergentism	1	0.88%	98.99%
Vocabulary assessment framework	1	0.88%	99.87%
Total	**113**	**99.87%**	**99.87%**

APPENDIX E. THE FULL LIST OF THEORIES IN TEXT

Name of the theory	Number	%	Cumulative %
Models of genre analysis	13	12.87%	12.87%
Contrastive rhetoric	12	11.88%	24.75%
Cohesion theory	11	10.89%	35.64%
Error analysis approach	10	9.90%	45.54%
Thematic progression theory	6	5.94%	51.48%
Appraisal theory	5	4.95%	56.43%
Metadiscourse theory	4	3.96%	60.39%
Interlanguage theory	3	2.97%	63.36%
Language transfer theory	3	2.97%	66.33%
Center theory	2	1.98%	68.31%
Rhetorical structure theory	2	1.98%	70.29%
Stylistic theory	2	1.98%	72.27%
Avoidance theory	1	0.99%	73.26%
Clause relation theory	1	0.99%	74.25%
Cognitive linguistics theories	1	0.99%	75.24%
Conceptual transfer theory	1	0.99%	76.23%
Continuation task approach	1	099%	77.22%
Demonstrative theory	1	0.99%	78.21%
Discourse semantics theory	1	0.99%	79.20%
Dynamic systems theory	1	0.99%	80.19%
Foregrounding and backgrounding theory	1	0.99%	81.18%
Fossilization theory	1	0.99%	82.17%
Functional discourse analysis theories	1	0.99%	83.16%
Generic structure potential theory	1	0.99%	84.15%
Genre-based approach	1	0.99%	85.14%
Global coherence theory	1	0.99%	86.13%
Grammatical metaphor theory	1	0.99%	87.12%
Model of discourse interaction	1	0.99%	88.11%
Nominalization theory	1	0.99%	89.10%
Patterns of discourse organization	1	0.99%	90.09%
Phraseology theory	1	0.99%	91.08%
Pragmatic identity theory	1	0.99%	92.07%
Register variable theory	1	0.99%	93.06%
Relevance theory	1	0.99%	94.05%
Scale-and-category grammar theory	1	0.99%	95.04%
Semantic structure theory	1	0.99%	96.03%
Social-interactive approach	1	0.99%	97.02%
Theory of persuasion psychology	1	0.99%	98.01%
Theory of semantic fields and collocation	1	0.99%	99.00%
Two dimensional model of transitivity	1	0.99%	99.99%
Total	**101**	**99.99%**	**99.99%**

APPENDIX F. THE FULL LIST OF ANALYTICAL FRAMEWORKS

Name of the framework	Number	%	Cumulative %
Lexical bundle/chunk analytical framework	10	14.71%	14.71%
Stance marker analytical framework	5	7.35%	22.06%
Multi-dimensional analytical framework	4	5.88%	27.94%
Syntactic complexity analytical framework	4	5.88%	33.82%
Hedge analytical framework	3	4.41%	38.23%
Reporting verb analytical framework	3	4.41%	42.64%
Adverb analytical framework	2	2.94%	45.58%
Causal connectives analytical framework	2	2.94%	48.52%
Modal sequence analytical framework	2	2.94%	51.46%
Personal pronouns analytical framework	2	2.94%	54.40%
Reporting clause analytical framework	2	2.94%	57.34%
Shell nouns analytical framework	2	2.94%	60.28%
Text borrowing analytical framework	2	2.94%	63.22%
Writer identity analytical framework	2	2.94%	66.16%
Adjective analytical framework	1	1.47%	67.63%
Animacy analytical framework	1	1.47%	69.10%
Argument structure analytical framework	1	1.47%	70.57%
Causative structure analytical framework	1	1.47%	72.04%
Citation analytical framework	1	1.47%	73.51%
Cleft construction analytical framework	1	1.47%	74.98%
Colloquialisation analytical framework	1	1.47%	76.45%
Engagement marker analytical framework	1	1.47%	77.92%
Formulaic sequence analytical framework	1	1.47%	79.39%
Key words analytical framework	1	1.47%	80.86%
Lexical item analytical framework	1	1.47%	82.33%
Lexical proficiency analytical framework	1	1.47%	83.80%
Nominal group analytical framework	1	1.47%	85.27%
Personal deixis analytical framework	1	1.47%	86.74%
Psycholinguistic information analytical framework	1	1.47%	88.21%
Readability analytical framework	1	1.47%	89.68%
Reformulation marker analytical framework	1	1.47%	91.15%
Signalling noun analytical framework	1	1.47%	92.62%
Vocabulary complexity analytical framework	1	1.47%	94.09%
Vocabulary breadth analytical framework	1	1.47%	95.56%
Writer/reader visibility analytical framework	1	1.47%	97.03%
Writer voice analytical framework	1	1.47%	98.50%
Writing fluency analytical framework	1	1.47%	99.97%
Total	**68**	**99.97%**	**99.97%**