A Framework for

Understanding Second Language Writing Strategies

by

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A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy

Approved July 2016 by the
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ARIZONA STATE UNIVERSITY

August 2016

ABSTRACT

This study articulates a framework of writing strategies and validates the framework by using it to examine the writing process of researchers as they write journal articles for publication. The framework advances a definition of writing strategies and a classification system for categorizing strategies that is based on strategic goals. In order to develop the framework, I first synthesize existing literature on writing strategies found in second language writing studies, composition studies, and second language acquisition. I then observe the writing process of four researchers as they write journal articles for publication and use the framework to analyze participants' goals, their strategies for accomplishing goals, the resources they use to carry out strategies, and the variables that influence their goals and strategies. Data for the study was collected using qualitative methods, including video recordings of writing activities, stimulated-recall interviews, questionnaires, and semi-structured interviews. The study shows that the framework introduced in the study is useful for analyzing writers' strategies in a comprehensive way. An operationalizable definition of 'writing strategies' is *the conscious and internalized agentive ideas of a writer about the best way to act, often with the use of resources, in order to reach specific writing goals embedded in a context.* Writing strategies can be categorized into seven types of strategic goals: composing, coping, learning, communicating, self-representation, meta-strategies, and publishing. The framework provides a way to understand writing strategies holistically—as a unit of goal, action, and resource—and highlights variability in writers' actions and use of resources. Some of this variability in writers' strategies can be explained by the influence of various contextual factors, which are identified in the analysis. The dissertation

concludes with a discussion of how the framework can be used to inform future research and classroom teaching on writing strategies.

DEDICATION

To my father and mother for always supporting and encouraging me to pursue excellence.

ACKNOWLEDGMENTS

First and foremost, I thank God for His faithfulness and providence throughout my studies. He met my every need and blessed me beyond expectation. I feel truly cared for by Him. I also thank my family – father, mother, Jashin, and Jayoung – for their support, love, and prayers.

I would like to express my deepest gratitude to my advisor and chair, Dr. Paul Kei Matsuda. I thank him for his guidance, training, and support. His teachings on second language writing and our many conversations about the project shaped my thoughts as a researcher and scholar and lead to the formation of the ideas presented in this dissertation. I feel fortunate to have him as my advisor. I am also grateful to my committee members, Dr. Aya Matsuda and Dr. Mark James. Their feedback and suggestions were instrumental to the development of the project.

I would also like to acknowledge colleagues and friends who have supported me throughout this process. I especially thank my colleagues Matthew Hammill, Juval Racelis, and Yuching Jill Yang, for their feedback on ideas, encouragement, and accountability through writing group meetings. My friends Grace Yum, Charles Kim, Stephen Son, Joy Lee, and Mike Lee provided tremendous support along the way with their encouragement, kindness, and prayers.

This project would have not been possible without the generosity of my research participants. I am thankful for their availability, time, and commitment to the project.

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CHAPTER 1

INTRODUCTION

Overview of Study

Writing strategies are essential for effective writing. Skillful writers do not produce good writing by composing haphazardly and relying on chance, but by intentionally engaging in actions that lead to desired outcomes. Writers use strategies to persuade readers, compose in an unfamiliar genre, create cohesion, manage time constraints, and achieve an array of other goals. In order for novice writers to become proficient writers, it is essential for them to develop writing strategies.

Strategies used by second language writers throughout their composing process has received consistent attention in research over the past few decades (e.g., Cumming, 1989, Leki, 1995; Lei, 2008; Raimes, 1985, 1987; Roca de Larios et al., 1999; Sasaki, 2000, 2002; Zamel, 1982, 1983). Research on writing strategies has appeared in several major areas of inquiry, including L2 writing studies, composition studies, and second language acquisition studies. Depending on the area of inquiry in which studies on writing strategies have appeared, research has been informed by different theoretical discussions, such as theories on language learner strategies and composing process. Because of this, it is difficult to articulate a coherent picture of how research on writing strategies has developed over the years.

Research on strategies has primarily focused on developing descriptive accounts of writers' strategy use. Research has investigated strategies of writers with various English proficiencies (e.g., Cumming, 1989; Roca de Larios, Murphy, & Manchón, 1999; Sasaki & Hirose, 1996; Sasaki 2000; Wang & Wen, 2002; Raimes 1987), with various prior

writing experience (e.g., Bosher, 1998; Cumming, 1989), and in different instructional contexts (e.g., Sasaki, 2004). Strategy research has also focused on differences in using strategies in one's first language (L1) and second language (L2) (e.g., Arndt, 1987; Whalen & Menard, 1995) and differences in skilled and unskilled writers' strategies (e.g., Cumming, 1989; Raimes, 1987; Sasaki & Hirose, 1996; Zamel, 1983). Initially, research focused on writers' cognitive strategies (e.g., Raimes 1985,1987; Zamel, 1982, 1983), but later as writers' composing process was viewed from a more social perspective, strategy research began focusing on socially situated ways writers carried out strategies (e.g. Cumming, 2006; Lei, 2008; Riazi, 1997). Much of this research has been qualitative, and due to the highly contextualized nature of the studies, it is difficult to make many generalizations about writing strategies based on the findings. However, research shows that L2 writers are able to facilitate their writing processes by using writing strategies.

Some researchers have focused on understanding writers' goals for employing strategies (e.g., Cumming, Busch, & Zhou, 2002; Cumming 2006; He, Chang, & Chen, 2011). Cumming et al. (2002) made the case that goals are central to the strategic actions that learners undertake to perform tasks and thus strategies should be analyzed in reference to goals. Research findings on goals suggest goals play an integral role in determining a writer's use of strategies. Research has also given attention to the various resources writers use to accomplish strategies (e.g., Kang & Pyun, 2013; Lei, 2008). Coming from a sociocultural perspective, Lei (2008) made the case that strategy research needs to take into greater consideration the various ways L2 writers mediate their writing process using tools. Research findings on resources used for accomplishing strategies indicate that writers carry out strategies using a multitude of resources, such as writing

teachers, classmates, the Internet, and word processor tools (e.g., Kang & Pyun, 2013; Lei, 2008).

It is to this growing body of research on writers' strategies, goals, and use of resources to which my dissertation study contributes. The aim of the present study is to articulate a framework that synthesizes existing discussions on writing strategies found across various areas of study, specifically L2 writing studies, composition studies, and second language acquisition. The framework will include a definition of writing strategies and a classification system for categorizing writing strategies.

Statement of Problem

Over the years, various conceptualizations of the term *writing strategies* have been used when investigating L2 writers. As pointed out by Manchón, Roca de Larios, and Murphy (2007), there currently exists a plethora of phenomena identified as strategies. For instance, some researchers use writing strategies to refer to writers' mental behavior throughout the composing process, such as planning, revising, or translating (e.g., Raimes, 1985, 1987; Roca de Larios, Murphy, & Manchón, 1999; Sasaki, 2004; Whalen & Ménard, 1995; Zamel, 1982, 1983). Others conceptualize writing strategies more broadly to include strategies writers carry out with the use of resources, such as writing mentors or the Internet, to meet demands encountered in the discourse community (e.g., Cumming et al., 2002; Cumming, 2006; Lei, 2008; Riazi, 1997). The various conceptualizations of writing strategies have, on the positive side, led writing scholars to approach research on strategies from various perspectives. On the other hand, the absence of an agreed understanding of writing strategy makes it difficult to compare different research findings on strategies and discuss how they relate to each other. It also creates

challenges in identifying important omissions in strategies research and finding viable research projects.

So far, there have been few discussions on how various findings from research on writing strategies fit together to form a larger picture of what writing strategies are and how writers use them. Some researchers have reviewed research on writing strategies and summarized findings according to topic area or theoretical orientation (e.g., Manchón, 2001; Manchón, Roca de Larios, & Murphy, 2007), but they have not explained how the various research findings relate to each other conceptually.

Additionally, research on writing strategies can currently be found in research on composing processes, language learner strategies, development of genre knowledge, writing transfer, voice, meta-discourse, and other areas of study within the fields of L2 writing, composition, and second language acquisition. It is important to be able to take inventory of the abundant writing strategies that appear across these studies and organize them into a classification system so that researchers can understand variability in writers' strategy use and teachers can know whether or not they are adequately providing learners with exposure to diverse writing strategies. Current systems of classifying strategies focus on specific aspects of writing strategies (e.g., types of composing processes or resources) that do not allow for incorporation of important aspects of writing strategy research (e.g., writers' goals). As a result, they are not inclusive of strategies that do not require an action or a use of resource.

At this juncture of writing strategies, it is important to articulate a framework on writing strategies will allow scholars to take stock of what is known about writing strategies in a coherent and systematic way so that scholars can build on each other's

work more easily and advance a theory about writing strategies. The present dissertation study articulates a framework for writing strategies that includes a definition of writing strategies and a classification system for categorizing writing strategies. The definition conceptualizes writing strategies in relation to the writers' actions, writer's goals, writing context, writing resources, and writers' agency. The classification system categorizes writing strategies according to goals the strategies are meant to accomplish.

In order to develop the framework, it was necessary for me to examine the writing activities of writers. Existing research on writers' goals has tended to focus on understanding writer's long-term goals (e.g., writing good essays, obtaining high scores, develop writing skills) (e.g., He et al., 2011; Lei, 2008; Riazi, 1997) rather than the immediate goals writers' intend to accomplish with each strategy (e.g., find synonym, organize ideas). Studies that have examined writers' immediate goals for employing strategies focused on goals and strategies for improving writing ability (e.g., Cumming et al. 2002; Cumming, 2006). The goal of improving writing ability is only one type of goal writers may have for employing strategies. Additionally, the participants of recent strategy research on writers' goals and use of resources have been students in general academic second language writing classes. Such research blurs distinctions between strategies for learning and communication. In writing classes, language learners are mainly writing to learn and practice writing and language. Writing teachers may also restrict and specify learners' strategies, goals, and resources. Writing with the main goal of learning writing is essentially different than writing with the main goal of using writing for communicative purposes, even though learning can occur while writers are writing to publish. When developing theories on writing strategies, it is important to

differentiate writing for learning from writing for communicative purposes, and that existing research has tended not to sufficiently distinguish the two activities. In order to understand the strategies, goals, and resources used by writers who were writing for other purposes than learning writing, the present dissertation study examined the writing activities of researchers who were writing journal articles for publication.

Additionally, recent studies investigating researchers' writing strategies have primarily relied on participants' self report of their self strategy use in interviews or surveys (e.g., Cheung, 2012; Flowerdew & Li, 2007; Jiang, Borg & Borg, 2015; Karimnia, 2012; Okamura; 2006). Recent strategy research that used direct observation to understand writers' strategies involved L2 writing students composing in controlled settings—in the researcher's room using computers provided by the researchers, often completing artificial tasks that was created for the study (e.g., Kang & Pyun, 2013; Lei, 2008). There are older studies that investigated L2 writers' strategies by observing writers in natural settings (e.g., Gosden, 1995; Leki, 1995). However, there has been much technological development since those studies, and it is important to understand the various technological resources writers may use to facilitate their writing practices. There is a need to observe writers' strategy use as they complete authentic tasks in natural settings, such as their home or office, using their own computers. The present study examined researchers' writing process as they completed authentic tasks in their own homes or offices at a time of their choosing in order to advance understanding about writers' use of strategies in natural settings.

Overview of Chapters

The dissertation consists of six chapters. Chapter 1 has described the rationale and overall purpose of the study. In Chapter 2, "Toward a Framework for Understanding Writing Strategies," I review existing conceptualizations of writing strategies in L2 writing studies, composition studies, and second language acquisition studies. I show some limitations of existing conceptualizations and classification systems of strategies in that they are not inclusive of all types of strategies. I then advance a definition of writing strategies and also articulate a system of classifying strategies based on goals, using existing literature on strategies. The classification system consists of six categories: learning, coping, composing, communication, self-representation, meta-, and publishing. In Chapter 3, "Method," I present the research questions that guided the study's investigation and describe the research design. I introduce participants who were researchers writing journal articles for participation. I also describe the method of data collection, which included screen-capture recordings of writer's computer activities, stimulated recall interviews, semi-structured interviews, and questionnaires. I then describe my data analysis procedure. I explain the procedures used to identify writers' strategies and variables influencing writers' strategies and goals. I also explain procedures used to classify writing strategies and identify sub-groups of strategies. In Chapter 4, "Writing Goals and Strategies of Researchers," I present findings of researchers' goals, actions take to accomplish goals, and resources used to carry out strategies, using the classification system introduced earlier. I also present my analysis of sub-categories identified for each type of goal. In Chapter 5, "Variability in Writers' Uses of Strategies: Influence of Contextual Factors and Role of Agency," I present findings of

variables influencing writers' strategies and goals. I first highlight differences in writers' strategies with examples. I then present variables influencing writers' goals and variables influencing writers' strategies. I also describe some situations in which writers engaged in activities for reasons other than accomplishing writing goals. Finally, in Chapter 6, "Discussion, Implications, and Future Research," I evaluate the usefulness of the framework introduced in the study to understand researchers' goals and strategies. I then present various ways the framework could be used to inform other research studies on strategies and inform L2 writing pedagogy. I also draw on findings to suggest implications for pedagogy and research. I conclude with a discussion of study limitations and directions for future research.

CHAPTER 2

TOWARD A FRAMEWORK FOR UNDERSTANDING WRITING STRATEGIES

In this chapter, I first review existing conceptualizations of writing strategies in L2 writing studies, composition studies, and second language acquisition studies. Each review concludes with an explanation of why an articulation of a definition of L2 writing strategies is necessary. I then present the various types of classification systems used to categorize L2 writing strategies thus far. I argue that existing methods of classifying strategies are not inclusive of all types of strategies. In the section that follows, I articulate a new definition of writing strategies. To do this, I draw on existing research to point out important aspects of writing strategies (e.g., goals, actions, etc.) that should be included in a definition of writing strategies. I conclude the section with a summary of these aspects and advance a definition of writing strategies. In the following section, I articulate a system for classifying writing strategies that is based on goals. I begin with an explanation of the benefits of classifying strategies according to goals and then introduce six types of strategies: composing, coping, learning, communication, self-representation, and meta-strategies. I define each type of strategy with examples and review existing research on each type of strategy.

Existing Conceptualizations of Writing Strategies

In L2 Writing Studies: Conceptualizations of Writing Strategies

The term *writing strategy* often appears in L2 writing studies to refer to various phenomena but is seldom explicitly defined. Existing conceptualizations of strategies follow four trends, according to Manchón et al. (2007) who reviewed both explicit and

implicit conceptualizations of writing strategies from the 1980s. Writing strategies have been conceptualized broadly in two trends and narrowly in two other trends. According to Manchón et al., the two narrow conceptualizations of strategies have been informed by cognitive theories. One trend is to equate strategies to problem solving devices for coping with linguistic and rhetorical difficulties writers face while composing, such as planning and translating from L1 to L2 (e.g., Sasaki, 2004; Wong, 2005). Sasaki's (2004) definition is representative of this conceptualization of strategies in that she characterizes strategies as "mental behavior." Sasaki defines strategies as "A writer's mental behavior employed to achieve a certain goal in the 'ill-structured problem-solving' […] activity of writing" (p. 541). The other trend is to characterize strategies as control mechanisms for regulating cognitive activity, such as setting and managing writing goals (e.g., Cumming, 1989). An explicit definition that represents this trend of conceptualization of strategies is not found in literature.

The two broad conceptualizations of strategies take on either a learner-internal perspective or a socio-cognitive perspective. The learner-internal perspective equates strategies with any actions writers take while composing text (e.g., Roca de Larios, 1999; Sasaki, 2000, 2002). Petrić and Czárl's (2003) definition represents this perspective. They define strategies as "actions or behaviors consciously carried out by writers in order to make their writing more efficient" (p. 189). According to Manchón et al., the socio-cognitive perspective characterizes strategies as any actions writers take to respond to demands encountered in the discourse community (e.g., Leki, 1995; Riazi, 1997; Spack, 1997). An explicit definition that represents this trend of conceptualization of strategies is not found in literature.

More recently, writing strategies has been informed by socio-cultural theory (Kang & Pyun, 2013; Lei, 2008; Rahimi & Noroozisiam, 2013). Lei (2008) defines strategies as "mediated actions which are consciously taken to facilitate writers' practices in communities" (p. 220). She explains that writers use various physical and psychological resources to carry out strategies such as teachers, various literary sources, Internet, word processor tools, and writers' L1.

Manchón et al. (2007) describe some of the trends in conceptualizing strategies as broad, but the overall picture of strategies that emerges from existing conceptualizations is not inclusive of all types of strategies. Petrić and Czárl's (2003) definition specify one goal for using strategies—making "writing more efficient." However, research on L2 writers suggests writers employ strategies to achieve other goals than making "writing more efficient" (e.g., Cumming et al., 2002; Cumming, 2006). For example, some writers use strategies to cope with identity issues and resist mainstream academic writing styles even at the expense of making writing more efficient. Sasaki's (2004) characterization of strategies as "a writer's mental behavior" excludes writers' strategies that are physical behavior or social interactions. Some writers' strategy for improving their paper is to change their writing environment. Additionally, all three definitions state that writing strategies are actions. However, this characterization of writing strategies excludes strategies that do not involve action. For instance, Leki (1995) found that a student in her study strategically disregarded criteria for a writing assignment in order to make efficient use of her time. Leki explains that the student knew the consequence of not taking action on her professor's demands but felt she could benefit more from inaction. Existing

conceptualizations of strategies in L2 writing studies are not inclusive of all types of strategies and consequently are not operationalizable for many studies on strategies.

In Composition Studies: Conceptualizations of Writing Strategies, or Heuristics

In composition studies, the term often used to refer to 'writing strategies' is 'heuristics.' Janice Lauer popularized the term 'heuristics' in composition studies with her 1970 seminal article, "Composition and Heuristics." In the article, she advocates that composition studies integrate work from other disciplines in studying the art of invention, one of the five canons of classical rhetoric. Invention is "the art of discovering 'what to say,' of making original judgments on experience, of discovering means of communicating this unique insight with a particular voice to a particular ear, of deciding between nonsynonymous utterances" (Lauer, 1970, p. 396). She states that while the field of composition studies at that time was just beginning to reinstate the lost art of invention, studies on the art of discovery were already being done in other disciplines under the name heuristics. She explains what heuristics is using Polya (1957): "The aim of heuristics is to study the methods and rules of discovery and invention.... Heuristic reasoning is reasoning not regarded as final and strict but as provisional and plausible only, whose purpose is to discover the solution of the present problem" (as cited in Lauer, 1970, p. 396). In other words, heuristics in other disciplines is the study of the process of discovery. Lauer proposes that work in psychology on creative problem solving would be informative to the field of composition. Psychologists had discovered that creative people use a set of procedures to discover solutions to problems and tried to identify the features of those procedures. She suggests that findings on creative problem solving would be useful for composition teachers since they deal with the creative process of composing.

Although the term heuristics initially came from other disciplines, its definition has been made more specific to relate to writing in particular in the field of composition over the years. Young (1987) points out that heuristics have been defined in several different ways. The following are representative examples of definitions of heuristics from well-known experts in composition studies:

- Lauer (2004, p.154): "Modifiable strategies or plans that serve as guides in creative processes. Writing heuristics try to prompt thinking, intuition, memory, inquiry, and imagination without controlling the writer's writing process. Heuristics are based on expert writers' strategies, which can be taught" (p. 154).

- Young (1987, p. 22): "A 'heuristic' as the term is used in this essay, is a codification of a particular sort of cognitive skill; it is a plan designed to help one in carrying out complex, non-routine activities for which trial and error is undesirable or unmanageable, and for which we lack a rule-governed plan (even though it might be usefully developed) or for which a rule-governed plan would be impractical or impossible. It helps us translate knowledge about something into knowledgeable practice. More specifically, it helps us initiate and to some extent guide promising lines of inquiry—to pose good questions, for example, better questions than we might otherwise pose; it does not, however, guarantee good answers, as do rule-governed procedures."

- Flower and Hayes (1977, p. 450-451): "A heuristic is an alternative to trial and error. It is simply the codification of a useful technique or cognitive skill. It can operate as a discovery procedure or a way of getting to a goal…The important thing about heuristics is that they are not rules, which dictate a right or wrong way, but are alternative methods for doing something—methods which often formalize the efficient procedure a good scientist or journalist would use unconsciously. Because they make an intuitive method explicit, heuristics open complex processes up to the possibility of rational choice."

The common ways heuristics have been characterized are 1) heuristics are plans or guides helpful for inquiry and problem-solving throughout the composing process, 2) heuristics are flexible guides rather than strict rules, and 3) heuristics are used by expert writers intuitively but can be taught to novice writers.

Heuristics has been a controversial topic in composition studies (Babin & Harrison, 1999; Lauer, 2012; Young, 1987). Some researchers argued that heuristics reduces creative and free thinking involved in writing to problem solving. Some argued that it is preferable to teach writing by encouraging natural talent and emphasizing practice. Some were also concerned that heuristics may turn into formulaic rules for writing. More recently, Hawk (2007) raised a number of issues with the way heuristics has been conceptualized in composition studies and advocated that heuristics be seen as "parts of larger constellations rather than as abstracted general procedures" (p. 208). He advocated for a nonsystematic heuristics.

Much of the controversy about heuristics seems to be centered on the use of heuristics for invention. Discussions about heuristics in composition studies have tended to center on invention. As noted by Hawk (2007), "Heuristics—sets of questions, a mental grid, or a generic process that aids its user in inventing and articulating ideas—have traditionally been the cornerstone of invention (p. 191)." This focus on invention can also be seen in Lauer's (2012) explanation of heuristics in the *Encyclopedia of Rhetoric and Composition*,

> In the 1960s rhetoric and composition theorists, instructors, and textbook authors began to offer students heuristic strategies to guide such inventional acts as question-posing, exploring for insights and support material, and constructing arguments. Some widely used inventional procedures include free-writing, the tagmemic perspectives, Burke's pentad and the ratios, and sets of classical topics. Heuristics have also been developed to guide other writing acts, such as audience analysis and revising. (p. 320)

Some of the discussion about heuristics in compositions studies is useful and applicable for this study. For instance, the characterization of heuristics as flexible guides rather than rules is helpful. However, the aforementioned definitions of heuristics all

describe heuristics as a codification of a strategy, skill, or strategy. But, what is a technique, skill, or strategy? For the purposes of this study, an operationalizable definition of a strategy, skill, or strategy is necessary that can be used to identify writers' strategies.

In Second Langauge Acquistion Literature: Conceptualizations of Writing Strategies, or Learner Strategies

In Second Language Acquistion literature, a writing strategy is considered to be a type of 'language learner strategy.' Language learner strategies are strategies for learning language and using language to complete tasks (Cohen, 2010). They include strategies for writing, speaking, reading, and listening. Research on language learner strategies has tended to obscure conceptual distinctions between strategies used for learning with strategies used for communication (Cumming, 2006). This blurring of learning and communication can be seen in the definition of learning strategies provided by Oxford (2011), a leading researcher in the area of learning strategies. She defines learning strategies as "learners' goal-directed actions for improving language proficiency or achievement, completing a task, or making learning more efficient, more effective, and easier" (p. 167). In her definition, learning strategies are actions for both "improving language" and "completing a task."

Some researchers, most notably Cohen (1996), have argued for a distinction between strategies for language learning and language use. Cohen states that "language use strategies focus primarily on employing the language that learners have in their current interlanguage" (p. 2) while "language learning strategies have an explicit goal of assiting learners in improving their knowledge in a target language" (p. 1-2). He explains that

strategies used for language learning differ from strategies used for language use. According to Anderson (2005), strategies for language use include retrieval strategies (recalling learned material), rehearsal strategies (practicing learned material), cover strategies (compensating for missing knowledging), and communication strategies (expressing messages). Strategies for language learning include cognitive strategies, metacognitive strategies, social strategies, and affective strategies (Anderson, 2005).

Cohen's distinction of language learning and language use strategies has been contested. Other researchers have pointed out that learning can only be accomplished by using language through meaningful communication and that strategies for learning and using language often overlap (Anderson, 2005; Hsiao & Oxford, 2002; Oxford, 2013). Even though researchers have made some disctinction between strategies for learning and using language, theoretical discussions about the nature of learner strategies (e.g., whether or not it is a conscious activity) has tended to not take into account potential differences in how strategies might be looked at differently for language learning, language use, and the different skill areas, such as writing (e.g., Cohen, 2007, 2014; Macaro, 2006; Oxford, 2013).

Rather than having separate discussions about features of learning strategies and features of language use strategies, researchers have tried to develop one theory that applies to both types of strategies. Additionally, theoretical discussions about the nature of learning strategies has tended to focus more on the activity of learning than the activity of using language. For instance, in June 2004 at Oxford University, twenty-three international scholars on langauge learning and language use strategies came together to discuss definitional issues with learner strategies (which encompasses strategies for

learning and using language) (Cohen, 2007, 2014). The group of scholars discussed their thoughts about the following definition of strategies as it applies to both language learning and language use:

> Strategies can be classified as conscious mental activity. They must contain not only an action but a goal (or an intention) and a learning situation. Whereas a mental action might be subconscious, an action with a goal/intention and related to a learning situation can only be conscious.

This definition focuses on learning, as evident in the second sentence—"....reated to a learning situation...". The group discussed whether or not strategies are conscious, are mental activities, requires a goal, occur in clusters, and leads to learning, among other topics. Cohen reports that the scholars did not agree on many of the different issues.

Learning language is a distinct activity from using language in reading, listening, speaking, or writing. Regarding using language to write, one of the significant ways that learning and writing are distinct is that learning can happen incidentally, but writing cannot happen incidentally. In research on strategies for learning, it may be helpful to distinguish actions writers take consciously with the goal of learning from other actions that are not purposefully employed but lead to incidental learning. However, when writing, it is unlikely that the writers are taking actions that incidentally facilitate their writing practices. Writers may not always be conscious of their strategies because writers can have internalized a strategy, and expert writers are likely to have more internalized strategies than novice writers (Berkenkotter & Murray, 1983). An internalized strategy is a strategy nontheless, even though it may operate at the subconscious level. Additionally, it may be useful to undestand what interalized strategies are used by expert writers. These internalized straegies may be the strategies that have been proven to be useful over time since the writers have used them to the point of internalizing them. Because writing is a

distinct activity from learning, differences in these two activities need to be taken into consideration when developing theories about strategies. It is necessary to have a discussion about features of writing strategies specifically.

Existing Classification Systems of Writing Strategies

In L2 writing research so far, writing strategies have been categorized in several ways. One way that strategies have been categorized is according to types of composing processes (e.g., Arndt 1987; He et al., 2011; Petrić & Czárl, 2003; Sasaki, 2000). For instance, He et al. (2011) classified strategies as planning strategies, monitoring strategies, revising strategies, and retrieving strategies. Strategies have also been categorized by types of mediating resources, such as artifact-mediated, rule-mediated, community-mediated, and role-mediated resources (Kang & Pyun, 2013; Lei, 2008; Rahimi & Noroozisiam, 2013). This classification system distinguishes different types of resources writers use to facilitate their writing.

Although categorizing strategies according to types of composing processes or types of mediating resources is useful for identifying and categorizing different types of composing processes writers engage in or resources writers use to accomplish strategies, these classification systems are not inclusive of all types of strategies and consequently are not operationalizable for many research studies on strategies. Some strategies do not require action or use of resources, and existing classification systems to do not explicitly acknowledge inaction as a strategy. For instance, some writers use a strategy of do not act on feedback they have received from editors in order to cope with difficulty in addressing feedback or cope with time constraints. This strategy does not involve taking any actions or use of resources and does not fall under a category within existing classification

systems based on composing process (e.g., planning, monitoring, revising, retrieving, and translating) or types of resources (e.g., artifact-mediated, rule-mediated, community-mediated, and role-mediated resources).

Furthermore, these classification systems have limited pedagogical usefulness because they do not incorporate goals. Learners must not simply learn the existence of diverse composing processes and resources; they must know how these composing processes and resources can be used to accomplish their goals. The classifications systems also place undue emphasis on composing processes and resources; they can give the impression that engaging in particular aspects of the composing process—such as planning or reviewing—and using different types of resources are themselves goals. This can lead to teachers, for example, assigning pre-writing tasks in which students accomplish the goal of producing an outline, but it plays a limited role in their actual invention and production of text. However, writers' goals should not be to simply engage in various composing processes or use different types of resources; writers should engage in particular actions and use specific resources when they find those actions and resources helpful for accomplishing their goals.

Another way that L2 writing strategies have been categorized is using classification systems developed from research on language learner strategies (e.g., Baker & Boonkit, 2004; Khaldieh, 2000; Riazi, 1997). Writing strategies were classified into seven major categories typically recognized in learner strategy research: cognitive strategies, metacognitive strategies, mnemonic or memory-related strategies, compensatory strategies, affective strategies, social strategies, and self-motivating strategies. The classification systems developed from learner strategy research stem from theories about

the activity of language learning. For instance, Hsiao and Oxford (2002) explain that memory strategies are separate from cognitive strategies because memory strategies do not contribute to deep processing of language while cognitive strategies do contribute to deep processing of language. In writing, learning is one of many goals writers may have for employing strategies. Writers also use strategies to produce cohesive text, manage time constraints, negotiate feedback from mentors, persuade readers, and achieve many other goals. Consequently, classification systems based on learning strategies are not comprehensive enough for categorizing writing strategies. An example writing strategy that does not fall into any of the categories is outlining, which is useful for determining arrangement of ideas.

In summary, writing strategies in existing literature have been categorized into types of composing processes, mediating resources, and learning strategies. Each classification system focuses on a different aspect of writing strategies, which can be helpful for furthering our understanding of the nature of writing strategies. However, they are not comprehensive enough to incorporate important aspects of writing strategy research. They are also not comprehensive enough for evaluating whether or not learners are receiving sufficient exposure to diverse writing strategies. To evaluate existing teaching materials and for teachers to know how to plan strategy teaching, it is important to develop a schema of classifiying strategies that encompasses diverse writing goals and resources.

Defining Writing Strategies

One of the most extensive discussions on the term *strategies* can be found in Van Dijk and Kintsch's (1983) *Strategies for Discourse Comprehension*. They explain that the

term strategy is used in cognitive psychology, military, political science, economics, and theory of decision-making, but the term is very rarely defined. In all these disciplines, strategy concerns reaching a goal in an optimal way (e.g., effectively, quickly, easily, or low cost). According to Van Dijk and Kintsch, "strategies involve actions, goals, and some notion of optimality: Intuitively, a strategy is the idea of an agent about the best way to act in order to reach a goal" (p. 64-65). Writing strategies can be characterized in a similar way.

Writers strategically take various mental, physical, social, and other types of actions to facilitate their writing. Some examples of mental actions writers take include planning, translating from L1 to L2, monitoring their writing progress, and revising (e.g., Bosher, 1998; Sasaki, 2004; Whalen & Ménard, 1995). Some researchers have focused exclusively on understanding writers' mental actions, or cognitive operations, throughout the composing process (e.g., Bosher, 1998; Roca de Larios et al., 1999; Sasaki, 2004; Whalen & Ménard, 1995). They gather information about writers' cognitive processes through methods such as think-aloud protocols (e.g., Roca de Larios et al. 1999; Whalen & Ménard, 1995) and stimulated-recall protocols (e.g., Bosher, 1998; Sasaki, 2004). Other researchers have conceptualized writing strategies broadly to include other types of actions beyond the ones that occur in the writer's cognition (e.g., Cumming et al., 2002; Cumming, 2006; Lei, 2008). Some writing strategies involve physical activity, such as listening to music, reading books, searching the Internet, and altering their environment to create effective writing settings (e.g., Cumming, 2006; Lei, 2008; Zimmerman & Risemberg, 1997). For instance, French novelist Marcel Proust constructed a cork-lined room so that he can write without being distracted by outside sounds (Zimmerman &

Risemberg, 1997). Many writers also seek social interaction to facilitate their writing (e.g., Cumming, 2006; Lei, 2008; Tardy, 2009; Pomerantz & Kearney, 2012). Pomerantz and Kearney (2012) found that the graduate student in their study completed each writing assignment with the help of peer tutors, course instructors, and two different writing centers.

Writing strategies are goal-oriented. As Cumming et al. (2002) state, goals are central to the strategic actions writers undertake to perform specific tasks. Therefore, actions that are not goal-directed cannot be considered strategies. If writers engage in certain actions, such as drafting and revising, simply to go through the process of writing, they may not be acting strategically. Several researchers have observed that goals play an integral role in determining writers' use of strategies (e.g., Cumming et al., 2002; Cumming, 2006; Lei, 2008; Riazi, 1997). For instance, Canagarajah's (2001) study provides an example of the important role goals can play in a writer's use of strategies. In his study, a Sri Lankan graduate student rejected the recommendation of several professors who advised her against establishing unconventional agency and authority in her thesis paper. The student used a strategy of resisting mainstream academic writing as a way of maintaining her personal identity as a Christian. The student's goal of maintaining her self-identity was so important to her that she pursued this goal at the expense of making her writing more suited to her audience's demands. Writers may have an array of goals for employing strategies, such as regulating one's writing process, coping with task requirements, or improving writing ability (e.g., Cumming, 2006; Leki, 1995; Lei, 2008). Writers' goals may relate to current and future goals (e.g., Lei, 2008).

They may relate to improving writing skills or simply performing well on a single writing task (e.g., He et al., 2011).

Historically, L2 writing researchers have tended to focus more on writers' actions than their goals. It was not until fairly recently that researchers showed significant interest in understanding writers' goals for employing strategies (e.g., Cumming et al. 2002; Cumming, 2006; Lei, 2008). Although there has been increased attention in investigating writers' goals, research has tended to focus on researching writers' long-term goals (e.g., to improve writing for future university study) and short-term goals (e.g., to obtain a high score on an essay) rather than writers' immediate goals for employing each strategy (e.g., to establish credibility). However, it is important to understand each strategy in terms of the immediate goal that the strategy is meant to accomplish considering the central role these goals play in writers' strategic behavior.

Goals for employing strategies are embedded in a context. The writing context is essential to consider when discussing writing strategies because research suggests various situational variables influence writers' use of strategies. Some of these situational variables include the audience, purpose for writing, genre of writing task, time constraints, writing medium, language medium, availability of resources, cognitive demand of the writing task, writers' previous literacy experience, writers' attitude toward the use of certain strategies, writers' familiarity with a writing situation (e.g., Akyel, 1994; Cumming, 1989; Faigley & Witte, 1981; Haas, 1989; Raimes, 1985; Sasaki, 2004; Uzawa, 1996; Zamel, 1983). Additionally, the social and political contexts in which writers write also influence their use of strategies. Casanave (2003) uses three case studies to illustrate how different task types situated in different "power-infused"

situations may influence writers' choice of strategies. The first case study she discusses is Mlynarczyk (1998), who observed students writing essays in preparation for a high-stakes competency exam. Because the students wanted to maximize their ability to pass their competency exam, they used learning strategies such as memorizing their grammar and spelling mistakes as they revised their practice essays. In the second case study, Villanueva (1992), a student wrote academic papers for various university professors. The student wanted to meet his professors' expectations, and in order to do so, the student acquainted himself with each of his professors' writings and mimicked their pattern of writing. In the third case study, Blakeslee (1997), a student wrote articles for publication with his advisor. He allowed his advisor to appropriate his drafts to deal with his lack of ability to revise his articles according to his advisor's desires. Contextual factors play an influential role in a writer's use of strategy. Because this influence is so great, Faigley and Witte (1981) conclude from their study of revision strategies, "writing skill might be defined in part as the ability to respond to them [various contextual factors]" (p. 411). Although a number of L2 writing researchers have highlighted the importance of studying writers' use of strategies in context (e.g., Cumming et al., 2002; Lei, 2008; Spack, 1997), there has not been significant investigation yet into understanding what exactly the various situational variables are that influence writers' goals for employing particular strategies.

Writing strategies are often carried out with a multitude of resources, such as writing teachers, classmates, various literary sources, Internet, and word processor tools (e.g., Cumming et al., 2002; Lei, 2008; Kang & Pyun, 2013). Resources for writing can be physical or psychological. Some examples of physical writing resources are writing

teachers and example papers. Examples of psychological writing resources are the writer's L1 or mental model of writing. The availability of resources plays an important role in the types of strategies writers use. Its importance can be illustrated through Tardy's (2009) study. Tardy observed that the strategies of the four multilingual graduates in her study were influenced by the availability of resources in various settings, such as the absence of assistance from more expert writers like instructors or advisors. She found that when the students lacked mentoring, their interactions with textual resources increased in use and value. She highlights the importance of this observation as it relates to others writers across different contexts in pointing out, "resources are socially constrained by class, race, gender, symbolic and material capital, and so on" (p. 270).

Only a few researchers have focused on writers' resources for accomplishing strategies (e.g., Kang & Pyun, 2013; Lei, 2008; Rahimi & Noroozisiam, 2013). Lei (2008) and Kang and Pyun (2013) examined writing resources used by several L2 writers and categorized them into five types: artifacts (e.g., Internet, dictionary, English literary words, writing textbooks, writing tasks, Chinese and English), rules (e.g., genre features, evaluation criteria, time schedules), community (e.g., writing teacher, classmates, blog visitors, model writers), and roles (e.g., self as author and self as language e-learner). Rahimi and Noroozisiam (2013) examined the effectiveness of instructing students to use diverse resources to complete writing tasks. They reported that the students in their study used many of the resources they were trained to use in their writing tasks.

Writing strategies are agentive actions. Saenkhum (2012) defines agency as "the capacity to act or not to act contingent upon various conditions" (p. 12). Writers practice agency when they choose to use certain strategies over other strategies in accomplishing

their goals. Writers also practice agency in setting specific goals, while ignoring others, for employing strategies. Because writers practice agency, different writers may use different strategies to accomplish similar goals. There are multiple reasons why writers may choose to use certain strategies over others in accomplishing their goals. One reason might be personal style. Reid (1984) explains that she and her husband, both expert writers in their fields, use drastically different strategies when they compose. While she prefers to write outlines before she begins writing, her husband likes to brainstorm while he is writing his first draft. Another reason writers choose to use or abandon particular strategies might be related to their sense of identity. For instance, Tardy (2009) observed in her study that one of her participants consistently rejected his advisor's feedback because he felt his identity differed from his professor's. Unlike his professor, the participant saw himself as a non-researcher. He also felt his personal strengths were in practical application rather than academic research. Yet another reason writers use different strategies is that they have different motivations. He et al. (2011) studied the relationship between writers' achievement goals and their use of strategies. They found that learners who had strong mastery and performance goals used more strategies than students who only had mastery goals or only had performance goals. Although L2 writing researchers have observed writers practicing agency in using strategies, there has not been much investigation yet into understanding exactly what the many motives writers have are for choosing to use particular strategies over others to accomplish similar goals.

Writing strategies can become internalized and be employed at a subconscious level. Expert writers tend to have more internalized strategies than novice writers. An example of this phenomenon can be found in Berkenkotter and Murray (1983)'s research in which

Berkenkotter analyzed the writing process of Murray, a co-author of the study. As part of the study, Murray reflected on Berkenkotter's findings and his experience being a "laboratory rat." When Berkenkotter reported her findings, Murray explains he was surprised by the amount of attention he had given to his audience. Berkenkotter explains that Murray's consideration of his audience while writing had become automatic after years of journalistic writing. The idea that strategies can become automatic is acknowledged in language learner strategy research as well (e.g., Cohen, 1996; Macaro, 2006; Oxford, 1990). Oxford (1990) explains that learning strategies can become automatic after practice and use, and it is actually desirable to make strategies fully automatic. However, whether or not strategies that have become internalized should still be considered a strategy is a debated issue in learner strategy research. Cohen's (2007) survey of experts in learner strategy research report that the majority of experts agree that a strategy has to be conscious. They believe that strategies "has to have a metacognitive component whereby the learner consciously and intentionally attends selectively to a learning task, analyzes the situation and task, plans for a course of action, monitors the execution of the plan, and evalutes the effectiveness of the whole process" (p. 32). Level of consciousness and automaticity has been used to to distinguish strategy from process and skill (e.g., Cohen, 1996; Macaro, 2006). For instance, Cohen (1996) explains, "If a a learners' behavior is totally unconscious so that the given learner is not able to identify any strategies associated with it, then the behavior would simply be referred to as a process, not a strategy (p. 6).

Whether or not strategies must be conscious has important implications for which research methods are appropriate for investigating strategies. If strategies include only

writers' conscious goal-oriented activities, then introspective techniques, such as a think-aloud protocols, are probably the most appropriate method for researching strategies since such methods provide subjects with opportunities to articulate their own goals for employing strategies. However, if strategies can operate at the subconscious level, then researchers may have to at times interpret what writers' strategies and goals are since subjects may not always be aware of their own strategies.

One clarification that needs to be made here is that writing strategies are not rules. Rules dictate what is or is not allowed in a particular situation. Strategies are options writers can employ to achieve their goals. When writers see strategies as rigid rules, they can find themselves stuck in accomplishing their goals. Rose's (1980) study on the differences between students who encounter writer's block and those who do not highlights the importance of distinguishing strategies from rules. He found that the students in his study who encountered writer's block treated strategies as rigid rules that must be employed throughout the writing process. For instance, one of the students in his study believed that drafting should not begin until she had generated a detailed outline for her paper. She also felt she had to follow her outline meticulously once she developed it. Her view of outlining as a rule rather than a strategy led to writing difficulties because she took very long to develop an outline and then could not incorporate all of the elements of her complex outline into her short essay before it was due. Another student in his study experienced difficulties in writing because he was taught in high school and college that an essay must have three or more points. This led the student to including a paragraph unrelated to his paper topic in his essay so that he could have a third point. In contrast to these two students, Rose (1980) explains that the students who did not

encounter writer's block viewed writing and strategies flexibly. For instance, they abandoned outlines when they did not work.

In summary, there are multiple aspects to writing strategies: actions, goals, context, resources, and agency. Writers use strategies to achieve specific goals that are embedded in a context. They use diverse resources to accomplish their strategies. They also practice agency in setting strategic goals and employing particular strategies to achieve those goals. They can internalize strategies. Additionally, the usefulness of a specific strategy to a writer depends on the writer's goals, needs, preferences, and access to resources. Taking these aspects of writing strategies into consideration, and borrowing from Van Dijk and Kintsch's (1983) definition of strategies, writing strategies can be defined as *the conscious agentive ideas of a writer about the best way to act, often with the use of resources, in order to reach specific writing goals embedded in a context.*

A Classification System of Writing Strategies

Based on Goals

Categorizing strategies according to goals is more useful for research and pedagogical purposes than categorizing strategies according to actions or resources. This is because, as mentioned previously, all strategies require goals but not necessarily actions or use of resources. Additionally, chronologically, writers determine goals for writing before searching for appropriate actions or resources that will help them accomplish those goals.

Six major types of strategic goals for writing can be identified in research literature: composing, coping, learning, communicating, self-representation, and meta-strategies

(for using strategies effectively). The categories in the classification system are not meant to be mutually exclusive because strategies can be used to accomplish multiple goals.

Composing Strategies

The goal of using composing strategies is to compose, or generate and/or revise ideas and text. Writers use composing strategies to achieve sub-goals such as discovering a paper topic, finding something to say about a topic, determining arrangement of ideas, finding and evaluating sources, integrating sources into text, achieving textual cohesion, and revising drafts. Writers take various actions to achieve these sub-goals, such as brainstorming to generate ideas, creating outlines to determine arrangement of ideas, and asking mentors to provide feedback for revising drafts. They also use various resources to carry out these actions, such as using the Internet or library to find sources or consulting with peers to further revise drafts.

Composing strategies began to appear in literature regularly since the 1960s, first in composition studies and then in L2 writing studies. Corbett (1965) published a textbook called *Classical Rhetoric for the Modern Student* for composition students, in which he explained strategies for invention and arrangement found in classical rhetoric and made suggestions for how composition students can implement them. In 1970, Lauer introduced the term "heuristics" in composition studies and highlighted its importance for invention. Heuristics are "modifiable strategies or plans that serve as guides in the creative processes. Writing heuristics try to prompt thinking, intuition, memory, inquiry, and imagination without controlling the writer's writing process" (Lauer, 2004, p. 154). Lauer (1970) states that research in psychology on creative problem solving shows that creative people use heuristic procedures, or strategies, to solve problems. She states that

these findings should be useful for both teachers who deal with the creative process of composition and for rhetoricians who formulate new theories of invention.

Up until the 1970s, composing strategies were discussed theoretically, and there was not much empirical research on the strategies writers use throughout their composing process. In 1971, Janet Emig published an empirical study on the composing process of twelfth graders. Her study demonstrated that insights about the composing process of writers, including their strategies, could be gathered through careful and systematic observation. Since then, empirical research on the composing process of writers, as well as the strategies they use throughout the composing process, began to appear regularly in both composition studies (e.g., Berkenkotter & Murray, 1983; Collier, 1983; Kennedy, 1985; Perl, 1979; Sommers, 1980) and L2 writing studies (e.g., Cumming, 1989; Leki, 1995; Raimes, 1985, 1987; Roca de Larios et al., 1999; Sasaki, 2000, 2002; Zamel, 1982, 1983).

Coping Strategies

The goal of using coping strategies is to manage or prevent difficulties writers encounter throughout the composing process. Writers use coping strategies to achieve sub-goals such as managing contextual constraints (e.g., deadlines or a distracting writing environment); overcoming or preventing cognitive overload, writing anxiety, and writer's block; and dealing with lack of linguistic, genre, or subject-matter knowledge. Writers take various actions to achieve these coping goals, such as breaking up the writing process into stages to manage cognitive overload, patch-writing to deal with limited language proficiency, or plagiarizing to deal with lack of writing skills. They also use various resources to carry out these actions, such as asking peers for help, using Google

Translate to translate sentences written in L1 to L2, and using thesauruses to find synonyms when paraphrasing.

Research on coping strategies was brought into prominence by Flower and Hayes (1980). They explain that writing is a cognitively demanding activity because writers have to attend to many constraints as they write—such as audience, purpose, genre—but their memory allows them to only handle a limited number of items at once. They suggest several strategies writers can use to reduce cognitive strain—"the demand placed on short-memory or conscious attention" (p. 40). These strategies include ignoring constraints at different times (e.g., ignoring audience and focusing on cohesion), partitioning the thinking process involved in writing (e.g., alternating between writing and revising), prioritizing goals (e.g., ignoring run-on sentences when writing can be informal), making certain procedures routine or automatic so that that they do not require conscious processing (e.g., automatizing typing or production of grammatical sentences), and planning (e.g., creating outlines to follow).

In the 1980s, as researchers began studying the composing process of L2 writers, the importance of strategies writers use to cope with lack of language proficiency or knowledge of task demands became more prominent. For many writers, it is more difficult to compose in their L2 than in their L1 because they may lack language proficiency in the L2 and may be unfamiliar with various genres and task demands. Research on the composing process of L2 writers have found that L2 writers deal with language constraints in various ways, for example, by using their L1 throughout their composing process, using simplified English, looking up words in dictionaries, abandoning or restructuring messages they can not express, and ignoring correctness of

their grammar and vocabulary at different parts of the writing process (e.g., Kobayshi & Rinnert, 1992; Okamura, 2006; Roca de Larios et al., 1999; Wenden, 1991; Zamel, 1983). Additionally, as researchers began to investigate strategies writers use to compose in unfamiliar writing situations, they observed that writers use various coping strategies. Some of these coping strategies include relying on previous knowledge, seeking help from more knowledgeable writers, and seeking clarification about writing tasks requirements (e.g., Angelova & Riazantseva, 1999; Leki, 1995; Spack, 1997; Shaw, 1991).

L2 writing researchers also noticed that writers used various strategies to overcome writer's block and manage affective states (e.g., Mu & Carrington, 2007; Zamel, 1983). For instance, they have found that some writers overcome writer's block by rereading their texts several times (e.g., Zamel, 1983) and some writers reduce writing anxiety by taking breaks (Mu & Carrington, 2007). In addition, several researchers in psychology have looked specifically at strategies writers use to prevent writer's block (e.g., Boice, 1992; Rennie & Brewer, 1987). Rennie and Brewer (1987) found that some students prevent writer's block by developing self-imposed deadlines for achieving writing goals and then using mental tricks that would help them meet those deadlines, such as imagining the deadlines are real or identifying with the deadlines to the extent that the tendency to abandon the deadlines outweighed anticipated guilt for breaking them. Boice (1992) found that he could successfully treat 10 academics who suffered from writer's block by teaching them to use a combination of four strategies: regularly free-writing for a certain period of time before doing more planned writing, developing a writing schedule and employing contingencies that would force them to write, talking about

writing to self while increasing positive talk about writing (e.g., *Once I'm writing*, *I'll enjoy it.*) and reducing maladaptive self-talk (e.g. *This is going to be rejected.*), and developing real and imagined social support, such as scheduling collaborative writing with peers, imagining reactions of readers and editors to manuscripts, and practicing coping with imagined editorial rejection.

Learning Strategies

The goal of learning strategies is to learn, which in the case of L2 learners may include aspects of language learning (e.g., improving vocabulary and grammar), content learning, and other learning goals. In writing, writers use learning strategies to achieve sub-goals such as developing genre knowledge, acquiring language for expressing written ideas, improving knowledge of basic writing skills, and gaining knowledge of subject matter. Writers take various actions to accomplish these sub-goals for learning, such as examining models to develop genre knowledge, conducting genre analysis, enrolling in writing courses to develop overall writing skills, and reading articles to develop discipline-specific phrases and vocabulary. They also use various resources for accomplishing these actions, such as models for developing genre knowledge, handbooks for writing to learn citation rules, and expert writers for learning discipline-specific ways of writing from them.

Learning strategies have received attention in L2 writing studies for several reasons. First, as researchers investigated strategies writers use to compose in unfamiliar writing situations, they observed that writers use various coping (as mentioned in the previous section) and learning strategies (e.g., Angelova & Riazantseva, 1999; Cumming, 2006; Gosden, 1996; Leki, 1995; Shaw, 1991). Secondly, as researchers investigated L2

writers' acquisition of literacy and genre knowledge, their research led to findings about various strategies writers use to learn writing (e.g., Riazi, 1997; Spack, 1997; Tardy, 2009). Some learning strategies writers have been found to use from these two areas of study include reading and taking notes on useful phrases and words to learn discipline specific language, studying feedback from more knowledgeable writers, learning genre rules by examining models, and asking for clarification to understand task requirements better (e.g., Angelova & Riazantseva, 1999; Cumming, 2006; Gosden, 1996; Leki, 1995; Riazi, 1997; Shaw, 1991; Spack, 1997; Tardy, 2009). Cumming (2006) looked at strategies writers use to improve general writing skills. Some of the learning strategies he found were seeking assistance from instructors, friends, classmates, and other native English speakers; studying course materials; reading books, such as news websites; and consulting the Internet, dictionaries, and grammar or style guides.

Another significant reason why learning strategies have received attention in L2 writing studies is that second language acquisition researchers have been interested in language learning strategies for quite some time, and their research included strategies for learning writing in a second language. According to Cohen (2010), second language acquisition researchers began noticing the importance of language learning strategies in the 1970s as they investigated good language learners. They found that good language learners excelled not only because they have a high degree of language aptitude and motivation, but also because they actively and creatively participate in the learning process through the use of strategies. Cohen explains that researchers have used the term *language learner strategies* to refer to both *language learning strategies* and *language use strategies*. In L2 writing studies as well, the term 'learning strategies' have been used

to refer to strategies for learning writing (e.g., Cumming, 2006; Shaw, 1991) and strategies for composing (e.g., Baker & Boonkit, 2004; Petrić & Czárl, 2003). However, the present classification system distinguishes learning strategies from composing strategies because not all composing strategies are related to learning. For instance, strategies for coping, such as patch-writing or plagiarizing, are not related to learning. Of course, incidental learning can happen while they perform these strategies, but the goal of employing coping strategies is to cope, not learn.

Communication Strategies

The goal of using communication strategies is to fulfill communicative purposes for writing. Some terms that are synonymous to communication strategies are rhetorical[1] strategies and discourse strategies. Writers use communication strategies to achieve sub-goals such as making requests, persuading readers, expressing certainty or probability, drawing readers' attention, adapting writing to the needs and desires of readers, and understanding the rhetorical situation for writing. Writers may take various actions to achieve these sub-goals, such as investigating the audience to determine effective means of persuasion, employing various linguistic devices to express certainty or probability, making requests politely to persuade readers to fulfill those requests, and using logos, pathos, and ethos to appeal to readers. They also use various resources to accomplish these actions, such as evaluation criteria to determine audience demands.

Communication strategies appear in research about rhetorical strategies, genre, and e-mail communication. Rhetorical strategies have been an important component of

[1] In L2 writing, particularly in literature on contrastive rhetoric, the term *rhetoric* has typically been viewed as a matter of textual structure (Matsuda, 2010). However, rhetoric in this paper does not refer to organizational patterns.

composition studies since the 1960s. Significant to rhetorical strategies are audience, purpose, and effective means of communication. Communication strategies appear in Corbett's (1965) *Classical Rhetoric for the Modern Student.* He discusses ways writers can use rhetorical appeals of logos, pathos, and ethos from classical rhetoric to persuade readers. Communication strategies have also appeared in literature on genres, particularly since the mid-1980s. It was around this time when researchers in composition studies and L2 writing studies began discussing genre as a social action (Tardy, 2009). Prior to the 1980s, genre was viewed in terms of similarities in textual forms. Miller (1984) argued against this view of genre and made the case that genres represent typified rhetorical actions as a result of recurring rhetorical situations. This view of genre has led researchers to examine textual features in genre with an aim of looking at how those textual features fulfill various rhetorical functions (Tardy, 2009). Several researchers have conducted genre analyses with a focus on how various textual features represent discourse strategies or communication strategies (e.g., Hyland, 2000; Nickerson, 2000). Through their genre analyses, we have learned that writers communicate through their use of citations, reporting verbs, verb tense, and metadiscourse. Metadiscourse are linguistic resources writers use to guide readers through the text and communicate ideas about self (Hyland, 2000). Metadiscourse for guiding readers include logical connectives (e.g., *in addition, but*), frame markers (e.g., *to repeat, here we try to*), endophoric markers (e.g., *noted above, see Fig.*), evidentials (e.g., *according to X*), and code glosses (e.g., *namely, such as*) (Hyland, 2000).

Communication strategies have also appeared frequently in research about e-mail communication. Interest in e-mail communication began to gain momentum in the 1980s

and have appeared in considerable amounts since the 1990s (Gimenez, 2006). Several researchers have compared strategies L1 and L2 writers use to make requests through e-mails (e.g., Chen, 2006; Hartford & Bradovi-Harlig, 1996). They found that writers' strategies for making requests include downgrading requests, mentioning personal needs, acknowledging imposition, allowing room for negotiation, showing politeness, and complimenting. They also found that L2 writers tend to use these strategies less frequently than L1 writers, and that this negatively impacts L2 writers in getting their requests fulfilled.

Self-representation Strategies

The goal of using self-representation strategies is to construct a particular identity, ethos, or persona and maintain self-identity. Whereas the primary focus for using communication strategies is to meet the needs of an audience, the focus for using self-representation strategies is to meet needs related to self. Writers use self-representation strategies to achieve sub-goals such as identifying oneself as a member of particular community, positioning oneself as an authority figure, and presenting oneself as having particular values or beliefs. Writers take various actions to achieve goals for self-representation, such as manipulating text font or colors to construct a particular persona, citing well-known literature in a field to identify oneself as an authority, and using register specific to a particular community to identify oneself a community member.

Self-representation strategies appear in several areas of writing research. One area is research on voice. Several researchers investigated the various ways L2 writers' voice appear in their writing either deliberately or unintentionally (Ivanič & Camps, 2001; Matsuda, 2001). Studies on voice have allowed us to understand the different effects

various discursive and non-discursive features can have on how writers represent themselves. For example, writers can insert authoritativeness by using modal markers that express certainty, such as *it was imperative* or *obviously*; they can also appear tentative by using modal markers that express uncertainty such as *It could be said* and *It cannot be assured* (e.g., Ivanič and Camps, 2001). This resonates with Matsuda's (2001) idea that L2 learners benefit from developing strategies for constructing voice through "a personal repertoire of discursive features and strategies in the language" (p. 51).

Strategies for self-representation also appear in literature about metadiscourse in writing. Hyland (2000) explains that metadiscourse is linguistic resources writers use to accomplish two communicative purposes. As mentioned in the previous section, writers use metadiscourse to guide readers through a text. Writers also use metadiscourse to project themselves into their writing to show their attitude toward the readers and content of their writing. They help writers convey their personality, credibility, audience-sensitivity, and relationship to the message. Some metadiscourse that writers can use for the goal of self-representation is hedging (e.g., *might, perhaps, possibly*), boosters for emphasizing certainty (e.g., *in fact, definitely, it is clear that*), attitude markers for showing writer's attitude toward textual information (e.g., *I understand, welcome, am interested, am glad*), engagement markers for building relationship with readers (e.g., *consider, note that, you can see that*), and self mentions to indicate the extent of author presence (e.g., *I, we, my, our*) (Hyland, 2004).

A third area of study where self-representation appears is research on different ways writers resist or negotiate mainstream ways of writing (e.g., Canagarajah, 2001; Matsuda & Matsuda, 2010). Matsuda and Matsuda (2010) explain that when readers encounter

non-standard varieties of English in writing, they can misinterpret them as grammar errors. Writers can make clear their intention to deviate from standard forms of writing by using the following strategies: building their ethos, using a marked feature consistently, referring to other users who have used non-standard deviations, using typographical features (e.g., quotations, italics), and using metadiscourse (e.g., parenthetical notes, endnotes).

Meta-Strategies

The goal of meta-strategies is to use strategies efficiently and effectively. Writers use meta-strategies to accomplish sub-goals such as adapting or developing new strategies to meet different writing task demands, gaining awareness of available resources to accomplish strategies, gaining awareness of one's own effective or ineffective use of strategies, and monitoring transfer of strategies learned in one context to another writing context. Some actions writers can take to achieve this goal include receiving feedback from peers about one's own writing process and use of strategies, exploring new strategies for meeting writing demands, asking more experienced writers about their strategies and availability of resources, and finding similarities or differences between various writing situations.

The inclusion of this category in the classification system is based primarily on my personal experience and observances. My strategy for developing effective strategies for various writing projects involves first asking mentors about the strategies they use to write similar projects. I try using their strategies, and I usually find some of their strategies useful and others not. When I come across strategies that do not work for me, I abandon them after a few attempts and try different strategies until I find ones that will

lead to successful accomplishment of my goals. I use these meta-strategies because I know that different strategies are useful for different people in different situations.

There is a lack of empirical research on strategies writers can use to help them employ strategies effectively. In L2 writing studies, more research needs to be done on what constitutes effective or ineffective implementation of writing strategies. Some research has provided insight into this, but it has not been sufficient. Rose's (1980) study on writer's block suggests that one way of using strategies effectively is to realize when they are not working and to discard strategies when they are not helpful in progressing with writing. Research on writing transfer indicates that writers can transfer strategies better when they perceive similarities in different writing tasks (e.g., James, 2008). However, research in this area focused on different ways teachers can help students perceive similarities across writing tasks, for example, by having students compare work they do in their writing courses with work they might do in their future classes. More investigation is needed into strategies writers can use to transfer strategies they have learned in context to another.

Conclusion

In this chapter, I introduced a definition of writing strategies and a classification system of writing strategies. Writing strategies can be defined as the agentive ideas of a writer about the best way to act, often with the use of resources, in order to reach specific writing goals embedded in a context. Writing strategies can be classified into six types based on strategic goals: composing, coping, learning, communicating, self-representation, and meta-strategies.

CHAPTER 3

METHOD

The primary goal of the study was to develop a framework for understanding writers' strategies. In order to do this, I examined the writing process of researchers as they wrote journal articles for publication. I investigated researchers' writing goals, actions taken to accomplish goals, use of resources, and the various factors that influenced their goals and strategies. My research project was guided by the following research questions:

1. What are the writing goals of researchers as they write for publication in a second language?
2. What strategies are used by researchers to accomplish their goals?
3. What contextual factors influence the strategies and goals of researchers?
4. How do the answers to the first three research questions challenge or reinforce the framework developed by the author?

A qualitative, multiple-case study, research design was employed to understand the writing process of researchers. A qualitative case study approach seemed appropriate for the purpose of this study because the ultimate purpose of the study was to broaden the field's understanding of writing strategies through exploration. Case study research is an effective way of exploring new areas and broadening understanding of a phenomenon (Dörnyei, 2007).

Recruitment Procedure

Participants were recruited through email invitations. The email was sent to professors and current and former doctoral students at Arizona State University and University of Arizona. The email asked invitees to forward the invitation to other

researchers at other institutions who may be interested in the study. The email specified that to qualify for participation in the study, the professor or doctoral student must have been writing an article for journal publication in a second language. 10 people responded to the email invitation. I conducted an initial interview with the 10 people. After the initial interview, 5 researchers continued participating in the research project to completion. 5 respondents discontinued their participation in the study. This study used data from only 4 of the 5 researchers who continued participation in the research project to completion. I did not include data from one researcher because I felt that I incidentally played too active of a role in the formation of her article; I helped edit her dissertation and then I collected data by observing her change one of her dissertation chapters to an article.

In exchange for participation in the study, I offered to provide a $35 Amazon gift card or 5 hours of editing service. One participant received the gift card. Three participants chose to receive editing service. Two of the participants received editing before the research project was completed. One of the participants received editing after the research project was completed. The papers that were edited by me were different from the research article I observed them write for the present study. I would have ideally liked to provide editing for all participants after the research study was completed, but two of the participants were pressed for time and had participated in the study mainly to receive immediate editing services.

Participants

Kyung

Kyung is a communications scholar and an assistant professor at a university in Arizona. Her native language is Korean. She received her education up to undergraduate school in Korea and studied for her Master's and doctoral degree in the U.S. At the time of our interview, she had lived in the U.S. a total of 10 years. She reported she had not taken any writing courses in English or Korean. However, most of her academic writing since 2004 had been in English. Kyung was asked to self-evaluate her language proficiency on a questionnaire (see Appendix C). On a scale of 0 to 10 with 10 being advanced, she gave herself scores of 7 for listening, 8.5 for reading, 6 for speaking, and 6 for writing. She has not taken any writing classes.

Kyung is an experienced and published scholar. At the time of our interview, she had published 15 journal articles and 3 books chapters. All articles were co-authored. She was the first-author for 9 of the articles. She published her first article 7 years prior to the time of this study and has published regularly since then. Kyung was asked to indicate her confidence level writing journal articles on a questionnaire (see Appendix D). On a scale of 0 to 10 with 10 being confident, she gave herself scores of 8 for subject matter knowledge, 9 for genre convention knowledge, 9 for readers' expectation knowledge, 8.5 for knowledge of how to organize ideas, and 6.5 for ability to use English phrases, vocabulary and grammar appropriately. Kyung explained that she found her current article much more difficult to write, and she provided different scores for her confidence level writing her current article. She gave herself lower scores of 5 for subject matter, 8 for reader expectations, and 5 for organization. She did not change her scores for genre conventions and English phrases, vocabulary, and grammar.

The article I observed Kyung write was co-authored with two other researchers who were also non-native speakers of English. Kyung was the first author. The research for her study was done collaboratively, but she reported that most of the writing was completed by her. She also reported that her co-author asked a non-native speaker to edit the first draft for language issues before the article was submitted to the journal. When I began observing her writing, the article had been submitted to a journal once. The journal had asked her to revise and resubmit. I observed her revising her article based on reviews from the journal. She explained that there were major revisions she needed to make before re-submitting. I observed her writing and adding entire sections to the manuscript.

Carla

Carla is a doctoral candidate in a Language and Cognition program at a university in Brazil. Her native language is Portuguese. She received all of her education in Brazil. Her education up to undergraduate school was in Portuguese. She used English for most of her Master's and doctoral studies course work even though she attended a university in Brazil. She reported she had not taken any English writing courses but had taken Portuguese writing classes during K-12 schooling. She studied one year at a university in the U.S. during her doctoral studies. Carla was also asked to self-evaluate her language proficiency. She gave herself the following scores: 8 for listening, 10 for reading, 9 for speaking, and 9 for writing.

Carla has some experience publishing journal articles. At the time of our interview, she had published 6 journal articles. Five of the articles were written in English and were published in Brazilian journals. All articles were co-authored. She was the first-author for five of the articles. Carla was asked to self-evaluate her confidence level writing journal

articles. She gave herself the following scores: 9.5 for subject matter knowledge, 10 for genre convention knowledge, 10 for reader expectation knowledge, 9 for knowledge of how to organize ideas, and 9 for ability to use English phrases, vocabulary, and grammar appropriately. Carla explained that she found her current article more difficult to write because she was writing to publish in an international journal, and she gave herself a different score for her confidence in subject matter for her current article. She gave herself a lower score of 7.5 for subject matter.

The article I observed Carla write was based on her dissertation research. She was concurrently working on her dissertation paper. The article she was writing was co-authored with one other person, who was also a non-native speaker of English. Carla was the first author. She reported that she had done most, if not all, of the writing. The second co-author had helped with data analysis and created the tables in her article. When I began observing her writing, she was writing the discussion section of the article.

Jiyoung

Jiyoung is a doctoral candidate in a Business Management program at a university in Arizona. Her native language is Korean. She received her education up to undergraduate schooling in Korea. She studied in the U.S. briefly during her undergraduate studies and completed her Master's degree in the U.S. At the time of our interview, she had lived in the U.S. a total of six years. She had taken one academic writing course in Korea, one business-writing course in the U.S. during undergraduate school, and one academic writing course in the U.S. during her Master's studies. Jiyoung was also asked to self-evaluate her English proficiency. She gave herself the following scores: 7.5 for listening, 3.5 for speaking, 6 for reading, and 4 for writing. I would like to note here that based on

my evaluation of her language skills as a language teacher, I was surprised by Jiyoung's low self-evaluation of her English proficiency skills. It appeared to me that she was able to write with much grammatical accuracy. Jiyoung also said in our interviews a few times that she thought she did not have many issues with grammar.

Jiyoung has some experience publishing journal articles. At the time of our interview, she had published one journal article in which she was the fourth co-author and was concurrently working on four articles. Two of the articles had been submitted and had received an invitation to revise and resubmit by the journal. She was the first author for one of the articles and the second author for the other. Two articles had not been submitted yet. Jiyoung was asked to self-evaluate her confidence level writing journal articles. She gave herself the following scores: 6.5 for subject matter knowledge, 8.5 for genre convention knowledge, 6 for reader expectation knowledge, 5 for knowledge of how to organize ideas, and 4 for ability to use English phrases, vocabulary, and grammar appropriately. Again, I was surprised by Jiyoung's low self-evaluation of her ability to use English appropriately.

The article I observed Jiyoung write was co-authored with three other researchers. She was the second co-author. She had developed the model for analyzing data and had analyzed the data. She wrote the methods and results sections. She explained that the first co-author was her advisor. Her advisor was in "charge of framing the article" in Jiyoung's words and wrote the theoretical parts of the paper. The third-author primarily helped assist in analyzing the data. The four-author was a senior professor who was "like a reviewer" in Jiyoung's words; he reviewed the paper and revised it just before submission. When I began observing Jiyoung writing, the article had already been

submitted once to a journal. The journal requested a revise and re-submit. I observed her revising the method and discussion section. She explained that she basically had to re-write two sections all over again, and this is what I observed her do.

Xiwang

Xiwang is a doctoral student in a Chemistry Education program at a university in Maryland. Her native language is Chinese. She received her education up to undergraduate schooling in China. After undergraduate school, she taught chemistry in China for one year and then came to the U.S. to pursue her doctoral studies. At the time of our interview, she had lived in the U.S. three years and was just beginning her fourth-year of doctoral studies. She reported she had not taken any English writing courses. She had not been to any English speaking country before coming to the U.S. Xiwang was asked to self-evaluate her English proficiency. She gave herself the following scores: 8 for listening, 7 for speaking, 9 for reading, and 6.5 for writing.

At the time of our interview, Xiwang had not published any articles. I observed her writing her first journal article for publication. Xiwang was asked to self-evaluate her confidence writing journal articles. She gave herself the following scores: 7.5 for subject matter knowledge, 8 for genre convention knowledge, 7 for reader expectation knowledge, 5.5 for knowledge of how to organize ideas, and 6.5 for ability to use English phrases, vocabulary, and grammar appropriately.

The article I observed Xiwang write was co-authored with three other people. She was the first author. She reported that she wrote most, if not all, of the article. The second co-author was a researcher from a different field (Educational Psychology) than her field (Chemistry Education). She explained that he was asked to be part of the project by her

advisor because of his familiarity with qualitative research. He helped with the research design and provided feedback on writing. The third co-author was a Ph.D. student from her program who had collaborated with her in collecting data. The fourth co-author provided feedback on writing.

Summary

The following table provides a summary of the writers' background.

Table 3.1
Summary of Researchers' Background

Researcher	Kyung	Carla	Jiyoung	Xiwang
Native language	Korean	Brazilian	Korean	Chinese
Occupation	Assistant Prof.	Ph.D. Candidate	Ph.D. Candidate	3rd year Ph.D. Student
Subject area of expertise	Communications	Language and Cognition	Business Management	Chemistry Education
Number of journal article publications	15	6	1	0
Language proficiency self-evaluation	listening: 7 reading: 8.5 speaking: 6 writing: 6	listening: 8 reading: 10 speaking: 9 writing: 9	listening: 7.5 reading: 6 speaking: 3.5 writing: 4	listening: 8 reading: 9 speaking: 7 writing: 6.5
Writing expertise self-evaluation	subject: 8, 5 genre: 9 readers: 9, 8 org.: 8.5, 5 gram., vocab: 6.5	subject: 9.5, 7.5 genre: 10 readers: 10 org.: 9 gram., vocab: 9	subject: 6.5 genre: 8.5 readers: 6 org.: 5 gram., vocab: 4	subject: 7.5 genre: 8 readers: 7 org.: 5.5 gram., vocab: 6.5

Data Collection Procedure and Methods

Sources of data included initial semi-structured interviews, questionnaires asking writers to self-evaluate their language proficiency level, questionnaires asking

participants to indicate their confidence level writing journal articles for publication, video recordings of participants' computer screens, video-stimulated recall interviews, questionnaires about participants' writing process and goals, and final interviews. Table 3.2 shows a summary of the data collection techniques used and the data gathered in chronological order. Data was collected using a variety of research methods in order to develop a more rich and thicker description of the writers' activities than what might be possible with a single data source (Geertz, 1983). Using multiple research methods to collect data also ensured triangulation of the information, which helped increase the research validity of the study (Denzin, 1978).

The data was collected periodically over a period of a couple weeks to six months, depending on the writers' schedule. The data collection techniques were employed in a purposeful order with consideration that the writers might be influenced by engaging in some of the collection methods more than others. For instance, the writers are likely to be influenced more by completing the process logs, which require writers to reflect on their strategies, than by recording their computer screen activities. The data collection methods were sequenced so that the methods that might influence the writers most were used last.

I piloted all of the data collection tools (interview questions, stimulated recall instructions, questionnaires, process logs) and revised them before the study.

Table 3.2
Data Collection Methods and Data Gathered

Data Collection Method	Data Gathered
Initial semi-structured interview	Writers' native language, years of English study, years of writing study, information about current writing project, area of study
Writing expertise questionnaire	Writers' confidence level in knowledge of subject matter, genre conventions, readers' expectations, organization of ideas, and appropriate use of English phrases, vocabulary, and grammar.
Computer screen-capture of writing activity (3 times, 1 hour long each)	Writers' writing behavior
Stimulated recall interview	Writers' thought process while composing and reasoning for their behavior
Process logs (2 times, every few days or weeks)	Writers' writing behavior and goals
Final semi-structured interview	Writers' reasoning for their behavior, strategies, and goals.

Initial Semi-Structured Interview

The purpose of the initial interview was to gather information about the writers' background and their writing projects. This information helped address the research question, "What factors influence the strategies and goals of researchers?" The interview type was semi-structured as described in Dornyei (2007). This means I prepared a set of interview questions, and I used them as a guide during the interview (see Appendix B for interview questions). I followed up on any interesting developments during the interview and allowed interviewees to elaborate on discussions relevant to the study. The interviews were approximately 60 minutes long. One interview was conducted in person. The rest were conducted over Skype because the participants were not able to meet in person. All interviews were audio-recorded with the permission of the participants.

The writers were asked about their research focus, English education, writing education, English language proficiency, and confidence level writing journal articles. The writers were also asked to self-evaluate their English language proficiency on a questionnaire (see Appendix C). A self-evaluation method was chosen because the writers had not recently taken any English language proficiency tests, such as the TOEFL or IELTS. The questionnaire asked writers to evaluate their proficiency level in listening, speaking, reading, and writing in English and their dominant language. For each skill area, the writers indicated their proficiency level by placing a mark on a line that had "beginner" on one end and "advanced" on the other end.

The writers were also asked to self-evaluate their level of writing expertise by indicating on a questionnaire (see Appendix D) their confidence level in five knowledge domains: subject matter, genre conventions, readers' expectations, organization of ideas, and ability to use English phrases, vocabulary, and grammar appropriately. For each knowledge domain, the writers placed a mark on a line that had "confident' on one end and "none" on the other end. The knowledge domains on the questionnaire was informed by Beaufort's (2007) conceptual model of knowledge domains from which expert writers draw: subject matter knowledge, genre knowledge, rhetorical knowledge, discourse community knowledge, and writing process knowledge. The questionnaire used in the study differed from the knowledge domains in Beaufort's model in three ways: 1) writing process knowledge was not included on the questionnaire because the writers' reflection of their writing process knowledge might influence their writing strategies; 2) the wording of the domains were modified so that non-writing specialists could understand them easily; 3) writers' knowledge of English was added because non-native English

speakers would need this knowledge in order to be able to write successfully in English. The writers were also asked about their writing schedule in order to create a timeline for collecting data from each participant.

Computer Screen Capture of Writing Activity

The participants recorded their computer screens while they wrote journal articles. The purpose of the screen capture was to gather information about the participants' writing behavior, particularly the resources that the writers used. The information gathered helped address the research question, "What strategies are used by researchers to accomplish their goals?"

Participants recorded their writing activities at least three times for an hour long each time. A few of the writers voluntarily recorded their writing activities more than three times. Some of the recordings were completed days apart and others weeks apart depending on the participants' writing schedule. The writers recorded their computer screens on their own computers at their homes or offices, which made it possible for me to observe their writing activities under conditions in which they normally write as best possible.

The writers were given instructions on how to record their computer screens (see Appendix E). They recorded their screens with Quick Time if they owned a MacBook and Camtasia if they used PC laptops. Both programs allowed for full resolution screen capture. The writers were told they did not need to modify their usual writing habits for the recording. However, I learned during the final interview that the writers had modified their writing habits out of consideration for me. For instance, some of the writers paused recordings when taking breaks and they highlighted text when reading to indicate to me

where they were reading. Overall though, the writers did not appear to have changed their writing habits drastically to accommodate me.

Only a few studies on L2 writing strategies have employed the research method of using screen-capture software to record writers' screens as they wrote at their own homes or offices (Seror, 2013). Screen-capture software has been used in Composition Studies to observe digital writing activities of native-speaker writers (Geisler & Slattery, 2007). In L2 writing strategy studies, Lei (2008) used screen-capture software to record writers' activities for stimulated-recall interviews. However, the writers wrote in a controlled setting—in the researcher's room using computers and dictionaries provided by the researcher with the researcher sitting behind the writers. Additionally, the writers completed a task that was created by the researcher for the purpose of the study. In this study, the researchers were observed working on their own journal articles rather than an artificial task.

A limitation of using observation to produce data on writers' strategies is that the method only allows me to gather information about the writers' behavior and not the goals they are trying to accomplish. Because of this, I asked writers during the final interview about their purpose for engaging in the actions I observed in the screen-capture recordings. Additionally, observations would only allow me to gather data on strategies resulting in observable behavior (Cohen, 2014). Writers could have engaged in strategies that are mentalistic, such as avoiding using unfamiliar words as a coping strategy. For this reason, I gathered information about writers' strategies using a variety of research methods, including some introspection techniques, which is discussed in the next section. Because writers can engage in mentalistic strategies, I did not expect to be able to use the

recordings to identify every strategy the writers used during each recording. I primarily used the screen-capture recordings to understand the various resources writers used and how they interacted with those resources. Some research studies explain that screen-capture recordings can be used to identify moments of difficulty that researchers have by timing the writers' pauses (Seror, 2013; Geisler & Slattery, 2007). However, for the purposes of this study, I did not think it productive to time all of the pauses and ask the researchers about each pause in the final interviews. Asking researchers to explain each pause or revision would have increased the length of the final interview significantly, making it difficult for the busy researchers to participate in the study. Additionally, the participants would probably have had difficulty recalling their thought process; Gass (2000) explains that after three hours of a task, participants experience significant memory loss.

In my observations of the writers via screen-capture recordings, I focused on finding the resources that writers used and the various ways they interacted with the resources. I also looked for activities writers engaged in other than drafting, such as writing notes to self or highlighting different parts of the text. The advantage of observing writers using screen-capture was that this research method did not require much work on the participants' part once they were familiar with the screen-capture software. Because the method did not require much of the participants' time, I felt comfortable using this method more frequently than others that might have been more burdensome for the participants to engage in, such as stimulated recall interviews.

Stimulated-Recall Interview

A stimulated-recall interview was conducted with participants in order to address the three research questions. Stimulated-recall interviews uncover the thought processes of participants (Gass, 2000). The stimulated-recall interviews provided insight into writers' purposes for employing strategies and writers' strategies that were not observable. Introspection techniques, such as stimulated recall interviews or think-aloud protocols, are commonly used to understand writers' strategies. I chose to do a stimulated-recall interview rather than think-aloud protocols because think-aloud protocols can be cognitively demanding and require practice (Gass, 2000), and I did not want the writers' participation in the study to interfere with their writing or be burdensome to them.

The writers recorded their computer screens as they wrote on their laptops at their homes or offices. After the recording, the writers met with me either on Skype or in person for an interview. The participants watched and recalled their thoughts on 30-45 minutes of video. The total interview time was approximately 60-90 minutes long. I audio-recorded the interview with the participant's permission. The interviews were all conducted within 2 hours of the recording so that the writers could recall their thought processes as accurately as possible before they experienced significant memory loss. Gass (2000) explains that Bloom (1954) found that recalls within 48 hours of recording were 95% accurate. However, Garner (1988) reported there were significant differences between a participants' ability to recall cognitive events immediately after task completion and two days later. For this study, it was not possible to conduct interviews immediately after task completion because it took some time for the screen capture software, Camtasia, to process videos. A two-hour delay in interviewing seemed

acceptable. According to Gass (2000), the majority of memory loss occurs immediately after task completion, so 3 hours to 3 days may result in similar data. The two-hour delay in interviewing in this study is before significant memory loss might occur.

The writers were provided with instructions on how to participate in the recall interview (see Appendix E for instructions). The instructions were adapted from an example instruction in Gass (2000)'s book on stimulated recall methodology in second language research. When the participants met me in person for the interview, I played the video recording on my computer. When the participants met me on Skype, the participants played the video recording on their own computer and shared their screens with me. The participants were asked to recall what they were thinking while writing. They paused the video at times to explain their thoughts. I also asked the participants to pause at times in order to ask them questions about their thoughts. I allowed the writers to elaborate on any topics relevant to the study, and I also followed up on any interesting developments. For instance, I asked questions about why they thought it was important or helpful to engage in certain behavior or accomplish specific goals that the writers mentioned during the recall process.

I initially recorded the writers' facial expression as the writers recorded their computer screens while they wrote. I played both videos using split screen during the interview. A similar method was used by Rose (1984) to investigate writers' block during their composing processes (as cited in Gass, 2000). Rose paused the video and asked the writers about their thoughts whenever he saw blank stares, quizzical facial expressions, or other expression showing thinking. While this research technique is useful for prompting writers' thoughts, the participants reported that they had difficulty watching two videos at

the same time even though the videos were played next to each other. Because of this difficulty, I did not continue with this research method.

Process Logs

The writers completed process logs periodically, which were in the form of a questionnaire (see Appendix F). The purpose of the process logs was to gather data about writers' strategies and goals over a long period of time. The participants reflected on their writing process using the questionnaire every few days or weeks depending on their writing schedule. Each participant completed at least two process logs. The questionnaire asked writers to reflect on their goals for writing during the past few days or weeks, difficulties they had and what they did to overcome them, resources they used, people they spoke to about their writing, preparations they made for their writing, and any changes in writing activities changed from previous days or weeks.

Process logs are commonly used to gather data about writers' strategies. It is a type of stimulated recall. According to Gass' (2000) explanation of different types of stimulated recall methods, process logs can be considered a "delayed recall" whereas the stimulated recall interview described above is a "consecutive recall."

Final Semi-Structured Interview

A final semi-structured interview was held with participants. The purpose of the final interview was to ask writers about the activities I observed on the screen-capture videos and to ask about the writing activities and goals they described on the process logs. For instance, I asked writers to describe in more detail how and for what purpose they used the resources I saw them interact with in the videos. I did not ask writers about every word they wrote and revised, as there were too many such actions and the interview

would have been too long. It was also unlikely that the writers would be able to recall every word that they wrote or revised after many days or weeks had passed. Information about such behavior was gathered during the stimulated-recall interviews. I focused primarily on asking writers about the resources they used and other behavior they engaged in besides writing their manuscript, such as taking notes on their manuscripts or highlighting parts of their manuscript.

A secondary purpose of the final interview was to ask writers about possible goals they had that had not been mentioned yet. For instance, if the writers had not mentioned any goals related to self-representation from the classification system, they were asked if they had thought about how readers perceived them as a researcher/writer/person, how they wanted to be perceived by readers, and what they did to be perceived in said ways.

The interview time with each participant was about 60-90 minutes. The questions were prepared before the interview. Each participant was asked a different set of questions because the questions were based on the writers' individual behaviors. During the interview, I followed up on any interesting developments and allowed writers to deviate from answering questions to elaborate on relevant topics.

Data Analysis

The data analyzed for the study included the initial interviews, stimulated recall interviews, final interviews, and process logs. The information from the screen capture video recordings were not analyzed and coded because this information was included in the final interviews; I had asked the writers about their behavior from the screen capture videos in the final interviews. All interviews were transcribed.

Data Analysis Procedure

The data was analyzed in two main stages. In the first stage, I sought to answer the first two research questions: 1) What are the writing goals of researchers as they write for publication in a second language? 2) What strategies are used by researchers to accomplish their goals? To answer these questions, I first identified writers' strategies by searching for instances in the participants' speech when the writer stated that an action was taken to accomplish a writing goal. The unit of analysis in the study was a pair of action and goal. In the second stage, I coded the identified goals using the framework introduced in Chapter 2, which identified 6 different types of goals for employing strategies: composing, coping, learning, communicating, self-representation, and/or meta-strategies. While coding, I found a group of goals that did not fit into any of the aforementioned types of strategies. All of the goals for these strategies were about publishing their research. Because of this, a seventh category of goals for employing strategies was created called "publishing strategies." In the third stage of data analysis, I grouped the goals under each category of goals into sub-groups using inductive analysis methods (Auerbach, 2003; Goetz & LeCompte, 1984; Lincoln & Guba, 1985; Strauss, 1987). I re-read and re-examined the goals in each category, searching for salient and recurring themes and patterns.

In the second stage of data analysis, I sought to answer the third research question: What contextual factors influence the strategies and goals of researchers? To understand what factors influenced writers' strategies, I first looked for instances in the participants' speech when the writers gave a reason for employing strategies other than accomplishing writing goals (e.g., habit, personal preference). I also searched for instances when the

writers said that they learned a strategy from someone or somewhere. To understand what factors influence writers' goals, I looked for instances when the writers provided reasons for why their had certain goals. I also searched for instances when the writers explained how their goals originated (e.g., "advisor told me.") I then analyzed the data using inductive analysis. I identified salient and recurring themes and patterns in the various factors writers mentioned as having influenced their goals or strategies.

Reliability of Coding

To ensure reliability of my analysis, a second coder analyzed a portion of the data. The second coder was a Ph.D. student in Applied Linguistic, specializing in L2 writing. I selected one of the interviews and asked him to identify strategies, code the strategies, and then identify variables influencing strategies. I first asked the second coder to identify all strategies in the interview and explained what the unit of analysis was (action/inaction + goal). His identification of strategies matched mine 100%. I then asked the second-coder to code each goal using the categories of goals and subgoals I had found (list of subgoals are in Table 4.1). The inter-rater reliability score for classifying strategy according to type of goal and subgoal was 92%. The difference in our analysis appears to come from the fact that I was using my knowledge of the writer's background to interpret the data. For instance, there was a disagreement about how to code the following strategy: "So, whenever I write the research method or discussion, I try to review that guidelines first to make sure I'm following the right path." While the second coder focused on "guidelines" and coded the strategies as a learning strategy, I focused on "following the right path" and coded the strategy as a coping strategy. I did not see the goal as a learning one because I knew the writer had already written four other articles

and had received the guidelines many years ago; I thought it was unlikely that the writer was reviewing the guidelines to learn the material. For the last step of checking for inter-rater reliability, I asked the second coder to identify variables influencing writers' strategies and goals by finding instances when the writer provided a reason for taking an action that was not related to writing (e.g., habit) or explained an origin of a goal. His identification of variables influencing writer's strategies and goals matched mine 100%.

CHAPTER 4

WRITING GOALS AND STRATEGIES OF WRITERS

This chapter presents findings of writers' goals, the strategies they employed to accomplish their goals, and the resources they used to carry out strategies. Most of the writers' strategies could be categorized using the classification system introduced in Chapter 2. The classification system introduced previously organizes strategies according to six types of goals: coping, learning, composing, communicating, self-representation, and meta-strategies. Upon data analysis, it was determined that a creation of a seventh category called "publishing" was necessary. The definition of this category and a short justification for the creation of this category is described in the section titled "publishing" of this chapter.

For each category of goals, subcategories of goals (or sub-goals) were identified. For instance, some sub-goals identified under coping strategies were managing limitations in language proficiency and overcoming writer's block. For each subcategory of goals, I summarize writers' stated goals and the resources they used to accomplish the goals. I then provide descriptions of the actions writers took to accomplish each goal. I describe similar actions taken by writers together when possible. However, for the most part, each action is described separately because there were only a few instances when writers took the same actions to accomplish the same goal. I also include reasons writers gave for taking particular actions to accomplish their goals when such information was available. These various reasons, or variables that influenced writers' behavior, is the focus of the next chapter where I present my analysis of the contextual factors influencing writers' goals and strategies.

It is important to note that the goals and strategies identified in this chapter do not represent effective strategies for accomplishing goals. I reported all of the strategies identified in the study, regardless of whether or not the strategies appeared to be useful for accomplishing goals. This study only aimed to understand what writer's strategies were. The study did not investigate the effectiveness of the strategies that writers used. A different research method is needed to investigate the effectiveness of strategies.

Coping Strategies

Coping strategies are defined in this study as strategies writers use to prevent or manage difficulties encountered throughout the coping process. All participants used coping strategies. The difficulties participants coped with arose from two types of constraints: constraints related to writers' internal state at the time of writing (e.g., memory capacity, language proficiency) and constraints originating from external factors (e.g., time limitations, funding).

Strategies for Coping with Internal Constraints

The writers used strategies to accomplish five sub-goals arising from internal constraints: managing limitations in second language proficiency, managing limitations in writing ability, avoiding mistakes in spelling/grammar or citations, managing affective state, preventing losing train of thought, and overcoming writer's block. As mentioned in the description of the classification system in Chapter 2, when writers encounter constraints in language proficiency or writing ability, they can cope with limitations and/or intentionally develop language or writing skills to overcome their limitations. For instance, in this study, when writers wanted to use unfamiliar words, the writers sometimes simply checked whether they were using the words correctly or took the time

to learn the meaning of words and its usage deeply. The strategies writers used to intentionally develop language or writing skills will be described in the next section where I discuss writers' learning strategies. In this section, I focus on the strategies that writers used to cope with limitations in language or writing skills.

Avoiding losing train of thought. The writers used strategies to stay on track with their train of thought and to keep focus while writing certain sections of their paper. They accomplished these goals using highlighting tools and copy and paste functions on computers.

As Kyung, Carla, and Xiwang revised ideas in their paper, they highlighted grammatical or spelling errors in yellow and fixed them at a later time. When I asked why they did not fix the grammatical errors immediately, they both said it was so that they could continue with their thought process. Carla said she also wrote notes to herself for this same reason. For instance, Kyung said,

> Because I want to follow my thought process and by just having yellow highlighted, I kind of… okay, I'm not thinking about it at this point, and I just go with the flow that I am currently at, and then after a while, if I need to deal with those things, then I don't have to read from the first to the end. At that time, I can go directly to it.

At times, Jiyoung and Xiwang realized that they were missing information as they wrote. When these situations happened, they sometimes dealt with the situation by temporarily placing a marker to indicate missing information rather than finding the missing information immediately. They explained that they did not deal with the missing information immediately because they did not want to disrupt their thought process by looking for the missing information, which was potentially time consuming. For instance, Jiyoung placed "XX" marks when she could not remember some items.

Interview: At times, I saw you use "XX." For example, you wrote, "There are XX items of XX dimensions to evaluate leadership styles."
Jiyoung: So, when I don't remember how many items there were…If I measured six items, I have to go back to the recent article to see how many items that I used by looking at my own questionnaire. Because I don't remember the items, I just put an XX there.
Interviewer: Is there a reason you don't look at it right and temporarily put an XX there?
Jiyoung: Because if I fill out the items then it will disrupt my thought process. Yeah, that's something I can do later. But, I just didn't want to stop the writing flow.

Jiyoung also used another strategy to not lose her train of thought while writing. She explained that when she thought of new ideas as she wrote, she wrote those ideas down in the paragraph she was working on even though the information did not belong there. She then highlighted those sentences so that she could place them in the appropriate paragraph later.

Jiyoung: In the middle of writing, if I think of something else, I just write, and then I highlight it. In my previous recordings, you can see other examples. I write something, and then I just highlight it to add that sentence in the right position later. Even thought it's not relevant, not super relevant, to the content that I'm writing, but if I think…you know, you can think of something else while writing this content, so in that case write at the end of this paragraph.
Interviewer: Why do you do that?
Jiyoung: To not forget.
Interview: Why don't you go put it where it's supposed to be immediately?
Jiyoung: That distracts my logical flow of the current content. I am not sure where I should put the new sentences, so I have to go back to previous paragraph to search the logic and that will distract my current logical thought.

One of Carla's goals as she wrote her discussion section was to stay focused on what she had to say. To accomplish this goal, Carla copied her entire results section below the discussion section and used the results section as an outline. She also changed the font of the results section she had copied so that she could distinguish it from the rest of her manuscript.

> This paragraph you see in the bottom of the page is what I have in the results section. And, I just copied to the discussion so that I can have notes and know what I'm doing and what I have to write about. I think that I need to have things in front of me so I can really focus because I have my results there like 5 pages before, I cannot focus and really talk specifically what I need to write. I need to see them right in front of me. I think it helps a lot…. That's why I keep the font different, so I don't get confused and maybe think that's part of my text when it's not. I don't want to be copying other people's word.

Jiyoung explained that she used a strategy to ensure she did not forget the rhetorical purpose of the paragraph she was writing. I observed in video recordings that she wrote notes in front of each paragraph in brackets, such as "[what we did] or [theoretical puzzle] or [summarizing the results]." When I asked her why she did this, she explained,

> So, if I said "summarizing the results" then I write the results in that paragraph. Sometimes when you're writing, you kind of forget about your initial purpose. So, that's my habit whenever I write something, I put the main purpose of the paragraph, and then when I finish writing, I come back…When I review the whole writing, I just match if the contents is following that main purpose.

This strategy was also a revision strategy for Jiyoung because she used the notes to help her evaluate her writing later.

Managing affective state. One of the participants, Xiwang, used a couple strategies to manage her affective state while composing. As she revised text, she addressed issues that could be solved quickly first and then addressed the difficult issues later. She explained that she first revised the issues that were easier to address because she liked the idea of having revised many things in one day. She used strategies such as highlighting and using Microsoft's Track Changes function to distinguish areas she had revised from ones she had to revise later. These strategies she used to manage her strategy of selective revising are described in the Meta-strategies section as well.

> Because I feel that if I revise the easy ones first, it makes me feel, "Oh, I have revised many things today." If I revise the difficult ones, I have to spend some

> extra time. I have to go back to the original data and other information. That's a lot of work. I hope I can finish other things in one day.

Xiwang also listened to music in order to help her concentrate better when she was tired. I observed her in video recordings changing the music on her computer application. When I asked how it helped her to listen to music, she explained,

> Interviewer: Another thing is that I saw you listen to music. Do you normally listen to music?
> Xiwang: When I feel tired, I listen to music and write.
> Interviewer: Oh, okay. How does it help you when you're tired?
> Xiwang: It helps me to concentrate my mind.

Overcoming writer's block. One of the participants, Carla, mentioned a strategy for inspiring herself when she was stuck in her writing. Her strategy was to take breaks whenever she was stuck and to continue writing when she did not have trouble.

> Sometimes I write for 2-3 hours without stopping. Things are flowing and you don't want to stop because you don't want to lose it. And, sometimes you are stuck in a part and you think, "If I go out and do something else, then I will become more inspired later." So, it's not something that's regular like always one hour than a break or two and a break. No, it's something very varied.

Avoiding mistakes. The participants used various strategies to avoid making mistakes in spelling, grammar, and citations. Writers accomplished these goals using Microsoft's Auto Spelling and Grammar tool and the copy and paste functions on computers.

All participants avoided mistakes in spelling or grammar by using Microsoft's Auto Spelling and Grammar tool, which underlined spelling mistakes in red and grammatical mistakes in green. I observed that whenever Microsoft underlined a word or sentence in red or green, they always checked to see Microsoft's suggestions for correct spelling or grammar.

One of Carla's goals was to avoid mistakes in citing. She explained that she paid much attention to whether or not her reference list and citations were accurate because her advisor had recommended her to do so. To ensure accuracy, she double-checked her references and citations frequently.

> I was double-checking all the references the ones I included after to check for accuracy. I am very worried about being wrong in this stuff because my advisor here at home is really into plagiarizing and all this ethical issues, so like she always suggests and recommends pay double attention to these things.

Carla tried to avoid mistakes when quoting articles. Her strategy for accomplishing this goal was to copy and paste from the original article. She explained that this action deviated from what she usually liked to do when looking at articles, which was to look at them in print form.

> When I am selecting citations or selecting people to cite, I have to have it printed. When I want to really direct citing, I use the PDF file so that I really use the correct words because sometimes when you are typing you can mistype something or forget about something.

Managing limitations in writing ability. Three participants—Carla, Jiyoung, and Xiwang—used strategies to cope with limitations in their writing ability, such as being unsure of how to organize the ideas in their papers and being unsure of what ideas to include in the paper. This goal was not mentioned by Kyung, who had significantly more publication experience than other participants. The resources Carla and Xiwang used to overcome limitations in writing ability included advisors, professors, and co-authors.

Jiyoung reviewed guidelines for writing journal articles in her field before she began writing in order to make sure she was writing articles appropriately. She also wrote down some of the guidelines on her paper before writing a section. She had received the guidelines several years ago from her advisor and doctoral seminar.

> So, we have this journal called AMJ that explains how to write introduction, or how to write discussion. It's a guidelines. So, whenever I write the research method or discussion, I try to review that guidelines first to make sure I'm following the right path. So, that quote is from the article, like on how to write the discussion.

Carla said she did not think her manuscript was written well so she sought feedback from three different people: her advisor at her university in Brazil, an advisor in the U.S. whom she knew from studying in the U.S. one year, and her co-author.

> I think it's not very well-written. I think I need some feedback. I will send to her and then I'm going to send to my second-author, which is the Chinese girl who helped me in analyzing the data, and probably after working that, I'll probably send it to my Carnegie Mellon advisor.

Both Jiyoung and Carla sought advice about how to develop ideas in their paper from professors. They both had several co-authors, and they explained that the roles of some of the co-authors were to give feedback on ideas, rather than issues related to grammar or organization of the paper. The co-author who gave Jiyoung feedback on ideas was the fourth co-author. This co-author was a professor from a different university. She explained that her advisor was a relatively novice scholar as well and so this fourth co-author was needed for advice on the ideas in the paper.

> Jiyoung: Fourth author is a senior professor is a specialist in this topic, and he's like a reviewer. After we complete anything, he reads the paper and revise something right before we submit the paper.
> Interviewer: Isn't the first author a professor, too? Why doesn't she play the role that the fourth author is playing?
> Jiyoung: Because she's an assistant professor. She's new too.

Similarly, Xiwang explained that the role of her advisor, who was a co-author, was to give feedback on "big ideas." She also explained that her second co-author helped her much by providing detailed comments on her writing. Her second co-author was a professor from a different field who was introduced to her by her advisor. Xiwang

explained their roles as follows when I asked why her advisor had introduced her to her second co-author.

> I think she usually gives very big ideas. For example, "What's your question? Or, here is your question. What's the possible ways to solve your questions?" Those are very general ideas. But, if you just start to write the paper, you need a lot of detailed help.

Managing limitations in language proficiency. The most frequently mentioned coping goal was managing limitations in English proficiency. The writers needed to express ideas they had formulated in their native language, use words that were unfamiliar to them, diversify the vocabulary in their writing, ensure accuracy in their grammar and vocabulary, and cope with limitations on how much their English proficiency could improve before they finished their manuscripts. The writers accomplished these goals with the aid of online tools, such as bilingual dictionaries (naver.com), Google, and corpus of bilingual texts (linguee.com). They referred to collocation dictionaries and used tools available in Microsoft, such as Microsoft's Synonym tool. They also sought assistance from colleagues, their students, family members, and editing services. They sometimes coped with their limited language proficiency by giving up.

Translating ideas formulated in native language. The writers had formulated ideas in their native language on several occasions and needed to translate them into English. To accomplish this goal, they used corpus of bilingual texts, bilingual dictionaries, or English-English dictionaries. Carla said she liked to use Linguee (www.linguee.com), a website that provided a bilingual dictionary and a corpus of bilingual texts. She felt she could obtain more natural language using a corpus of bilingual texts.

> The bilingual one, Linguee, I just use like when I have something I want to say in Portuguese and I don't know how to express that in English. So, I always use it because it gives you parallel translations so you can really check things are said normally, naturally, so it helps.

Kyung used a few different strategies to translate ideas she had formulated in her native language, Korean, to English. Her preferred strategy was to think of an English equivalent word without the aid of dictionaries and then check an English dictionary to verify whether or not the English word she had thought of matched the Korean word she wanted to translate. When she had no idea how to formulate a Korean word in English, she used an online bilingual dictionary, naver.com. However, she preferred to use English-English dictionaries over bilingual dictionaries because she felt that English-English dictionaries provided more accurate definitions than bilingual dictionaries.

> English dictionary is more accurate and more comfortable. One of the reasons [for using bilingual dictionaries] is that if I really cannot understand, then I go. And another is, I think I have something in my mind… For example, I have specific idea about why I want to use that word. Then, naturally, I have the Korean version of that sentence. Then, I think if I want to make sure if I want to match my intention of using that words in Korean version with the English version and English only search didn't really make me satisfied, then that is sort of the last resort. I think I use Naver—Korean English dictionary—after doing everything. And then still if I have some problem, then I think I go back. Or, if I really do not know literally, then I think it's a totally completely new words then I use Korean English dictionary because it's totally new words to me. Or, if I have certain words in Korean, and I cannot think of then Korean English dictionary helps me a lot.

Jiyoung also said that she used the same online bilingual dictionary, naver.com, to translate words she thought of in Korean.

> Normally, when I go to Korean dictionary, that's the case that I know in Korean but I want to know what's the best expression in English

Using unfamiliar words accurately. Writers used strategies to check that they were using unfamiliar words accurately. Jiyoung explained that she sometimes checked to see

if she used words correctly by checking its meaning in the online bilingual dictionary, naver.com. She explained that she used a bilingual dictionary instead of a monolingual dictionary because it was quicker for her to read definitions in Korean.

> Jiyoung: Sometimes, when I look up English terms in Naver.com, that is because I want to confirm that the English term that I know is correct. I just want to make sure that I'm using the right term.
> Interviewer: Is there a reason you use Naver to check the words?
> Jiyoung: Well, I think it's more for convenience. I'm not sure if you get this as a native speaker, but for me, using the English-English dictionary, the monolingual dictionary, that definitely gives me more burden. I have to think twice. It's more tiring. So, it's way easier. For me, writing for a English research journal is a big thing. But, if I have to look up the words by using the monolingual dictionary, that is going to be another challenge or another time consuming thing.

Kyung used three different strategies to check she used words accurately. One of her strategies was to check synonyms using Microsoft's Synonym tool. I observed her using this tool in a video recording and asked her why she used it. She replied,

> I want to make sure that my understanding of that particular words is correct knowledge, and I wanted to make sure if that word is really what I want to say. I think I use the synonym thing a lot of time to do that.

Another strategy Kyung used was to search for example sentences in Google. She used this strategy when a thesaurus suggested synonyms with which she was unfamiliar and when she had thought of a word that she wanted to use but was not sure of its definition. She verified that the synonym suggested by the thesaurus matched what she wanted to say.

> Interviewer: When you are looking for synonyms, do you ever choose words that you do not recognize from the list [of words suggested in the thesaurus]?
> Kyung: Ummm. Sometimes, I do, but I go to Google. If I search Google, then Google gives whole bunch of examples of how that word was used in different sentences and if that looks kinda cool and if it looks fit to what I really wanted to say then I use the words.

Clustered with her strategy of using Google, Kyung employed a third strategy that involved a non-action. Kyung said she often had a "gut feeling" about a meaning of a word but did not to trust her gut feeling and verified the meaning of words using Google.

> But sometimes you really don't know because sometimes the feeling that you get from the word….Let's say you don't really know the meaning of the words, but there's like feeling of the words. That feeling seems to be...you know… fit into the sentence. But that is purely my feeling, and I don't know how native-speakers really feel about that. So, in that case, I kind of have it as a potential candidate and then I go to Google Search and see what is the example of that word in different contexts, and then make my own judgments about that whether my gut feeling about that word is right or wrong.

There were, of course, many actions that writers did not take throughout their writing activity, and they could all be considered action-less strategies. The above action-less strategy of Kyung's differed from other actions not taken by Kyung in that she articulated her intention to not take specific actions in order to accomplish specific goals. Her *idea* to not take an action to accomplish specific goals was what distinguished this action-less strategy from other non-actions taken by Kyung and the other writers.

Checking collocation of words. When the writers did not know the correct collocation of words, they searched for example sentences on Google and also used collocation dictionaries. Carla searched for example sentences in an online English dictionary, Oxford Dictionaries (oxforddictionaries.com). She said she used this particular dictionary because it provided example sentences and definitions in both American and British English. She thought this particular dictionary was trustworthy. She also liked the dictionary's explanation of definitions and had been using the dictionary since she was young.

> Oxford Dictionary always provide example sentences. Especially, when you don't know the collocation or the preposition you're going to put, if it's "in, on." So, I always look up there……. Oxford is really trustworthy. You can trust that

> because when I started learning English when I was a kid, we always used an Oxford dictionary—a bilingual one. I always liked the way they explained stuff. I have been used to that….. I like Oxford because they explain to you stuff in the U.K. English and in the American English.

I asked Carla if she was aware of language learner dictionaries and asked if she used them. She said she did not use learner dictionaries because she owned a collocation dictionary. However, she preferred to use online dictionaries because they were faster.

> I have a collocation dictionary, a printed one, for ESL learners, but I normally use the Internet because it's faster.

Xiwang also searched for example sentences to understand collocation of words, but she used a bilingual dictionary application on her computer. She explained that the dictionary provided example sentences.

> Xiwang: I can type "much effort" or "many effort" to see whether people use in this way because the dictionary provides example sentences. But, the problem is that when I find "many efforts," there are example sentences. And I use "much effort" and there are a lot of other sentences, so it's still confusing.

Unlike Carla and Xiwang, Kyung stated that she did not use dictionaries to search for example sentences. She did not provide a reason for why she did not use dictionaries to find example sentences, and I did not think to ask during the interview.

> I don't use dictionaries to specifically find example. I use Google to do that, but when I read dictionary, I always read the examples.

Kyung liked to search for example sentences on Google.

> Originally, I wrote, "Citizens perceive government this motive to be over another motive" and then I changed it "Citizens perceive government this motive to outweigh over another motive." And then I was confused. Does 'outweigh' have 'over' or not? What I usually do is I go to Google. I look up 'outweigh' and there's a meaning. There's a few examples of how 'outweigh' was used, and it seems like 'outweigh' does not really use "over" so I kind of removed "over."

Jiyoung also used Google to find example sentences to check collocation of words but she used Google News because she thought example sentences in Google News were more reliable. She searched for two phrases in Google News that she was considering using and examined the example sentences she found carefully.

> Jiyoung: I wasn't sure if I could use 'this information' or 'these information' so whenever I have this kind of issue that I put 'these information' that I want to use. Trying to search in Google if there are other articles published in news articles or research articles if native Americans use this term. If I find a lot of articles that use this, then I use it. But, if it is not, then I don't use it.
> Interviewer: I see that you are searching in Google News. Is there a reason for that?
> Jiyoung: That's because blogs people's comments… if it is not official then I assume that people would make mistakes in terms of grammar even though it is native speaker, so I would rather find resources in the legitimate, published articles.
> Interviewer: So, I guess you couldn't find "these information" in Google search so that's why you changed it to "the information"?
> Jiyoung: Yeah, although, there was "these information" but that was "these information sources." There was something after "information," so I realize that, "Okay, there's no such thing like "these information." It's "these information something'"

Checking potentially awkward expressions. Jiyoung also searched Google News to check whether or not some expressions she considered using were also used by native speakers. She explained that she started checking her expressions because she had been told that she used a lot of "weird expressions" in the past.

> I heard that I use a lot of weird expressions. Native speakers never use that kind of expression, so I realize that if I want to use some expression but if I'm not sure, if I'm not confident of using that, then I try to Google that expression if native speakers commonly use that terms or phrase. If I cannot find it, then I don't use it.

Finding synonyms. The writers often needed to search for synonyms in order to avoid repetition and diversify the vocabulary in their writing. To accomplish this goal, they used Microsoft's Synonyms tool, Thesaurus.com, and Oxford Dictionary online.

Kyung reported that avoiding repetition in writing was one of the most difficult aspects of writing for her.

Kyung, Jiyoung, and Carla often used Microsoft's Synonyms tool to search for synonyms. For instance, Kyung explained,

> I'm not sure how helpful it will be for native speakers, but for me….the most difficult part is nicely saying the easy parts….For example, "somebody pointed out." I cannot say "somebody pointed out" continuously, I have to change slightly, right? And those kind of strategies—finding a similar words of simple words—I get a lot of benefit from having that function.

Jiyoung explained that she searches Microsoft synonym tool first, but if she cannot find a suggestion using this resource, she refers to an online bilingual dictionary or thesaurus.com.

> First, I check synonyms to check if there are other terms that I can switch, and if I find no better words in Microsoft, then I go to either Korean dictionary on Korean website or I go to thesaurus.com to see better way to phrase.

Carla explained that she did not think the Microsoft's Synonym tool was always good. She explained that the Microsoft Synonym tool was not sensitive to a word's part of speech.

> Interviewer: It looked like you used Microsoft's synonym tool at times [in the video recordings]
> Carla: Yeah, but sometimes it's not good.
> Interviewer: Oh, okay. Why do you think it's not good sometimes?
> Carla: Because the Word synonym tool is not sensitive to if the word is a verb or if it's a noun, and sometimes, it gives you bad synonyms that you do not want to use.

Carla preferred to use Thesaurus.com or Oxford Dictionary online instead.

> But, I think that I'm using more the Thesaurus and Oxford Dictionary because sometimes, I don't want to be repetitive using like all the time, "The study investigated." Or, sometimes, I want to check like, "Okay, what can I put instead of 'investigated.'" Then, I go there and look at the synonyms for "examine" or "explore." It helps me diversify my vocabulary.

Recalling words. Xiwang used a bilingual dictionary to recall words she could not remember well. She explained that she used a bilingual dictionary instead of thesaurus because she found it easier to type words in Chinese rather than English.

> Xiwang: It's just a very popular dictionary in China. I tried using visuwords.com, but when I type the word, there is different kind of connections, but sometimes I have something in my mind and I type the words and sometimes it just don't have the words that I need. Maybe because it's easier for me to type into Chinese and translate into English. And this dictionary also have the words and have a lot of example sentences. So, you can see how these words can be used in this sentence.

Finding spelling. Xiwang explained a strategy she used to figure out spelling of words. She explained that she would start spelling out the word on a Word document as best possible and then use Microsoft's spell check to figure out the rest of the spelling.

> It's very helpful because I know this word but I have very blurred idea how to spell it. I can remember maybe five or six letters, so I just spell it and I use Microsoft to help me find the word.

Distinguishing correct and incorrect use of vocabulary. One of the participants, Jiyoung, explained how she determined whether a phrase was grammatically correct or not. She said she just used her feelings and thought about which phrase was more comfortable.

> Jiyoung: Now, I'm reviewing what I wrote from the top. And, if I find a grammatical mistake, then I change it from…I wrote "enhance" and I changed it to "emphasize." I'm still not sure which one is better.
> Interviewer: So, if you're not sure which one is better, how did you decide that it should be plural?
> Jiyoung: I always ask which one is more comfortable reading.

Coping with inability to solve grammatical problems independently. All participants sought assistance from colleagues or advisors at times. However, two of the participants, Kyung and Jiyoung, sought assistance to cope with limitations in her language

proficiency. The other participants sought assistance to receive feedback on their ideas or on the organization of their paper.

Kyung said that she often invited a native-speaker to be a co-author so that she could receive help with language issues. The co-authors were often students or colleagues. When she could not find a reliable native-speaker co-author, she sought assistance from her native-speaker husband or her friend and also hired a professional editing service. She preferred to seek assistance from someone she knew rather than hire an editing service, however, because she felt the people who had personal relationship with her seem to provide more meticulous editing.

> Once I write a first draft and before submitting to a first round of review what I do is I ask my students or one of my colleagues. If I have an American speaker, a native speaker, as a co-author then I have no problem because they will…so usually if you see my manuscript the last author is usually native speakers. Major reason why I have the last speaker as native speakers is the author is not really deeply involved into the whole process of project but what they mainly do is really about editing and proofreading, so if I have that co-author, then I don't really have to worry about those language aspects. But if I don't have it or if that person is not like perfectly credible, then what I do is, I ask my husband who has a Master's degree and who knows publication process a little bit and who is a bilingual and knows my weaknesses of a Korean speaker so he will take a look mostly or I have good friend and she will also take a look for free and then after the first round if I get a good feedback from the reviewers it seems like there's a higher chance of accepted, and then now I revise. Revision usually takes whole reconstruction of the manuscript so then now I kind of hire or pay for professional editing or proofreading

Kyung said she used professional editing services only after submitting her article to a journal and receiving positive feedback. Her reason for this was that she expected to revise her manuscript significantly based on feedback from journals and it would be expensive to pay for professional editing service twice—once before submitting to a journal and once after receiving feedback from journals.

> If you're hiring editors in the first round of manuscript, then acceptance rate is like 20% and if it is good then 30%. It's totally gambling. I don't want to spend whole money for that, especially if you do the first round and if they ask you for major revision for the second round, then I restructure every manuscript and re-analyze everything and I have to hire another. It's going to be too much. In terms of the cost benefit, it's just too much...

Kyung said she usually used the editing services SPi or Scribendi. She learned about SPi on the website of a journal to which she had previously submitted an article. According to her, the journal, Social Science Computer Review, suggested non-native speakers to use a professional editing service before submitting articles and also recommended SPi.

> I used two services one is a Scribendi. It is Canada based. The other is SPi's Professional Editing Services and that editing services was actually recommended by one of the journals. There is a journal called Social Science Computer Review and that website specifically indicates that non-native speakers to get a professional editing service.

Jiyoung also mentioned the availability of professional editing services for proofreading. She explained that one of the journals in her field also recommended non-native writers to use editing services. Jiyoung also mentioned that discounts were available to members of a professional organization in her field. However, Jiyoung had not yet used the editing service. Her reason for not using the service yet is most likely because she had other resources available to her for managing limitations with her language proficiency.

Jiyoung and Xiwang asked fellow Ph.D. students and a professor to help with proofreading and giving feedback on grammar. Xiwang had one doctoral student and one recently hired professor who gave her feedback on writing. Both were co-authors of her paper. Xiwang explained that the one of the doctoral student's, fourth author, contribution to the paper was only providing feedback on writing. The other professor,

who was second author, helped develop her research study in addition to providing feedback on writing. Xiwang had not deliberately sought these co-authors out for the purpose of receiving feedback on her writing; they were all part of a former research group and were introduced to her by her advisor. However, it was likely that she relied on them for feedback on writing because she explained she would have gone to the writing center if she did not have co-authors who gave feedback.

> Xiwang: When I finish my draft, I send it to him [second author], and he revises and also sees structures and gives me various comments. You can see he has a lot of comments in the whole document here….I think what's very helpful is….when I go to the university writing center, they can give me some advice, but sometimes it's very general advice. Because one subject is very different from another subject, especially when writing the academic paper…Because this person has a very similar interest with me, especially he is very familiar with qualitative analysis—how to organize in the paper and how to describe—so it's very helpful to me…. I think if I don't have this second author, maybe writing center is a space for me to receive some feedback.
>
> Interviewer: What was the role of the fourth author?
>
> Xiwang: Because we write this paper last summer, we discussed it in the summer time and gave feedback to each other. I am almost finished my draft, so I will send it to others and get some feedback on where should be revised.
>
> Interviewer: Was the fourth author a student in your program?
>
> Xiwang: Yes, she is my advisor's student. She has more experience. I think she worked like a scientist in some kind of lab, and then came to the education field. I think she is more good at the writing part.
>
> Interviewer: Did you ask her to be a co-author to get feedback from her for your writing?
>
> Xiwang: I think so. Main reason is my advisor has three students. We work together, and we work on her project, so we all have meetings and give each other feedbacks. So, just like a small community.
>
> Interviewer: Oh. Did you invite them to be co-authors on your paper, or did it just naturally happen?
>
> Xiwang: Just naturally happened.

However, whereas Xiwang included the classmates who helped with writing to be a co-author because of the co-author's contribution, Jiyoung said that the classmate who helped with proofreading was not a co-author of her paper.

> Interviewer: You wrote that you ask a native speaker friend to proofread usually. So, is there a particular person you go to or are there different people you go to?
> Jiyoung: Like doctoral students in our program.
> Interview: Is he or she a co-author?
> Jiyoung: No, not a co-author, just willing to help me out.

Jiyoung also sought assistance from her advisor and a hired native-speaker proofreader to help with improving the English in her article. She explained that she felt guilty doing this, but she was rushed for time. Additionally, she felt that since her advisor was a co-author, it was okay for her to receive some editing from her advisor.

> Interviewer: In the process log, you wrote that if you don't have time, you send a draft to your advisor and that you feel guilty if they have to fix your awkward English sentences. So, do you expect that they will fix your English sentences?
> Jiyoung: Yeah. For example, if it is the dissertation, then it's my job. So, I would rather hire someone to fix my English or I would go to writing center if it's my own job. But, if it is the journal article, then we are all the co-authors on the job, so in that case, I feel less guilt because it's all our responsibility. I feel guilt, but at the same time, writing is not my own responsibility.

I also asked Jiyoung why she had not taken the paper to the writer center. She explained that her advisor had hired a native-speaker to edit the paper, so she did not need to take it to the writing center.

> Interviewer: You mentioned the writing center. Did you take this manuscript to the writing center at all?
> Jiyoung: No.
> Interviewer: Why is that?
> Jiyoung: I think native speaker author would correct that grammar faster than me. And, for this particular article, first author is not a native speaker either, so she would send to the native speaker. We have our own

> proofreader, a native speaker. So, she would send that whole article to get proofreading to see if there are grammatical errors.

At times, participants coped with limitations in their language proficiency by giving up their pursuit of desired outcomes. Kyung said she usually liked her writing to be concise and tried to create sentences that are full of meaning, but she explained that she could not do that for this particular manuscript because she could not "help it any longer."

> The article does not have good writing in my opinion. Maybe the sentences can be short, but the sentence itself does not really have compact meaning in it. I kind of feel like many part of that is like that but I just cannot help it any longer.

Carla said that she did not think she could ever sound like a native-speaker and so her goal was to write in a way that native-speakers could understand her. In essence, she coped with her limited language proficiency by giving up trying to sound like a native-speaker. It should be mentioned thought that Carla gave conflicting statements about her desire to sound native-like. She wrote in three different process logs that she tried hard to sound like a native speaker. However, when I asked her about this during our final interview, she said that her goal was to only be understood by native speakers.

> Process log: I am always working hard to write as close as possible to the way a native speaker of English writes.
>
> Interview: I really think that the language you speak as your mother tongue really shapes the way you think and the way you organize your thoughts. So, I think I will never be recognized as a native-speaker. You know because you probably spoke Chinese too. So, you probably feel the way I feel because we will never be recognized as a native speaker of English. We always try to sound like one, but we have to be realistic that we can never reach that. So, I really think that I want to write in a way native-speakers will understand me. They don't need to recognize me as a native-speaker, but I want their reading to flow, like to be easy way of reading… reader friendly, something like that. So, I think we need to be realistic.

Strategies for Coping with External Constraints

The writers used strategies to accomplish four sub-goals arising from external constraints: saving time, managing large amounts of information, acquiring data, receiving funds for research, and managing page limitations.

Saving time. The participants mentioned being efficient and saving time as goals for taking various actions. The resources used to accomplish this goal included tools for highlighting and finding on computers.

Carla said that she compiled her reference list at the last stage of her writing so that she would not have to waste time deleting references that she eventually did not use.

> Researcher: So, do you usually come up with the references at the very end?
> Carla: Yes. I prefer. Otherwise, I will put stuff that I will not use after and I have to delete so I think it will be easier to do it in the end.

Kyung had a method for creating references efficiently. As she wrote, she highlighted citations in her manuscript that would have references she could copy from when she created her own list of references, which she usually did at the end of her writing.

> Those highlights are just references. I need like more reference citations…information added at later point. And, usually I clean up all the citations at the very end, so for that part I don't want to read all through and finding each of the references .so by highlighting them, at the end of the manuscript writing, I can just go there right away and get the reference list from my original sources. For example, those references are actually from this article and if I want to have the reference list at the end then I don't have to find and type it instead I go to his article and get the reference list from that straightforward, so that makes me a little bit more efficient.

I also observed Carla using Microsoft's Find tool to quickly check whether or not she had introduced an abbreviation earlier in her manuscript.

> Oh, there, I wanted to make sure that I had used working memory capacity as an abbreviation, so I used the Find tool and checked whether or not I used it or not. I see that I already used it in the results, so I think I'll keep it.

I observed in video recordings that Carla signaled to herself to revise an area by highlighting a text in yellow or by writing notes to herself. She also checked off the notes once she completed the task she had given herself to do. When I asked her about these actions, she explained that she wanted to save time and also not lose her train of thought.

> Interviewer: I was wondering why you wrote a note to yourself instead of just taking care of the situation right then.
> Carla: Because of time. I think it's the same reason as the highlight….

Regarding highlighting she said,

> It's because I don't have time. I have to do something else. I think the main reason is time. Or, I immediately came and thought about another topic and I have to go to that section.

Managing large amounts of information. One of the writers, Carla, used various strategies to manage large amounts of information she had gathered from articles she had read for her research. The resources Carla used to accomplish this goal included tables and tools for highlighting.

As Carla read articles, she highlighted areas that were relevant for her study.

> When I read articles, I most of the time print them, or sometimes I read them on screen, but I highlight the parts that are important to my study.

She also wrote a summary for each article. She had used this strategy since high school and also was recommended to use this strategy by her advisor. She printed the summaries, wrote notes on them, and referred to them while writing.

> After when I finish reading, I write a word file with some citations and a summary with my own words so that I can use it later. …I have thousands of references, so I really need to organize them or I get crazy…It's a thing I've always done since high school I think. But, I think I started it mainly because of

organization issues, and my advisor always recommended that. So, I think it's a conjunction of habit and recommendation.

I noticed in recordings of her writing activities that she highlighted some areas of her summaries. When I asked her about these highlighted areas, she replied that they indicated the organization of articles.

> Interviewer: So, another thing that I see is….in the summary that you copied and pasted at the bottom, I see you boldfaced "superior temporal gyrus." Can I ask why you bold-faced that?
>
> Carla: The authors structured their results and discussion sections by specific area so that's why it's in bold because it's the organization of the article. I think it's to better organize the summary, so when I look for areas. Just to facilitate visualization. Sometimes, I use italics. Sometimes, I use bold for that or colors.

Carla also organized information from articles into tables and indicated which articles were on similar topics by highlighting the article titles in different colors. She also said this strategy helped with reading comprehension.

> I have tables here that I worked on. Let me get one printed for you. You see that I have used tons of colors. I have green, and red, and…this is a table that I constructed to try to organize the studies for reading comprehension, so like in this table, I highlighted as green all the studies that dealt with reduction skills and yellow was like if it was reading, or listening, or speaking.

Acquiring data and receiving funds for research. One of the participants, Kyung, used strategies to acquire data and receive funds for research. She said she co-authored often with a colleague who had the data that she needed and who was able to fund the research. This conversation came about because I asked Kyung if one of the reasons she had invited a co-author for her current paper was to receive help with language issues (she had mentioned previously that her co-authors often play this role). She replied that her co-author for her current manuscript had not played much of a role in writing the

paper and that she had worked with him a few times because she needed his data and money.

> We've been working for a while since 2009, 2010. He's not a communication...I am in communication. He's in management information systems person, so we are completely from different backgrounds. But, I need his data and his money. He needs someone who can take an initiative and push it hard. So, in that sense, we are a good match. It's not necessarily about recruiting him for the purpose of editing.

Managing page limitations. One of the participants, Kyung, explained a strategy she used to write manuscripts within page limits. Her strategy was to be as concise as possible. She mentioned a few times in our interview that it was important to be concise and provide writing that is full of meaning despite page limitations set by journals.

> If I have 9000 words page limit, than my assumption is 9000 words is something that you want to fill but something you want to make as short as possible and that will be 9000 words. I assume that manner. So for me, like if I have too much words, then I feel like that is waste of pages. I think readers will also feel like, "this is that and that is that." They will understand the same but I think it's too wordy.

Summary of coping strategies. The writers used strategies to cope with a number of difficulties. They used coping strategies to manage limitations in language proficiency, manage limitations in writing ability, avoid mistakes, avoid losing train of thought, overcome writer's block, save time, manage large amounts of information, acquire data, receive funds for research, and write within page limitations. The resources they used to accomplish with these goals included online corpus of bilingual texts (linguee.com), online bilingual dictionaries (naver.com), online thesaurus (thesaurus.com), online monolingual dictionaries (oxforddictionary.com), search engines (google.com), collocation dictionary, editing services (Scribendi, SPi), advising professors, co-authors,

writing center, and Microsoft Word tools (auto Spelling and Grammar check, Find, and Synonyms).

Learning Strategies

Learning strategies are defined in this study as strategies writers use to learn relevant skills, subject matter, and aspects of language (e.g., improving vocabulary and grammar) needed for writing. All three participants used learning strategies. The writers had four sub-goals related to learning: developing vocabulary and expressions, developing professional language, learning writing, learning meaning of words, and comprehending information in articles.

Developing professional language. The writers used strategies to develop academic language and discipline-specific terms. To accomplish these goals, they used reading materials from their discipline and news radio channels.

Kyung said that she tried to develop more professional-sounding language by listening to a news channel, National Public Radio, before she had to write an article, even though she usually preferred to watch Korean dramas.

> I much prefer Korean drama and Korean things, but intentionally, I listen to a lot those radios like NPR, especially NPR because their voice is more professional. I'm not really sure if that really helped my writing, but maybe long term, it must help.

All participants said they tried to develop discipline-specific language using reading materials from their discipline. However, they used the reading materials quite differently. Jiyoung explained a strategy she used in her first couple years of doctoral studies to develop vocabulary. She read a lot of articles, wrote down useful vocabulary phrases in an Excel sheet, memorized them, and also practiced using new words. She

explained, however, that she could not use this learning strategy anymore because she lacked time to do so.

> Jiyoung: I try to read a lot articles in my field to learn, especially certain topics, if I write about leadership, then I try to read a lot of articles. What kind of words other authors use. What kind of expression they have……In my Master's program and in my first and second year, if I saw some expression, then I wrote every single thing in the Excel file. I try to memorize that. Sometimes, in my first or second year when I practiced writing, I kind of force myself to use those terms or phrase that I wrote on my Excel file into my writing so that I can kind of memorize them.
> Interviewer: Do you still do that?
> Jiyoung: I don't think I do that anymore because I don't have enough time.

Kyung said that she read a lot of literature on her topic before she began writing so that she could recall technical terms better while writing.

> Before getting into, I try to read related literature so that I kind of…it reminds me of the technical vocabulary, so I try to borrow and adapt those vocabulary into my manuscript.

Xiwang found a research study that was similar to her study and borrowed some of the expressions used in the article. I observed her copy phrases from an article to her manuscript in a screen capture recording of her writing activity. When I asked her about this, she explained that she used the study to understand how to start the limitation section of her paper.

> Interviewer: I saw you use some of the sentences such as "the following limitations should be considered when interpreting…" You changed the sentences at times, but other times you didn't seem to change the phrases during the recording. Do you remember?
> Jiyoung: I think at the beginning I sometimes….I don't know how to start the limitation paragraph, so I might just see how other people write this section.

Carla said that when she came across an article that was written well, she studied the article's language.

> When I am reading a paper that I really like…like I am re-reading a paper… sometimes, I re-read just to look for language…check the way they organize the paper, the way they explain stuff. So, I really try to follow models.

Learning organization. Two of the participants, Carla and Xiwang, used strategies to develop their understanding of how to organize ideas and how to explain ideas. Carla used model research articles as can be seen in the above quote. Carla stated that her goal in studying model research articles was to not only develop professional language but also understand how to organize and explain ideas in research articles.

Xiwang explained that she looked at a research study that was similar to her own to understand what the structure of her limitation section should be and what content should be in the limitation section.

> Interviewer: At some point, when you were writing your limitation and implication section, I saw you go back and forth between an article "Berkley et. al 2015." Do you remember that?
>
> Xiwang: Yeah. Because that article is very similar to mine, and we also use very similar data analysis methods, so it helped me to maybe remind me, "What should I write in the limitation part." Or, "where should I have the implications part."….I don't know how to organize structure. That's a difficult part for me. So, it kind of helped me to understand what the general structure for writing the section.

Learning meaning of words. The writers used strategies to learn the definition of unfamiliar words, understand differences between synonymous words, and learn to use words in sentences. To accomplish these goals, they used Google, dictionary applications (Mac dictionary), corpus of bilingual texts (Linguee), online dictionaries (Oxford Dictionary), and bilingual dictionaries (Word Reference).

The writers searched for definitions using different resources. Kyung said she searched for words she had never encountered before using a dictionary application that was available on her Mac computer. She said that the application was efficient to use

because it was easily accessible. When Kyung already knew the surface level definition of a word but needed to understand the meaning of the word at a deeper level, she used Google or a bilingual dictionary. She explained that Google provided definitions in its results.

> I use it [Mac dictionary] for efficiency wise because it's so easy to find it. It's just so easy… If it's so new words to me, then I think I use it [Mac dictionary application]. It gives me the direct meaning of the words. If it's really difficult to understand even with the dictionary, then I go to Google and Naver—English Korean dictionary. I think I use it to understand what the words mean. But, I think when I search Google, I think quite many times I know the literal meaning of the words, but I want to know more about something behind the meaning, more like the use of the words in context. But, this one [Mac dictionary] is for getting to know what that word actually means.

Carla said she liked to learn the definition of words using an online dictionary, Oxford Dictionary. After searching Oxford Dictionary, if she was still uncertain about a word's meaning, she referred to an online bilingual dictionary, Word Reference (wordreference.com). She liked Word Reference because it provided definitions in both English and in her native language, Portuguese.

> Yeah, then I use Oxford Dictionary. I always go to the monolingual dictionary and then if I still have a doubt then I go to the bilingual one. Word Reference is a good one because I can use it in monolingual side like definitions and bilingual one. So, I think that normally, when I don't know a word, I go to Oxford, then I go to Word Reference, and I go to Linguee when I want to know how to use it.

When Carla wanted to learn how to use words in a sentence, she used Linguee (linguee.com), a corpus of bilingual texts, as evidenced by the above quote. When Kyung wanted to understand how to use words in sentences or understand differences between synonymous words, she again used Google. I observed Kyung searching 'blame' and 'accuse' on Google. When I asked her about these actions, she said she had searched for those terms because she didn't understand how they differed in intensity. She also said

she didn't know which prepositions collocated with those words. When she looks for words in Google, the results show definitions and example sentences.

> I feel like 'accuse' and 'blame'…My feeling is that type of words are really difficult for me because in Korean words, blame and accuse are both *binanhada*. Intensity wise, I'm not sure which one goes. Because *binanhada* sounds very strong, but *noogooreul tathada*. If you *tathada* somebody, then it's the same meaning but the intensity is weaker, so I wanted to make sure layman 'accuse' isn't too strong, too negative. In terms of how intense it is, it's really hard to catch. That's why I think I try to use Google Search to see as many possible examples if it is too strong or not. And another is sometimes 'accuse' is 'accuse of something' right or 'accuse of somebody.' Those kind of words 'of, for, with, too' are really confusing, so I wanted to see which one is the correct one to go with accuse. Also, I wanted to see whether passive form is commonly used or whether it is used in active voice.

Kyung, unfortunately, did not appear to successfully develop understanding of the difference between blame and accuse using her strategy. She assumed that the difference between blame and accuse was only in intensity. I explained the difference between blame and accuse to her. I also asked why she had not simply searched "difference between blame and accuse" on Google, and she explained that she had not thought of that idea.

Jiyoung used thesaurus.com to understand the nuance of words. She explained that thesaurus was quicker to use than dictionaries. When I asked how she was able to use thesaurus.com to accomplish this, she explained that she used the different shadings providing by thesaurus.com to understand which words were more or less similar in meaning to the word she had inputted.

> Jiyoung: I try to be really careful when choosing the vocabulary because I'm not native speaker. For me, I cannot find the nuance easily. I heard that advice a lot in the past, so I started using thesaurus.com.
> Interviewer: It's interesting that you are using a thesaurus instead of a dictionary to understand the nuance of words.

Jiyoung: Yes. Like, for example, if you use that website, if I put "distinguish" into thesuaurus.com …Let me show you. Do you see the color of these synonyms? These dark yellow are similar to "distinguish" more than "make out" and "classified" which is lighter yellow. By looking at this, I try to see if this word "classify" is like similar to "distinguish," compared to the word of "analyze" and "categorize". So, that's why I like using it.

Interviewer: Is there a reason you don't use a dictionary to do this?

Jiyoung: For me, thesaurus is better because it's quick. There are not many words. If there are too many words, then it takes time to read it. But, this is just easy to see. It's plain and easy because I know most of the vocabularies here. By looking at this, somehow in my brain, I can re-conceptualize the words.

Comprehending information in articles. One of the participants, Carla, used strategies to better comprehend information in articles she read for her research. One of her strategies was to organize information from articles into tables. She explained that by creating tables, she could notice details in articles better.

> I really want to organize stuff, and when you want to report those studies, you want to put them in a coherent way. So, tables are a good way of seeing the details—this study is from listening comprehension; this one is from reading; this is at the word level; or this is at the sentence level, so it helps.

Another strategy she used to learn information in articles was to write summaries of articles. I asked her when she started writing summaries and why she wrote them. She replied that she started writing summaries in elementary school because it helped her memorize information. I asked if her reason for writing summaries of articles was to help her memorize information as well, she replied yes.

> I think I already did this when I was in my elementary school because I used colored pens to write summaries of things that I had to study for tests. Because, I think my way to study is really writing stuff. If I just read content, I don't memorize. So, it's something that I started when I was a kid.

Summary of learning strategies. All writers used learning strategies. Sub-goals related to learning included developing professional language, learning writing, learning meaning of words, and comprehending information in articles. Resources used to

accomplish goals included reading materials, news radio channels, Google, dictionary applications on computers, online corpus of bilingual texts (linguee.com), online bilingual dictionaries (wordreference.com), and online monolingual dictionaries (wordference.com, oxforddictonary.com).

Composing Strategies

Composing strategies are defined in this study as strategies writers use to generate or revise ideas and text. The writers' goals for composing included developing ideas, drafting, organizing ideas, incorporating ideas, creating cohesion, avoiding repetition, revising, and receiving good feedback.

Developing ideas. One of the participants, Kyung, explained her strategy for developing ideas for articles. She said she usually found it helpful to think a lot about what she wanted to say before she began writing a paper.

> I usually, before really getting into actual writing, I tend to think a lot because I have to devise the survey questions and whatever it is or if I do the content analysis then I have to devise some frameworks. And that process allows me chances to think about what do I really want to say—what kind of aspects from this sort of phenomenon I really want to talk about. So, I think like having enough thinking before really getting into actually writing really help me a lot and when I kind of...spending some time in all those thinking.

She also developed ideas by reading literature on her topic before she began drafting.

> So, usually, you go with the literature...you read and you understand….

Kyung also mentioned that her usual strategies for developing ideas differed from the strategies she used to write her current paper, which was more difficult to write. She explained, that for her current paper, her process of developing content was reverse of what she usually did. She already knew the argument she wanted to make and she read literature to find support for her argument.

> Now, I go reverse. I have these results and I try to find the literature that supports this one. But, it's so hard to find the literature because there's no existing theories that link the two concepts so what I do now is I am kind of rambling hypothetical situations….

Drafting. One of the participants, Kyung, used strategies to begin drafting her paper and to continue with her writing after taking a break. Kyung usually began writing her manuscript by jotting her ideas down—one sentence for each paragraph. When she did this, she said she "rambled" in either Korean or English without paying attention to grammar.

> Initial interview: What I do is usually, I open up my Microsoft Word, and I kind of try to get one or two sentences of main flow.
>
> Final interview: Sometimes, if it's really blank, and I have to write from the scratch, then I make one sentence for paragraph or sections in English really rambling, grammatically terrible English. Sometimes, I ramble in Korean.

Kyung also used a strategy to begin her writing sessions after taking a break. Her strategy was to read her previous writing in order to remind herself of what she had written so far. I observed her doing this in each video recording of her writing and in our stimulated recall interview. She mentioned in our final interview that she did not think this strategy was a good one because it was not recommended in a technical communication textbook she had read.

> Stimulated recall interview: The major parts that I have to revise is from the hypothesis, and I think I looked up background part today just before getting into the hypothesis. I wanted to remind myself kind of what I've written so far.
>
> Final interview: The technical communication textbook recommends if you want to stop, you should stop in the middle of the section so that next day if you revisit the manuscript, then stopping in the middle of the section helps invoke what you were trying to do. So, it's better at getting the memory back. But, for me, I think I'm more like, "Today, I want to finish this section, so I think I'm like more plan based." But if time allows.. So, let's say, "Today, I will finish introduction, and then I have more time and energy, so then I keep going." But, I think it's more like plan basis. I want to finish this one. But, that book says it's actually not a very good strategy,

> and I agree with that because the next day, when I continue revising, I actually read from the first again. All over again. It takes time to read all over again. But, I kind of sacrifice that time.

One of the participants, Jiyoung, used a strategy for writing down concepts that were difficult to articulate. She said she wrote the ideas down in "plan English" as though she were talking to friends, and then re-wrote the sentences in more academic English.

> Interviewer: You wrote that, "In general I try to explain it in plain English like I talk to my friends and then I write it into academic English." So, how is this helpful to you?
>
> Jiyoung: Because given the characteristics of my research, it's very psychological and that's really hard to capture and explain in academic writing. So, I like to…for myself…I like to…by using the plain English, I'm kind of…I want to make clear what I write in the written draft and then if I get the concept clearly in my brain with a plain English then that will be helpful for me to convert into academic terms.

Organizing ideas. The writers used strategies to organize ideas. The resources writers used to accomplish this goal included outlines and their native language.

Carla wrote in her process logs that she created outlines and revised them often. I asked Carla how specific her outlines were. She explained that she wrote down ideas for each section of the paper and what each paragraph should be about. She did not write outlines for the content of each paragraph; she organized the structure of each paragraph mentally.

> My outlines are sections and paragraphs. Sometimes, I organize mentally the structure of my paragraph.

Carla also organized ideas in her discussion section by copying her results section below her discussion section and using her result section as an outline.

> This paragraph you see in the bottom of the page is what I have in the results section. And, I just copied to the discussion so that I can have notes and know what I'm doing and what I have to write about. You know what I mean?

Kyung checked the logical flow of her paper mentally in her native language, Korean. Her strategy was to pretend telling someone the story of her paper in Korean.

> Writing manuscripts goes for several months. Then, you think at some point that you want to know whether you are writing in consistent manner, whether you are in the right logical flow. Then, in the restroom for example, what I do is in Korean words, I kind of mumble, "*Geurae*, *uh yigeo. Yi peyipeo tayiteuleun yigeoji*. [*Yes, that's it. The title of this paper is this.*]" And then I kind of try to think about what I wrote from the introduction, so like make a story, like make a narrative, but that I do in Korean, so that I can see if that flow is natural enough. For example, the surveillance paper, I kind of made my own narrative like I tell somebody a story in Korean. So then I kind of check if that logic is natural enough, smooth enough. That kind of check up kind of status, I feel like I do that in Korean much more frequently than in English.

Incorporating ideas. Both Kyung and Carla used a similar strategy for incorporating literature into their paper. They both compiled a list of texts from literature that they wanted to incorporate into a paragraph before they began writing the paragraph.

I observed that Carla had a list of quoted texts below the paragraph she was writing during our stimulated recall interview. When I asked her about those quoted texts, she explained that the quotes were there because she wanted to add support to her writing. She placed quotation marks around each quote even though she planned to eventually paraphrase many of them so that she did not accidentally plagiarize.

> I really want to bring support before I write so that I can search the citation.

Kyung took similar actions, but she did not list the quotes below her paragraph. The quotes were already in her paragraphs. She explained that she planned to paraphrase the quotes later and incorporate them into the text.

> I found this literature and his discussion seems worth to inclusion so I added it but you can you can see a lot of quotations here that means I actually really straightforward borrowed their portion but I thought it might be better to rephrase it on my own words and I cannot do like right away so it is sort of my

> tactic that I borrow their quotations…those lines that seem to be important and then I kind of remold it with that sentences

Creating cohesion. One of the participants, Kyung, explained a strategy she used to create cohesion in their writing. She added specific ideas into her paper for the purpose of transitioning from one topic to another.

> This helps me to lead to that discussion about the hypothesis because one of the concerns citizens have about surveillance is surveillance is misused and those misuses can be rooted from different motives than governments have which is not consistent with the citizen's own expectations. Okay, government should have this motive for implementing surveillance, so I wanted to….I thought that that was kind of an important part.

Avoiding repetition. The writers showed much concern about not being too repetitive in their writing. I observed them searching for synonyms numerous times. For instance, Carla explain that she changed "on the other hand" to "in contrast" because she didn't want to be repetitive. She explained that the importance she placed in avoiding repetition probably transferred from her writing habits in her native language, Portuguese. She explained that in Portuguese, it is important to not be repetitive.

> I think I used it [on the other hand] in a previous paragraph, so I wanted to use a different word. I'm not sure this is something real native speakers of English are worried about. But, in Portuguese, it is not recommended to repeat words all the time. So, we have this habit of trying to change it to synonyms.

Kyung explained also that she searched for synonyms mainly to avoid repetition.

> First of all, the first thing that I can think of quickly is I don't want to repeat the same words over and over again. So, especially some words like "the author suggested, the author pointed out." That kind of variation is needed.

Revising effectively. The writers used various strategies to ensure their revising was effective. The resources they used to accomplish this goal included co-authors and advisors.

Carla, Kyung, Jiyoung all allowed some time to pass by before they revised their text. They explained that they could judge their writing better after some time had passed. However, the writers differed in terms of how much time they allowed to pass before revising their text. Kyung appeared to revise her paper daily. She explained that she re-read her paper from the beginning almost everyday before she began continuing writing her paper. She explained that a downside of using this strategy was that she became tired toward the end of her manuscript and thought her conclusions were not written as well as her introductions.

> Day by day, you feel differences. I think I want to confirm that my revision or my writing the previous day, after some time passed, it still makes sense. I think one downside is that I'm kind of aware among my weaknesses that I have more weak conclusions than introductions. I think the reason is because I'm kind of tired. I read introductions like hundreds of times. If I am in the results section, I still begin with the introduction even if it's reading quickly. Part of the downside is that you have a little bit weaker conclusions because you are tired….

Carla searched for typos and grammar errors after she completed each section.

> It depends on the time I have, but I always like to do it [search for typos and grammar errors] at the end because when I am working on a specific section, my brain is used to that way of writing to those words. My eyes like, they don't see stuff. I like to do it at the end because I recap everything.

Jiyoung revised her paper after each paragraph.

> I tried to find better words for now and then after I finish this paragraph, I go back to the first sentence to read it again and then if it still sounds weird then I change it.

Kyung searched for surface-level errors by reading her writing out loud to herself. This strategy was recommended to her by a faculty at her institution.

> Kyung: But, if I write the whole paragraph, then sometimes, I read out loud to see. One of the faculty here actually advised me, "You might want to read out loud to make sure everything is okay." I thought that was really not applicable for my case 'cause I feel like I don't really know what is smooth and where to start. I'm still not good at knowing that, but still I

feel like reading with my own voice actually helps me. I do that when I finish the whole paragraph.

Researcher: When you read the paragraph out loud, is it helpful more for editing minor things or revising like ideas or like revising grammar?

Kyung: I feel more like minor things.

Kyung also used her intuition to determine whether or not there were grammatical errors in her paper. During our stimulated recall interview, I saw Kyung highlighting a word of her manuscript and pausing. When I asked her about these actions, she replied that she was thinking about whether or not to change the word because she did not think the word sounded right.

> I was not sure, "The procedural principle means the provision of…." To me, it doesn't really sound right. Principle is principle. I feel like principle is some kind of value. I don't know. It's so hard. I just thought the whole sentence is not right.

Xiwang used a strategy to address comments from co-authors efficiently. She scanned all comments first before beginning to address the comments with revisions. She explained that some of the comments were related to each other even though they were in different parts of the paper, so it was helpful to identify these areas of revision that are related.

Xiwang: Before I actually go to revise my paper based on the comments, I usually scan the comments very quickly. I know the comments in this middle part is a little difficult to revise.

Interviewer: Why do you read all of the comments first before you start addressing them?

Xiwang: It makes me have a big idea where I should revise. What problem I have. So, it's easier for me. When I revise from the beginning, maybe there are some connections between the different parts of the paper. That makes me have a very big idea.

Carla revised with the aid of her co-author and two advisors by asking them for their feedback. She explained that she thought another reader, especially one from her area of

expertise, could help her improve her manuscript in ways that she would not be able to do herself.

> Yeah, because whether you're doing things by yourself, we are too tightly closed in that world, so it's really good when someone else can read your works, especially someone else that is knowledge in your area, so I think that they broaden your world. So, feedback makes you see like, "Oh, that's why that's important. You should emphasize that."

Jiyoung used a strategy while drafting that would help her evaluate the content of her writing and change the sequence of her paragraphs easily when she revised at a later time. She wrote in brackets the purpose of each paragraph in front of the paragraph (e.g., "[summarizing results]." This strategy was mentioned under coping strategies as well, as this strategy also helped Jiyoung stay focused.

> So, that's my habit whenever I write something, I put the main purpose of the paragraph, and then when I finish writing, I come back…When I review the whole writing, I just match if the contents is following that main purpose...Especially, in our field, logic flow is really important. And, it's helpful when I change the sequence of the paragraph. So, if I think that summarizing part should go down, then because I saw the purpose of the paragraph easily, I can cut and paste easily.

Receiving good feedback. The writers used strategies to ensure they received useful feedback from co-authors or advisors. Carla's strategy was to include a lot of detail in her draft even though she suspected her advisors would cut some of the details. She explained that she thought it would be better to send a draft with too much detail than too little detail. It was important to her that she explained everything. She also explained that she could still use the parts her advisor cut in her dissertation, so that was another reason why she preferred to have too much detail than too little information.

> I explain each single detail of the study, so I am pretty sure, especially, my American advisor will cut lots of parts, but I want to make sure I explain everything. So, I prefer that they cut me then that they ask me to write

something new. Because actually I will not put anything to trash, I will use it in the dissertation.

Kyung explained a strategy she used to receive good feedback from an editing service she utilized, Scribendi. She explained that customers could choose the type of editors they wanted to review their paper. They could choose editors who specialized in different types of genres (e.g., dissertation or non-fiction writing) or in ESL writing. Kyung said she intentionally did not use the editors for ESL writing because she thought she could receive better feedback by choosing editors who were familiar with a specific genre.

Kyung: Scribendi has whole bunch of different categories. They do have one category for non-native, but I do not use that one.
Researcher: Why is that?
Kyung: They do not really say non-native... It's more like ESL. They don't really specify particular services for non-native academic writers. It's just much more basic.

Xiwang's strategy for receiving good feedback on drafts was to keep track of her changes using Microsoft's Track Changes tool so that her co-authors could see if her revisions were appropriate. She founds the Track Changes feature for other purposes as well, and this is explained in the Meta-Strategy section.

Interviewer: Do you normally track changes when you revise?
Jiyoung: Yes.
Interviewer: Why do you that?
Jiyoung: Because I feel…Maybe sometimes, my strategy of revising maybe it's not very good, so when I have revised my first draft and I have the second draft. I can send to the other person and he can see if it is right and he can give other comments.

Summary of composing strategies. The writers used composing strategies to accomplish 7 sub-goals: developing ideas, drafting papers, organizing ideas, creating

cohesion, avoiding repetition, and revising effectively, and receiving good feedback. They accomplished these goals with the help of advisors and co-authors.

Communication Strategies

Communication strategies are defined in this study as strategies writers use to fulfill communicative purposes for writing. The writers had seven sub-goals related to communication: creating reader friendly texts, persuading, giving power to an author's voice, following genre conventions, meeting readers' expectations, providing relevant information, and improving expression of ideas.

Creating reader friendly texts. The participants had several goals related to creating reader-friendly texts. They had goals to convey their message clearly, help readers predict upcoming text, and help readers understand long sections.

Kyung said that she tried to convey her message clearly to readers by providing topic sentences. She explained that she had to use this strategy because she was not a fluent writer.

> Because I am not a fluent writer, but I want to convey my message as clearly as possible, and one tactic will be in the first sentence I want to give my main idea and then I go more into evidences basis.

Kyung that she sometimes indicated to readers that further explanation was coming by using "in that." She explained, however, that she did not like to use this strategy because she felt it was too wordy and she thought conciseness was important, considering page limitations.

> Here, I thought it should be a bit more concise. Usually, if I have "in that," that's actually for me the easiest way of explaining further. But at the same time, after "in that" there is a full sentence so it actually makes longer in terms of lining, so I wanted to make a bit more concise. I'm not sure to what extent I really did make it concise but I think this is more concise than the previous one.

One of the participants, Carla, explained that she thought her introduction was too long and planned on splitting the introduction into sub-sections in order to make it more reader friendly.

> I think my introduction is a little bit too long…. So, maybe I will have sub-sections inside the introduction to make it more reader friendly or something like that. So, it's not something I'm not doing now. But, I'm pretty sure I will have to do it later.

Jiyoung made sure she didn't have sentences that were too long in consideration of readers. She explained that she tried to split sentences that were longer than three lines. She learned from the writing center than long sentences were difficult to understand and was not characteristic of the way native speakers wrote.

> Interviewer: You said during the last interview that you split sentences that are longer than three lines. I was wondering why you felt that was necessary to do.
>
> Jiyoung: Because when I visited the writing center. At that time, the native speaker indicated that I tend to write long. He said that was…if the sentence is too long, it's hard to understand sometimes. So, like, he mentioned that native speakers don't tend to write this long, four or five lines long. Before, having that advice, I never thought that having five lines could be problematic. But, after I got that advice, I tried to make sentences shorter. And, actually, after fixing that habit, my advisor mentioned to me that my sentences have been better. My sentences improved in terms of explaining something.

Persuading. One of the participants, Kyung, explained a method for persuading readers of the importance of the article's research questions. She explained that having a strong literature review was important because it would support research questions.

> I think you have really solid and strong literature parts, then I think that is actually really important to back up your research question.

Giving power to an author's voice. The participants had strategies for give special recognition to authors they were citing. One of the strategies was to quote them directly instead of paraphrasing. I asked Carla why she had use direct quotations instead of

paraphrasing for one of her citations. She explained that it was to give power to the author's own voice.

> I think it's because I really want to give power to the author's own voice. I think if I would paraphrase it, the words would be too similar and it would be like plagiarizing.

Carla also introduced citations with "according to" when she wanted to give authors more recognition than other authors.

> I think I wanted to use "according to" because the area called it is the subcortical area in the brain, and the older studies, they don't report any subcortical activities because MRI machines weren't like powerful enough to detect activation in these inner areas, so I don't have a lot of paper reporting them. So, I really wanted to give strong voice to the authors. I think the focus, the emphasis, would be on the authors and what they say. I think that's it.

Following genre conventions. The writers explained that the goal of some of their actions were to follow genre conventions of the journal to which they planned on submitting their article.

Carla explained that she had a long introduction, even though she did not seem to like that it was long, because the journal to which she wanted to submit the article did not divide the introduction and literature review into separate sections.

> I think my introduction is a little bit too long. Some journals divide introduction and review of literature. Normally, *Brain and Language*, it's a one piece thing.

Carla explained during our stimulated recall that she didn't use "et al." to cite a particular article because she was following the American Psychological Association style manual, which indicated that all authors' last names should be written out the first they are referenced.

> Yeah, and then I pause because I know that when I have up to five authors….the first time I cite them, I have to put the four, according to APA, all the surnames so that's why I didn't use et al. I used my summary so I had to go back to the article and copied their names as they don't have very easy surnames.

Meeting readers' expectations. The participants said that they tried to meet the expectations of their readers.

Carla said that when writing for experts in her area, she wrote with more technical language and also thought of criticisms experts might make.

> I try to because the kind of reader that will read my work defines the way how I am going to write about it because if I am writing to lay people, I would write it totally different way. If I am writing to reading specialist experts in the area, I have to be more technical. I always have to think of the criticisms they will make because, "Oh, I read in that paper that they are picky about that so I should be sensitive to this one here."

Kyung explained that she tried to be concise in her writing because she thought concision was valued by English readers, especially those in her area of expertise.

> What I kind of realized is that in Korean, if you write more intellectual writing, it tends to became... it can be my subjective conclusion. In Korean sentences, even though you don't specify exactly what it is, the context can let you know what that really means. And sometimes, that type of writing is perceived fancier. So, you will use a lot of "this, they, he's, her, etc." But, in English, especially in my area of writing of statistical testing or more like reporting my results, it seems like they prefer much concision. So, you want to go to right at the center of heart.

Providing only relevant information. One of the participants explained that she had paraphrased articles instead of quoting them directly because she wanted to make sure she didn't include any irrelevant information.

> I think their explanation is too long and I don't need that. The information I need is what…is implicated in. So, I think that's why I paraphrased. Because I already mentioned the….

Improving expression of ideas. One of the participants explained that she re-read and revised her sentences repeatedly in order to improve her expression of ideas.

> I keep revising the sentences to make it better sentence in terms of expression….So, here…in other words, we could understand both how well…I try to say, "we could see.." I started with 'understand' because 'see' and then I changed it again as 'operationalized.'

Summary of communication strategies. The writers used strategies to accomplish six sub-goals related to communication: conveying main message, indicating transitions, persuading, giving power to an author's voice that they cite, following genre conventions, and meeting reader's expectations. Writers accomplished these strategies without the use of resources.

Self-Representation Strategies

Self-representation strategies are defined in this study as strategies writers use to construct and maintain a particular identity, ethos, or persona. Two sub-goals were identified under this category: establishing credibility and sounding professional or academic.

Establishing credibility. The writers used various strategies to establish themselves as knowledgeable researchers whose article was worthy of publication.

The writers explained that they thought it was important to show readers they were aware of existing literature in the field. Carla explained that she could let readers know that she was aware of existing literature by posing relevant research questions.

> I think by reviewing good literature you show that you really are serious and you read literature by posing relevant research questions. Because if you pose relevant research questions, it's because you read the literature and you know the gap to where your study is inserted in.

Kyung explained that she discussed specific topics in her manuscript to show that she was aware of literature on social movement leadership even though it was not her area of expertise. She appeared concerned that readers may view her as an outsider because she was introducing a statistical tool to readers who were more used to qualitative research.

> We have to have it explanation of the sociopolitical context of the Egyptian revolution because the readership will be social movement leadership, and if we don't have it, then they will say, "They don't even know about social movement background and just try to introduce mathematical formula." We don't want to be perceived in that manner

Another way that Kyung established herself as an insider was to use technical vocabulary from the field.

> Before getting into writing, I try to read related literature because it reminds me of the technical vocabulary. I try to borrow and adapt those vocabulary into my manuscript. I think that is also a way to establish yourself so that you can show that you are familiar with those vocabularies and important topics.

Kyung explained a strategy she used to establish authority. Her strategy was to let readers know that her research was part of a larger project when possible.

> Sometimes, what I do is if it is the project from like bigger project, then sometimes I the more detail about…so, you kind of introduce what the context of the study and then I think it's about establishing my authority I kind of give them the more description about the project, "This is part of a big project and the more projects will be available here." And here of course it's blank at this point because the reviewer does not want to have it. When I read other literature, I kind of realize, when they say about that, then this one is much more bigger project, then maybe it was funded by somebody else. If that is the case, I sometimes have that one sentence.

Carla explained that one of the reasons she paraphrased was to show readers that she had analyzed the readings.

> I think it's really boring when you have a text full of direct citation all the time. It means that…for me, it seems that you are just like sewing parts of text to make a thing, and it's something that you don't put your voice. You don't show that you analyzed stuff. So, I think it's good to use direct citation, but I prefer to paraphrase when I can to try to give my understanding of the text.

Sounding professional or academic. The writers explained that some of their actions were taken to sound more professional or academic.

Kyung paraphrased because she thought it was more professional to paraphrase than to use too many direct quotes. I observed her changing a quoted text into a paraphrase, and I asked her why she did this. Her reply was,

> I think it's just not too unprofessional…just providing and then saying, "This is communicative."

Kyung also explained that she felt being concise was important because wordiness would not appear professional.

> I feel like having words "in that, those, there." Those words, if I have too many, then it doesn't look very professional.

Carla explained that she used tools for looking up words because she wanted to sound more academic.

> It's something my previous co-advisor said that we always have to look for academic sophistication. So, she always told me, "You have the grammar you need. You just need to embellish a little bit before your way of writing." So, I think that's something that…I always look for words to try to sound more academic or something like that. I use more word tools and not like grammar tools because I think grammar is fine. I've been speaking English for 21 years so I think grammar is okay.

Summary of Self-Representation Strategies. The writers had two sub-goals related to self-representation: establishing credibility and sounding academic or professional. Writers did not use any physical resources to accomplish these goals.

Meta-Strategies

Meta-Strategies are defined as strategies writers use to manage their strategies so that the strategies can be carried out efficiently and effectively. Two sub-goals were found under this category: making writing process more efficient and managing strategies.

Making writing process more efficient. Both writers thought of ways to make their writing process more efficient. Carla wrote on her process log that she stopped to think of

ways to make her writing process less difficult. When I asked her about this, she explained that she evaluated her writing process when she found herself spending too much time on a section.

> Yes, especially when it takes too long. Sometimes, I stay one day in one subsection like I get crazy. I cannot do that. You have to do it faster, then I go back and see, "Oh, it's missing this and that." Then, I use table and then I use another outline or something. I always try to make the thing more efficient, more profitable.

Kyung also used strategies to make her writing process easier. She explained that if she had the overall ideas of the paper already written down, her writing process was easier.

> So, if I have enough background idea already set up then the whole process gets way easier.

Managing Strategies. The writers had strategies for their strategies. For instance, one of Kyung's strategies was to highlight text that she wanted to fix at a later time. She needed to distinguish the kind of revisions she needed to make, so she highlighted the texts in different colors.

> So, I think yellow is more like technical issues. I don't think these particular revisions have it. But, I sometimes use different highlights, so like red highlight or blue highlight. If I use different highlight, then that actually means it does need revision. It does need to be revisited, but I will do that later because it takes more time. So, sometimes, I use different highlights with different color, but for this case, because every part I was not happy, so if I do red highlight, it's gonna be everywhere. So, yellow highlights are more like technical things, and I will revisit later. I don't do that at this point because that interrupts my thought process.

As another example, one of Carla's strategies was to copy her results section below her discussion section so that she can use her results section as an outline as she wrote her discussion section. In order to avoid confusing the results section she had copied over

temporarily with her manuscript, she used a different font for the temporary results section.

> That's why I keep the font different, so I don't get confused and maybe think that's part of my text when it's not.

Xiwang had a strategy for helping her to not forget her own ideas when she knew she had to use her strategy of referring to other articles to develop her paper.

> Xiwang: I think this semester I prefer to write this section first by myself, and then revise my part by reading other people and how they write their paper.
> Interviewer: Is there a reason why you prefer to do it that way?
> Xiwang: Because, I feel sometimes that if I look at other people's paper first, sometimes I may just forget my ideas.

Xiwang had another meta-strategy for one of her coping strategies. One of Xiwang's coping strategies was to revise easier issues first and difficult ones later. She needed a way to keep track of which revisions she had completed and which ones she had to do later. In order to do this, she highlighted texts that needed to be revised later and also used Microsoft's Track Changes tool to keep record of her revisions. She explains how tracking changes helps her:

> Using this paper as an example, I have many comments here. Some comments are very easy to solve, and other comments I need to go to the literature and find something and come back here to add some sentences. So, actually some comments I have solved but others I still need time to revise. If I don't track my changes, then I don't know which one I finished and which one I didn't.

Summary of meta-strategies. The writers used meta-strategies to accomplish two sub-goals: making writing more efficient and managing their own strategies. Writers did not use any physical resources to accomplish these goals.

Publishing Strategies

This category of publishing strategies was added during data analysis. As I was categorizing writer's goals, I found the writers had goals specifically relating to publishing journal articles. These goals did not fit into other categories. Four sub-goals were found under this category: pleasing reviewers, matching journal style, writing a publishable article, and avoiding plagiarism.

Pleasing reviewers. The writers used strategies to please reviewers so that their papers could get published. This goal was mentioned by Kyung and Jiyoung, who were revising a manuscript that had already been reviewed by a journal and had received a "revise and resubmit" decision.

One of their strategies for pleasing reviewers was to revise their manuscripts to reviewers' liking. Kyung's revision for the manuscript consisted mostly of responding to the reviewer's comments, and this was reflected in her process logs and in our interviewers. For instance, she explained that she added more theoretical perspectives into her manuscript because one of the reviewers had suggested it.

> Now, from this paragraph is a new edition because they [reviewers] wanted me to put more theoretical perspective so I kind of tried to add theoretical perspective and those are completely new portion in the second revisions.

Another strategy Kyung used was to think of the research background of the reviewer based on the reviewer's comments. She revised her manuscript according to what she thought the reviewers from a specific field might value.

> I see one of the reviewers is actually from the social movement scholar. I think I get a sense of that, so in a way, even though my description was a bit superficial, but by providing about the knowledge that I know, I think they kind of think, "This is a very, you know, not a conventional approach, but she knows what this field is about…"

Matching journal style. The writers said they thought it was important to write a manuscript that matched the style and tone of the journal.

Kyung expressed much concern about the tone of her writing not matching the tone that potential reviewers might expect. She explained that quantitative and qualitative researchers wrote in different styles. She thought that her writing style matched that of quantitative researchers but her audience would be more familiar with qualitative research, which required a more descriptive writing style.

> I think it [my paper] is a mathematical modeling applied to a social movement literature, which is very descriptive. So to me, before going up to mathematical modeling part, the tone is really in line with existing social movement literature and that tone is boring. I don't know how to put it in the right manner, but it is really boring partly because I am introducing a mathematical model and not really going into a glandular explanation about Egyptian revolutions.... I'm not sure about your area, but in communication, we are so interdisciplinary, so some are really quantitative and some are really qualitative. I had another paper that was rejected like multiple times and I just couldn't understand why, but as I study more and as I read more, I got a sense. Okay, this is about social protest and social movement, so naturally that manuscript is sent to the reviewer who is in that field. Let's say 80% or 90% of the scholars in that field are qualitative researchers, and my writing style and my analytic technique was just following the traditional statistical writing process. From that perspective, it's not what they want to take a look.

Kyung chose references that she thought would fit the journal to which she planned on submitting her article. She explained that she emphasized different topics in her manuscript and chose which topic to emphasize based on the journal to which she submitted.

> When selecting the reference, the scholars that I want to cite, I think….So, for the surveillance issue, there is a whole bunch of cultural studies on surveillance and there's another studies on more like positivistic, like strategic approach to surveillance, so there's like two factions. And then I think I try to select which one should be more emphasized for this particular journal. I think that is more strategy of fit to the journal.

Kyung said that she chose to use either in-text citation or parenthetical citation depending on the journal's requirements.

> Not specifically a strategy, but I prefer generally this [in-text citation] because I feel like that makes rephrasing what the original author says. But, some journals much prefer this type [parenthetical citation]. So, if the journal prefers that, then I go with it. For me, it sounds more like technical writing because you actually repeat in a way what he says. But this one is more like creative kind of rephrasing or reinterpretation. I use both, but this paper, it's a more theory grounded manuscript, so it doesn't really doesn't specify you want to go with that.

Carla explained that she felt her manuscript was too long and wanted to make it shorter because the journal seemed to have shorter papers.

> Carla: The way I present my results probably it's not really into what the journals I will try to send because I present every single result I have, and what I noticed from…I intend to publish in Brain and Language and as I can see from the papers they publish is that they are shorter papers and they focus on [novel] specific parts of your study. As you will see in the Word file, I explain each single detail of the study.
> Researcher: So, are you planning on shortening your paper?
> Carla: Yes, because I don't want to be rejected.

Writing a publishable article. Kyung explained the qualities of a publishable article and what writers needed to do to publish. She said that she tried to have an argument in her article to make her article more appealing for publication. She explained that she used to try to take a neutral stance when she first began writing for publication, but she realized that it was better to make an argument in her article. Because of this, she tried to create a stronger voice in her conclusion.

> In terms of…I think it might be related, but I try to somehow be neutral writing introduction and literature, but the study design usually use "we or I" or that kind of things, but in conclusion…this is pretty much a recent kind of strategy for me, but before, I thought, "This is an empirical article, and I have to be objective as I can." But, I think my perspective changed toward, this is ultimately my argument, so that if I give my voice into…then that is more appealing. That was sort of my transition in perspective, so in conclusion, recently I tried again a little bit more…having more stronger voice.

Kyung explained that she thought having a solid literature review and good research questions were important for publishing an article. She explained that she thought these parts of a research article were more important than the method.

> As a reviewer—because I review others' articles, too—I think every section is important, but I think the first criteria is whether that person did enough homework. So, the research hypothesis is incredibly innovative and novel, which is good, but I personally think that the better article—I mean, from the reviewer's point of view when I grade—you do need to show the reader that you are well enough aware of what are the pre-existing literature. I think you have really solid and strong literature parts, then I think that is actually really important to back up your research question. So, although in the method, if you have some problem, you cannot have perfect study anyway; every paper has limitations and problems, but that can be…I feel I am more generous about that because the motivations and reason that the person does this study is well grounded. I feel like the connection between my homework, my own study, my own inquire about what really happened in terms of academia, and matching that to your own research question is very important.

Avoiding Plagiarism. Two of the participants explained strategies for avoiding plagiarism. Carla, in particular, showed much concern over plagiarizing unintentionally, as she mentioned this goal repeatedly in our interviews. She explained that this concern came from her advisor who also paid much attention to plagiarism issues. She used four different strategies to avoid plagiarism.

Her first strategy was to quote articles directly instead of paraphrasing when she thought paraphrasing would lead to a sentence that was too similar to the article.

> I think if I would paraphrase it, the words would be too similar and it would be like plagiarizing.

She searched for synonyms when paraphrasing to avoid plagiarism. I saw her search for synonyms frequently, and I found that one of her goals in searching for synonyms was to avoid unintentional plagiarism. Her other goal was to avoid repetition, as mentioned previously.

> I didn't use want to use 'type' because it is the word that the author used there so I don't want to be plagiarizing.

Carla also avoided unintentional plagiarism by re-reading articles whenever she referenced them to make sure she represented the article's ideas well. During a stimulated recall interview, she explained that she had looked at an article briefly because she was mentioning a term from the article and wanted to make sure she cited it accurately. I asked her if she always referred back to articles when citing, and she replied that she did.

> Carla: I think now I forgot to stop. And I looked at a paper about a specific region. Because I think I will use prosodic memory retrieval if I'm not mistaken.
> Researcher: So, whenever you want to cite, do you usually go back to that paper?
> Carla: Yes. I really want to make sure that I'm citing the correct thing. Yes, and I do it again when I construct the reference list.

Carla also double-checked her reference list and citations to ensure that she had wrote them accurately.

> Yes, when I finish the first part and then I construct the reference list. I think I have already some references in the version I sent you. But, before you called me, I was double-checking all the references the ones I included after to check for accuracy. I am very worried about being wrong in this stuff because my advisor here at home is really into plagiarizing and all this ethical issues, so like she always suggests and recommends pay double attention to these things.

Jiyoung said she was careful to not draw from journal articles too frequently when developing ways to express ideas in order to avoid plagiarism. She explained that it was difficult for her to distinguish commonly used expressions from expressions that are more unique to an author.

> As to results and method section, the terms that I can use are very limited. For example, I can use 'support' 'find' 'show' etc. Though I attempt to write better sentences, I'm frustrated when the sentences look similar. I refer to other references, but I'm afraid of reading other literature too much because of any possibilities of plagiarism. I try not to follow other authors' writing styles, given

that I'm not a native speaker, I can't catch if those sentences are just a plain English or the authors' unique writing styles.

Summary of publishing strategies. Writers used strategies to accomplish four sub-goals related to publishing: pleasing reviewers, matching journal style, writing a publishable article, and avoiding plagiarism. They did not use any resources to accomplish these goal.

Summary of Chapter 4

The results of the study indicate that writers' strategies can be categorized using the classification system introduced in Chapter 2, with the addition of a category, publishing, which was added during data analysis. The writers in this study were found to have many sub-goals related to coping, learning, composing, communicating, self-representation, meta-strategies, and publishing. The writers accomplished their goals using an array of strategies, and their strategies often involved the use of various resources. Table 4.1 below provides a summary of writers' goals and resources. The figure does not include writers' actions as there were too many different actions taken by writers to include in a table. The next chapter highlights differences in writers' actions and use of resources for accomplishing similar goals and presents an analysis of the various factors that might explain differences in writers' strategies.

Table 4.1
Writer's Goals and Resources Used to Accomplish Goals

Coping Strategies
Sub-goals
Sub-goals related to internal constraints
avoiding losing train of thought
managing affective state
overcoming writer's block
avoiding mistakes
managing limitations in writing ability

managing limitations in language proficiency
translating ideas formulated in native language
using unfamiliar words accurately
checking collection of words
checking potentially awkward expressions
finding synonyms
recalling words
finding spelling
distinguishing correct and incorrect use of vocabulary
coping with inability to solve grammatical problems independently

Sub-goals related to external constraints
saving time
managing large amounts of information
acquiring data
receiving funds for research
managing page limitations

Resources used to accomplish goals
online corpus of bilingual texts (linguee.com)
online bilingual dictionaries (naver.com)
thesaurus (thesaurus.com)
online monolingual dictionaries (oxforddictionary.com)
Google
Microsoft's synonym tool
collocation dictionary
editing services (Scribendi, SPi)
advising professors
co-authors
Microsoft's auto Spelling and Grammar check tool
Microsoft's Find tool

Learning Strategies
Sub-goals
developing vocabulary and expressions
developing professional language
learning organization
learning meaning of words
comprehending information in articles

Resources used to accomplish goals
reading materials
news radio channels
Google as a corpus
dictionary applications on computers

- online corpus of bilingual texts (linguee.com)
- online bilingual dictionaries (wordreference.com)
- online monolingual dictionaries (wordreference.com, oxforddictonary.com)

Composing Strategies
- Sub-goals
  - developing ideas
  - drafting
  - organizing ideas
  - incorporating ideas
  - creating cohesion
  - avoiding repetition
  - revising effectively
  - receiving good feedback
- Resources used to accomplish goals
  - co-authors
  - advisors

Communication Strategies
- Sub-goals
  - creating reader friendly texts
  - persuading
  - giving power to an author's voice
  - following genre conventions
  - meeting readers' expectations
  - providing only relevant information
  - improving expression of ideas

Self-Representation Strategies
- Sub-goals
  - establishing credibility
  - sounding professional or academic

Meta-Strategies
- Sub-goals
  - making writing process efficient
  - managing strategies

Publishing Strategies
- Sub-goals
  - pleasing reviewers
  - matching journal style
  - writing a publishable article
  - avoiding plagiarism

CHAPTER 5

VARIABILITY IN WRITERS' USES OF STRATEGIES: INFLUENCE OF CONTEXTUAL FACTORS AND THE ROLE OF AGENCY

This chapter highlights differences observed in writer's goals and strategies. The chapter also presents my analysis of the variables that influenced writers' goals and strategies, which may shed some insight into why participants' had had different goals and strategies. The variables identified in this section come from analyzing the reasons that the participants gave for why they had certain goals or used certain strategies. It should be noted here that some of the variables presented in this chapter might help explain differences in the strategies of the three writers who participated in this study. However, other variables do not explain differences in the strategies of writers in this study, such as writing in an L2 (all of the writers wrote in their L2). My intention was not to specifically look for variables that lead to differences in writers' strategies but to examine how their writing goals and strategies were influenced by various factors.

This chapter consists of four sections. The first section provides examples of differences in writers' goals and strategies. The second and third sections describe the variables that influenced writers' goals and the variables that influenced writers' strategies. The fourth section provides examples of actions writers took that were not for the purpose of accomplishing a writing goal but other goals (e.g., following tradition).

Differences in Writers' Strategies

The writers in this study used strategies that differed from each other in a number of ways. When focusing on writers' goals only, or actions only, or resources only, the writers appear to compose in similar ways. They had similar goals, took similar actions,

and used similar resources. However, when examining writers' strategies holistically by considering how each goal was accomplished with a specific action (or non-action) and resource (i.e., strategy equals goal plus action plus resources), much variation can be seen in writers' use of strategies.

For instance, the writers took similar actions but for different purposes. I observed Kyung and Xiwang both highlighting areas of their manuscript that they wanted to revise at a later time. When I asked them why they did not make the revisions immediately, they gave different goals for using this strategy. Kyung did not address certain areas immediately because she did not want to lose her train of thought. Xiwang said she highlighted areas that were difficult to revise because she wanted to first revise issues that were easy to address. She took care of the easy revisions first because she liked the feeling of having completed many revisions at the end of the day.

> Kyung: Because I want to follow my thought process and by just having yellow highlighted, I kind of….okay, I'm not thinking about it at this point, and I just go with the flow that I am currently at…and then after a while, if I need to deal with those things, then I don't have to read from the first to the end…that time I can go directly to it.
>
> Xiwang: Because I feel that if I revise the easy ones first, it makes me feel, "Oh, I have revised many things today." If I revise the difficult ones, I have to spend some extra time. I have to go back to the original data and other information. That's a lot of work. I hope I can finish other things in one day.

The writers used similar resources but used the resources to accomplish different goals. For instance, all participants worked with colleagues or co-authors but for very different reasons. Kyung explained that she often invited native-speaker students or colleagues to be co-authors in order to receive help with language-related issues. Carla mentioned in an interview that she did not think she had much issues with language

proficiency, so it is unlikely that she had invited a co-author to receive help with language-related issues. She explained that her co-author's role was to analyze data. Xiwang, on the other hand, said her advisor had introduced her co-author to her because she needed someone who knew how to do qualitative research and describe qualitative research in an article.

> Kyung: Once I write a first draft and before submitting to a first round of review what I do is I ask my students or one of my colleagues. If I have an American speaker, a native speaker, as a co-author then I have no problem because they will…so usually if you see my manuscript the last author is usually native speakers. Major reason why I have the last speaker as native speakers is the author is not really deeply involved into the whole process of project but what they mainly do is really about editing and proofreading, so if I have that co-author, then I don't really have to worry about those language aspects.
>
> Carla: She [co-author] just helped like analyze the scripts, like the mathematical part of it.
>
> Xiwang: I told my advisor, maybe compared with quantitative analysis, I'm more interested in qualitative analysis. Maybe that's the reason my advisor recommended my second author to me. He [my co-author] step-by-step told me how to do the analysis and also he is very helpful for teaching me how to use your data to answer the questions.

Writers also took similar actions to accomplish similar goals, but they used different resources. Both Kyung and Carla searched for example sentences in order to understand how to use words in a sentence. Carla searched for example sentences in English dictionaries, specifically an online Oxford Dictionary. On the other hand, Kyung explicitly stated that she did not use dictionaries to find example sentences. She used Google to find example sentences. She only used English dictionaries when she did not understand the meaning of a word.

> Carla: Yes, Oxford Dictionary always provide example sentences. Especially, when you don't know the collocation or the preposition you're going to put, if it's "in, on." So, I always look up there.

Kyung: I don't use dictionaries to specifically find example. I use Google to do that, but when I read dictionary, I always read the examples.

The writers used similar resources to accomplish like goals, but the writers took different actions with the resources. For instance, Kyung, Carla, and Jiyoung used reading materials from their discipline to develop professional language for their writing. However, their actions differed greatly. Kyung read a lot of readings from her discipline before she began writing while Carla found models and studied them. Jiyoung wrote down useful expressions from articles in an Excel sheet.

Carla: When I am reading a paper that I really like…like I am re-reading a paper… sometimes, I re-read just to look for language…check the way they organize the paper, the way they explain stuff. So, I really try to follow models.

Kyung: Before getting into, I try to read related literature so that I kind of…it reminds me of the technical vocabulary, so I try to borrow and adapt those vocabulary into my manuscript.

Jiyoung: In my Master's program and in my first and second year, if I saw some expression, then I wrote every single thing in the Excel file. I try to memorize that. Sometimes, in my first or second year when I practiced writing, I kind of force myself to use those terms or phrase that I wrote on my Excel file into my writing so that I can kind of memorize them.

In summary, the writers in this study were found to differ greatly in their use of strategies, when considering a strategy as a combination of a goal, with an action (or non-action), and a resource (or non-resource). In other words, the writers had similar goals, took similar actions, and used similar resources. However, the combination of writers' goals, actions, and resources were different. Table 5.1 summarizes some differences in the combination of writers' goals, actions, and use of resources.

Table 5.1.
Examples of Differences in Participants' Strategies

Goals	Actions	Resources
Different	Same	(not used)
(e.g., Two writers highlighted text that they wanted to fix at a later time. The goal in doing this for one writer was to avoid losing her train of thought and for another it was to manage her affective state by revising difficult issues later)		
Different	Same	Same
(e.g., All writers sought assistance from colleagues or co-authors. The goal in seeking assistance for one writer was to receive help with language issues, for another it was to receive help with data analysis, and for another it was to receive help conducting qualitative research.		
Same	Same	Different
(e.g., Two writers learned how to use words in a sentence by finding example sentences, but one used Google to find example sentences and another used English-English dictionaries.		
Same	Different	Same
(e.g., Two writers developed professional language using reading materials from their discipline, but one read many reading materials and the other studied a few models.		

Variables Influencing Goals

The writers' goals were influenced by a number of variables. A total of nine variables were identified to have influenced writer's goals: advisors, inter-disciplinarity of writers' fields, the journal to which they submitted their manuscripts, perceptions they had about the qualities of good writing, experience writing in their first language, writing in an L2, perceptions about their own proficiency level, perceptions about the attainability of certain goals, and the amount of experience writers had publishing in journals.

Advisors influenced the goals of Carla. She mentioned her advisor several times throughout our interviews as having influenced her goals. For instance, she mentioned that the reason she was extremely careful to avoid unintentional plagiarism was that her

advisor had also been very careful about such issues and recommended her to do the same.

> But, before you called me, I was double-checking all the references, the ones I included after to check for accuracy. I am very worried about being wrong in this stuff because my advisor here at home is really into plagiarizing and all this ethical issues, so like she always suggests and recommends pay double attention to these things.

The interdisciplinarity of the writer's area of study lead to the formation of some goals. For instance, one of Kyung's goals was to establish her credibility among readers whose research focus differed from her slightly. She explained that because her field was interdisciplinary, it was important for her to write in a style that matched the background of the journal's reviewers.

> I'm not sure about your area, but in communication, we are so interdisciplinary, so some are really quantitative and some are really qualitative. I had another paper that was rejected like multiple times and I just couldn't understand why, but as I study more and as I read more, I got a sense. Okay, this is about social protest and social movement, so naturally that manuscript is sent to the reviewer who is in that field. Let's say 80% or 90% of the scholars in that field are qualitative researchers, and my writing style and my analytic technique was just following the traditional statistical writing process. From that perspective, it's not what they want to take a look.

The journal to which writers planned on submitting their articles influenced goals as well. As mentioned in the previous chapter, writers had goals to match the style and tone of specific journals. For instance, Carla explained that she wanted to shorten her introduction in order to match the style of the journal to which she planned on submitting her manuscript.

> Carla: The way I present my results probably it's not really into what the journals I will try to send because I present every single result I have, and what I noticed from…I intend to publish in Brain and Language and as I can see from the papers they publish is that they are shorter papers and they focus on [novel] specific parts of your study. As you will see in the Word file, I explain each single detail of the study.

> Researcher: So, are you planning on shortening your paper?
> Carla: Yes, because I don't want to be rejected.

The writers' perceptions about what constituted good writing influenced their goals. For example, Kyung stated a few that being concise was a quality of good writing. She said being concise was important for managing page limitations given by journals, sounding professional, and meeting expectations of English readers. When she was not able to be concise, she expressed that her writing was not good. To her, a manuscript that met those goals constituted good writing.

> The article does not have good writing in my opinion. Maybe the sentences can be short, but the sentence itself does not really have compact meaning in it. I kind of feel like many part of that is like that but I just cannot help it any longer.

As another example, one of Carla's coping goals was to manage limitations in her writing ability. She did this by seeking feedback from her advisor and co-authors on her writing. Her realization that she needed to cope with her writing ability came from her perception that her manuscript was not "well-written".

> I think it's not very well-written. I think I need some feedback. I will send to her and then I'm going to send to my second-author, which is the Chinese girl who helped me in analyzing the data, and probably after working that, I'll probably send it to my Carnegie Mellon advisor.

The writers' experiences writing in their first language influenced their goals as well. For instance, Carla explained that her goal of avoiding repetition in her writing was influenced by her writing habits in her native language, Portuguese. She said that in Portuguese, not being repetitive is important.

> Yeah, because it sometimes gets tiresome to read all the same words, so I like to diversify. I think it's also because I'm a Portuguese native speaker. In Portuguese, we never repeat words. We try to look for synonyms and different ways of saying the same thing. And like people living in the U.S. don't have this worry, so they are always repeating themselves.

Writing in an L2 also played a role in the formation of goals. Many of the writers' goals involved coping with limitations in their L2 proficiency. For instance, both Carla and Kyung had formulated ideas at times in their native language and had to translate them to English. Carla explained that she used Linguee when she had formulated ideas or sentences in her L1 and needed to translate them into English.

> The Bilingual one, Linguee, I just use like when I have something I want to say in Portuguese and I don't know how to express that in English, so I always use it because it gives you parallel translations so you can really check things are said normally, naturally, so it helps.

The writer's perceptions about their proficiency level influenced their goals. For instance, Carla explained that she did not focus too much on grammatical issues because she did not think she had much issues with grammar.

> It's something my previous co-advisor said that we always have to look for academic sophistication. So, she always told me, "You have the grammar you need. You just need to embellish a little bit before your way of writing." So, I think that's something that…I always look for words to try to sound more academic or something like that. I use more word tools and not like grammar tools because I think grammar is fine. I've been speaking English for 21 years so I think grammar is okay.

The writers' previous feedback on writing influenced the type of goals writers had as well. For instance, Jiyoung explained that she was told in the past that she used "weird expressions" that non-native speakers do not say. For this reason, Jiyoung tried to avoid using these unusual expressions by checking if native speakers used certain expressions she wanted to use.

> I heard that I use a lot of weird expressions. Native speakers never use that kind of expression, so I realize that if I want to use some expression but if I'm not sure, if I'm not confident of using that, then I try to Google that expression if native speakers commonly use that terms or phrase. If I cannot find it, then I don't use it.

The writer's perceptions about the attainability of certain goals played a role in writer's goals. For instance, Carla explained that she did not think it was possible for her to ever be recognized as a native speaker. Because of this, she did not have a goal to sound like a native-speaker. Her goal was to write in a way that native speakers could understand her.

> I really think that the language you speak as your mother tongue really shapes the way you think and the way you organize your thoughts. So, I think I will never be recognized as a native-speaker. You know because you probably spoke Chinese too. So, you probably feel the way I feel because we will never be recognized as a native speaker of English. We always try to sound like one, but we have to be realistic that we can never reach that. So, I really think that I want to write in a way native-speakers will understand me. They don't need to recognize me as a native-speaker, but I want their reading to flow, like to be easy way of reading… reader friendly, something like that. So, I think we need to be realistic.

The amount of experience writers' had in publishing also played a role in writer's goals. Kyung was the most published writer among the three participants, and she often referred to past publishing experiences as she explained how she had come to form certain goals. For instance, a previous rejection of a journal lead to Kyung's concern over whether or not the tone of her article matched the journal.

> I'm not sure about your area, but in communication, we are so interdisciplinary, so some are really quantitative and some are really qualitative. I had another paper that was rejected like multiple times and I just couldn't understand why, but as I study more and as I read more, I got a sense. Okay, this is about social protest and social movement, so naturally that manuscript is sent to the reviewer who is in that field. Let's say 80% or 90% of the scholars in that field are qualitative researchers, and my writing style and my analytic technique was just following the traditional statistical writing process. From that perspective, it's not what they want to take a look.

Kyung also explained at times that her goals had changed from when she first began writing for publication. For instance, she used to try to sound neutral in her writing, but she realized that having a stronger voice was better.

> This is pretty much a recent kind of strategy for me, but before, I thought, "This is an empirical article, and I have to be objective as I can." But, I think my perspective changed toward, this is ultimately my argument, so that if I give my voice into…then that is more appealing. That was sort of my transition in perspective, so in conclusion, recently I tried again a little bit more…having more stronger voice.

Time constraints also influenced writers' goal. In particular, the writers seemed to focus less on learning and more on completing their tasks. For instance, Jiyoung explained that she didn't use her learning strategy of writing common expressions down on an Excel sheet because she didn't have time to do that. She said that to overcome difficulty with vocabulary when writing, she used thesaurus.com. In other words, Jiyoung employed learning strategies when she had more time and used coping strategies when she had less time.

> Interviewer: So, you wrote on your process, "Due to my lack of vocabulary, I tend to write similar sentences with repetition." So, what do you do to overcome this challenge?
> Jiyoung: Instant solution. I try to look up… I use thesaurus.com a lot to find some other expressions. But, that's just the instant solution. In general, I try to read a lot articles in my field to learn, especially certain topics, if I write about leadership, then I try to read a lot of articles. What kind of words other authors use. What kind of expression they have…In my Master's program and in my first and second year, if I saw some expression, then I wrote every single thing in the Excel file. I try to memorize that. Sometimes, in my first or second year when I practiced writing, I kind of force myself to use those terms or phrase that I wrote on my Excel file into my writing so that I can kind of memorize them.
> Interviewer: Do you still do that?
> Jiyoung: I don't think I do that anymore because I don't have enough time.

Variables Influencing Strategies

Writers' strategies were influenced by a number of variables. A total of 11 variables were identified as having influenced writer's strategy. The variable identified were availability of resources, ease of using a resource, financial concerns, familiarity with discipline-specific language, language medium in which writers received training,

personal preference, past experiences with resources, perceptions about the effectiveness of resources, awareness of strategies, rhetorical exigency, task difficulty, and other ongoing writing projects.

The availability of resources influenced which strategies writers used to accomplish their goals. For instance, Kyung explained that she sought assistance from her husband or her friend when she could not find a native-speaker to co-author her paper with her.

> If I have that co-author, then I don't really have to worry about those language aspects. But if I don't have it or if that person is not like perfectly credible, then what I do is, I ask my husband, who has a Master's degree and who knows publication process a little bit and who is a bilingual and knows my weaknesses of a Korean speaker. So, he will take a look mostly or I have good friend, and she will also take a look for free.

Somewhat related to availability of resources, the role of various people involved in the writing task (e.g., evaluator, co-author, etc.) influenced writers' strategies because a person's role determined whether or not the person could be a resource. For example, Jiyoung explained that she thought it was okay to expect her advisor to fix her awkward English sentences in the research article they were co-authoring, but she didn't think it was okay to expect that for her dissertation paper. She explained that she used the writing center to receive help with dissertation.

> Interviewer: In the process log, you wrote that if you don't have time, you send a draft to your advisor and that you feel guilty if they have to fix your awkward English sentences. So, do you expect that they will fix your English sentences?
>
> Jiyoung: Yeah. For example, if it is the dissertation, then it's my job. So, I would rather hire someone to fix my English or I would go to writing center if it's my own job. But, if it is the journal article, then we are all the co-authors on the job, so in that case, I feel less guilt because it's all our responsibility. I feel guilt, but at the same time, writing is not my own responsibility.

The ease of using a resource played a role in writers' choice of strategy. For instance, Carla explained that she owned a print collocation dictionary, but she more often used the Internet to learn collocations because the Internet was faster.

> I have a collocation dictionary, a printed one, for ESL learners, but I normally use the Internet because it's faster.

Related to ease of using a resource, the writer's language proficiency seemed to influence their strategies because some resources were more difficult to use than others depending on their language proficiency. For instance, Jiyoung explained that she did not like to use monolingual English-English dictionaries because she found it tiring and time consuming to read definitions in English.

> Interviewer: The reason you're using a bilingual dictionary instead of a monolingual dictionary, is it for efficiency purposes like you've mentioned before? Is there another reason?
>
> Jiyoung: Well, I think it's more for convenience. I'm not sure if you get this as a native speaker, but for me, using the English-English dictionary, the monolingual dictionary, that definitely gives me more burden. I have to think twice. It's more tiring. So, it's way easier… For me, even writing in English research journal is a big thing. But, if I have to look up the words by using the monolingual dictionary, that is going to be another challenge or another time consuming thing.

Additionally, writer's perceptions about their own language proficiency influenced the strategies writer used or didn't use. For instance, Jiyoung explained that her English has improved and she is able to distinguish common expressions for unique styles of writing better than before. However, she also said that she didn't trust her English proficiency enough to borrow expressions freely from other articles.

> I think my English got much better compared to before, I kind of know those phrases are unique phrases of that author. Now, I can kind of distinguish if it is plain English or unique English. I can do that much better than the past. Still, I don't believe myself that much.

Financial concerns seemed to play a role in one of the writer's strategies, Kyung. She only hired professional editing services after receiving some positive feedback from journals because she did not want to spend money on an article that had low chance of publication.

> If you're hiring editors in the first round of manuscript, then acceptance rate is like 20% and if it is good then 30%. It's totally gambling. I don't want to spend whole money for that, especially if you do the first round and if they ask you for major revision for the second round, then I restructure every manuscript and re-analyze everything and I have to hire another. It's going to be too much. In terms of the cost benefit, it's just too much...

Other ongoing simultaneous writing projects influenced the strategies of one of the writers, Carla. At the same that Carla was writing an article for publication, she was also completing her dissertation on the same research study. This situation influenced her strategy for receiving good feedback from her advisors. When she gave her article to her advisors for feedback, she knew that her paper had more detail than necessary for a journal article. She also knew she would have to eventually shorten her article. However, she chose to leave all of the details when she gave her manuscript to her advisor for feedback for two reasons. The first reason was to accomplish her goal of receiving good feedback from her advisors. The second reason was that she knew she would eventually use everything in her manuscript even if her advisor cut it because the deleted parts would go into her dissertation.

> The way I present my results probably it's not really into what the journals I will try to send because I present every single result I have, and what I noticed from…I intend to publish in Brain and Language and as I can see from the papers they publish is that they are shorter papers and they focus on [novel] specific parts of your study. As you will see in the Word file, I explain each single detail of the study. I am pretty sure, especially, my American advisor will cut lots of parts, but I want to make sure I explain everything. So, I prefer that

they cut me then that they ask me to write something new. Because actually I will not put anything to trash, I will use it in the dissertation.

Familiarity with discipline-specific language played a role in the strategy of one of the writers. Among my participants, Kyung has published the most articles and has been writing for publication for more years. She stated that she was already familiar with discipline-specific terms and had more trouble with "layman's language." Because of this, she explained that she did not look up example sentences in discipline-specific literature but used Google instead.

Researcher: You said you usually use Google to find example sentences. At least from I've seen, it didn't seem like you looked up the words in discipline specific literature. Is there a reason for that?

Kyung: I think maybe it's because of my field, communication. I don't know if…communication isn't like biology or chemistry, so I think many part of the language that we use are not much deviated from layman's language. Maybe that's part of the reason. Maybe another reason can be, I'm not sure, but I'm so familiar with the technical terms. For example, 'agenda' in communication is closely related with the agenda setting field. When we talk about 'agenda', we know that this word is not just 'agenda' for meetings but agenda setting theory. So, I think that kind of distinction, I'm already familiar. For me, the more problem really is with how laymen write. I think that is more difficult for me.

The language medium in which writers received training played a role in one of the writer's strategies. Kyung explained that she sometimes drafted her ideas in English and sometimes in Korean depending on whether she was writing on "technical" topics or philosophical topics. She drafted ideas on more "technical topics" in English because she received her research training in English. She drafted ideas on more philosophical topics in Korean due to having received education on such topics in Korea.

Researcher: You just mentioned that the ideas in your head were Korean. Do you often have ideas in Korean?

Kyung: I think it's a mix of both. It depends… Some sentences, I think especially more philosophically abstract sentences, I think those kind of sentences I have something in my mind in Korean version. But then, sometimes

> there's a challenge there, if that Korean version of my idea is reflected well enough. But, more technical things, I don't really think that I… For technical aspects, I really have few Korean version 'cause I'm not trained in those technical aspects in Korean. So, that part is much more English oriented and if I wanted to translate it into Korean, I think that will be another challenge for me. But philosophical, more sociological thoughts like big thoughts—"because I think I am" thoughts, I think for that, undergrad and first year grad education in Korea actually gave me somehow some frameworks.

Personal preference and habit played a role in writer's choice of strategies. For instance, Carla mentioned a few times that she liked to have printed papers in her hand because she was kinesthetic. She preferred to look at printed articles, liked to print her summaries of her articles, and also liked to outline on paper. When I inquired her about these actions, she said she liked the feel of paper and also had been using such strategies since she was young. She explained other benefits to having paper forms of articles and summaries, such as being able to writes notes on them. However, she often gave her liking for printed material as her first reason for using such strategies. For instance, when I asked her why she liked to outline on paper, she explained,

> I don't know why. I've been asking myself why. I like to feel the pencil and write on paper. I cannot do things only on the computer. I don't know but maybe it's because when I was a kid, I didn't have computers, so I had to write by hand.

As another example, I asked her how she thought it was helpful to have printed articles as opposed to looking at her articles on screen. She explained,

> I think it's just habit. I think I have to feel the paper. I have to look at it my hands. I am kinesthetic, so I really have to feel stuff. From my experience, when I read papers on the screen, I don't pay attention as much. It seems to me I don't memorize as well as when I have paper to write and make notes.

Kyung also expressed that her personal preference played a role in her revision strategies. She explained that she always began writing by revising the sections she had

written the previous day. She said she read in a technical communication textbook that this strategy was not good. However, she still preferred to take such actions. She also explained some benefits to revising the next day, but it can be seen that personal preference also played a role in her decision to use her strategy of revising the following day.

> The technical communication textbook recommends if you want to stop, you should stop in the middle of the section so that next day if you revisit the manuscript, then stopping in the middle of the section helps invoke what you were trying to do. So, it's better at getting the memory back. But, for me, I think I'm more like, "Today, I want to finish this section, so I think I'm like more plan based." But if time allows.. So, let's say, "Today, I will finish introduction, and then I have more time and energy, so then I keep going." But, I think it's more like plan basis. I want to finish this one. But, that book says it's actually not a very good strategy, and I agree with that because the next day, when I continue revising, I actually read from the first again. All over again. It takes time to read all over again. But, I kind of sacrifice that time.

Writers' past experiences with certain resources also played a role in the strategies that they used or did not use. For instance, I asked Kyung if she had ever tried using Google Translate to find ways to translate ideas she had formulated in Korean. Her usual strategy was to refer to Naver, an online bilingual dictionary. She explained that she had tried using Google Translate but had not found it useful.

> Researcher: Do you use Google Translate at all?
> Kyung: I tried using a couple of times, but then it wasn't helpful.

As another example, Jiyoung said she was careful to not draw from journal articles too frequently when developing ways to express ideas in order to avoid plagiarism. During her second year in doctoral studies, she had unintentionally plagiarized because she did not realize that an expression she had learned from an article was an uncommon one.

Interviewer: I thought it was interesting that you wrote [in the process log] you were afraid of reading other literature too much because of possibility of plagiarizing. You wrote that it's difficult for you to distinguish an author's writing style from general English.

Jiyoung: In my second year, I didn't plagiarize. I thought that it was plain English that everybody uses, so I kind of used that phrase. But, I realized that…my advisor mentioned that this is plagiarism. At that time, even though she pointed out that part, personally, I didn't get it. I never…that actually makes me more afraid because you know as a non-native speaker, even though I paraphrase something…if I try my best to paraphrase something, that could be plagiarism. So, since that point, I try not to.

Writer's strategies were also influenced by their judgments about which resources were better than others. The writers often expressed judgments about which resources were better than others. Carla stated that "Oxford [dictionary] is really trustworthy." Kyung explained that she stopped using bilingual dictionaries at some point because she thought "English dictionary is more accurate and more comfortable." As another example, Kyung explained that she thought she received better feedback from people she knew personally than editing services.

> I don't know where that impression comes from exactly, but my kind of rough impression is when I usually ask editing from someone who I know, they seem to do more meticulously, so I kind of give more trust and credit to people I know.

The writer's strategies were influenced by their perceptions about the effectiveness of using particular strategies to accomplish their goals. I use the term "perceptions" here because writers sometimes expressed uncertainty about whether or not their goals could be reached using certain strategies. For instance, Kyung said that she listened to news radio stations to develop more professional language. As she described her strategy, however, she added that she was not sure if it actually led to her improving her writing.

> I much prefer Korean drama and Korean things, but intentionally, I listen to a lot those radios like NPR, especially NPR because their voice is more professional. I'm not really sure if that really helped my writing, but maybe long term, it must help.

The learning of or lack of encounter with strategies (or lack of ability to recall a learned strategy) led to differences in writers' use of strategies as well. All sources from which writers learned strategies could be considered a variable that influenced writer's use of strategies. Some of the sources from which writers learned their strategies included advisors, colleagues, friends, writing textbooks, writing centers, L1 writing classes, and doctoral seminars. Three of the four participants had not taken any second language writing classes, so those classes could not have been a source of influence on their writing strategies. They all explained that they had taken ESL classes but had not taken any second language writing classes. One of the four participants had taken an academic writing course in Korea, a business-writing course in the U.S., and a general academic writing course during her Master's studies in the U.S. However, she explained that she had not learned any strategies in those courses. By strategies, it is likely that she was mostly referring to coping strategies only, since she referred to strategies as "tricks" when explaining that she had not learned them in writing classes. Jiyoung explained that the writing course from graduate school introduced her to websites like thesaurus.com, but the course did not teach her how to use those websites. Perhaps, it is for this reason that when I asked Jiyoung where she learned her strategy of using thesaurus.com, she replied that it was "100% her own idea."

> In Korea, I took a writing class, like academic writing. In academic writing, I learned what words I should use. For example, you can't use "get." I learned formal writing. What is the common expression that native speakers use. How can I change that expression. For example, "I emphasize blah blah blah..." What is the other ways to

express this sentence. In Korea, they provide some notes to replace 'emphasize.' Native speakers often use 'highlight' instead of 'emphasize.' Something like that. We memorize it and then we practice it by switching the words. I learned those stuff. But, I didn't actually learn tricks or strategies, like using thesaurus. In the writing class in the U.S. that I took in my MA program at Illinois, they provided some good resources like, you can use a website link thesaurus.com or dictionary. They provided those resources, but they didn't teach me how to use it.

It is important to note that this study reports on the participant's perceptions of what they learned or had not learned. The participants' may very well have encountered some of the strategies in their past classes but were unable to recall the learning. In order to investigate what strategies writers actually learned or encountered in their classes, a different type of research method would need to be used.

Conversely, the writers' lack of encounter with a strategy influenced their strategy as well since they could not have used a strategy of which they were not aware. For instance, Kyung's strategy for understanding differences between synonymous words was to find example sentences of the two terms and compare them. I asked Kyung why she had not instead searched in Google "blame versus accuse." She explained that she had not thought to do that.

Kyung: I feel like 'accuse' and 'blame'…My feeling is that type of words are really difficult for me because in Korean words, blame and accuse are both *binanhada*. Intensity wise, I'm not sure which one goes. Because *binanhada* sounds very strong, but *noogooreul tathada*. If you *tathada* somebody, then it's the same meaning but the intensity is weaker, so I wanted to make sure layman 'accuse' isn't too strong, too negative. In terms of how intense it is, it's really hard to catch. That's why I think I try to use Google Search to see as many possible examples if it is too strong or not. And another is sometimes 'accuse' is 'accuse of something' right or 'accuse of somebody.' Those kind of words 'of, for, with, too' are really confusing, so I wanted to see which one is the correct one to go with accuse. Also, I wanted to see whether passive form is commonly used or whether it is used in active voice.

Researcher: Sometimes, I have that same issue, too. I normally look up in Google "blame versus accuse." Do you do that sometimes?

Kyung: I don't think I really did that. Why didn't I do that? I don't know

As another example, I noticed that one of the participants, Xiwang, did not appear to use many resources for accomplishing her goals compared to the other researchers in the study. Xiwang is the most novice researcher of all of the participants, so I found this surprising. When I asked her if she used ay websites, she explained that she hadn't because she simply didn't know of other websites.

Interviewer: Do you use any websites?
Xiwang: No.
Interviewer: I only saw you using the bilingual dictionary.
Xiwang: Because I don't know many websites.

Rhetorical exigency played a role in the strategy of one of the writers, Kyung. She explained that she usually wrote an article because she had a research question that she wanted to answer. She would write about the research she conducted in order to answer her question. However, she explained that the article she was working on was initiated by her co-author because they had found interesting connections between her data and the co-author's data. Because of how this writing project began, she explained that she had to approach her writing differently. She explained that her method for developing her paper was reverse of what she usually did.

Kyung: Because this [article] was not my idea. This is Dr. Patel's idea. It is on two interesting topics. One is like, so during the national treat, one is about the government surveillance perception and the other is like rumor sharing. Both are really hot topics, so he and I, we kind of played with our data. It was supposed to be two separate studies, but there was some inter-related finding he thought was very interesting so we wanted to write something about that. So, that's how it began in the beginning. So, we tried to link two incidents, two aspects of national threat situation. For me, that was really hard because usually, if you write a paper, you begin with a question. Oh, this is something strange, what happened. Maybe this will happen because of that and then you design your study and then you get your results. This is like reverse. We didn't have that inter-relationship in our minds previously, but now we saw that—the

inter-relationships, so we want to make a story line that supports the inter-relationships.

Researcher: So, did you feel you had to approach this writing differently?

Kyung: Yeah, I think I'm going on reverse manner. So, usually, you go with the literature...you read and you understand…. Now, I go reverse. I have these results and I try to find the literature that supports this one. But, it's so hard to find the literature because there's no existing theories that link the two concepts so what I do now is I am kind of rambling hypothetical situations….

The difficulty of a task influenced the strategy of one of the writers, Kyung. She explained that when she revised, she usually used red highlights to indicate revisions that needed to be made at a later time. However, for the article she was writing, she did not use any red highlights because she needed to make many revisions and red highlights would be on her entire document.

> So, sometimes, I use different highlights with different color, but for this case, because every part I was not happy, so if I do red highlight, it's gonna be everywhere. So, yellow highlights are more like technical things, and I will revisit later. I don't do that at this point because that interrupts my thought process.

Writing Activities Unrelated to Writing Goals

Some of the actions writers took were not related to writing goals. These actions were goal-oriented, but the focus of the goal was not related to writing at all. Because of this, even though these actions were goal-oriented, they were not considered to be writing strategies. It is worth mentioning some examples of these activities because these activities help explain how writers' behavior is influenced by various contextual factors. Additionally, some of these activities provide a glimpse as to the process of how writers might learn strategies.

Carla had only published in Brazilian journals prior to the current research that she was writing. All of the articles she had published in these Brazilian journals were written

in English and potentially could've been submitted to international journals. Carla wanted to submit her current article to a top-tier international journal. I was curious as to how she chose which journal to submit her article. I asked her why she had only published in Brazilian journals before. Carla explained that it was traditional at her university to first publish in Brazilian journals and then attempt to publish in international journals.

> Interviewer: Can I ask why the other articles were published in Brazilian journal and why you are submitting this article to an international journal? Did you try to publish the other articles in the international journals, too?
> Carla: I've never tried. It's kind of a tradition in our program that you start like trying to publish in Brazilian journals and then you go to the Ph.D. and then you try to publish in international journals. Our advisors, they advise us to do this. This article really needs to be in an international journal because my advisor at CMU wants. For me it didn't even matter.

Carla might have had a writing goal that she wanted to accomplish as well in submitting articles to Brazilian journals first and then attempting to publish in international journals. However, I thought that this was unlikely, considering that she ended her explanation with, "For me, it didn't even matter."

As another example, Xiwang, the most novice of the four researchers (it was her first time writing a journal article), seemed to almost stumble upon her strategies. For instance, she had four co-authors for her research project, but she did not seem to have actively invited the four people to be co-authors for her paper. She explained that it occurred naturally because they were all students of her advisor at one point. The following excerpt is from the final interview:

> Interviewer: Did you ask her [fourth co-author] to be a co-author to get feedback from her for your writing?
> Xiwang: I think so. Main reason is my advisor has three students. We work together, and we work on her project, so we all have meetings and give each other feedbacks. So, just like a small community.

Interviewer: Oh. Did you invite them to be co-authors on your paper, or did it just naturally happen?
Xiwang: Just naturally happened.
Interviewer: Are you guys all co-authors in each other's papers?
Xiwang: Yes.
Interviewer: Hmm. Some of my friends help me with my writing, but they're not co-authors in my paper.
Xiwang: Oh, really? Because I'm not familiar with this kind of stuff. I feel my advisor….I remember my advisor said if some people contribute to your paper, you should list this person as an author.

The fourth co-author had contributed to the writing project in only providing writing feedback. The second co-author was not in the same field as her. Xiwang was in Chemistry Education and the topic of the paper was about chemistry education. The second co-author was an Educational Psychology scholar and had no experience teaching chemistry. Xiwang's advisor had introduced the second co-author to her so that he could provide her with guidance on how to develop and write qualitative research. Because of how the two co-authors were introduced, the second co-author seemed to focus on helping Xiwang develop research and writing skills.

Interviewer: So, Brian wrote comments like, "You have to explain why this is significant." I was curious why he didn't write the significance himself since he is a second co-author. I saw that he gave you suggestions for how to make explain significance.
Xiwang: I think that's the main differences. Because I think it's maybe…so that's a different definition of co-author. I think maybe sometimes he may feel I need to pull it [data] up to explain the statistical significance, and maybe that's more useful to learn to write a paper.

Although Xiwang said she ended up with four co-authors naturally, she did seem to rely on them for writing feedback. She explained how she found co-authors helpful and how she planned to send the draft she was working on to her co-authors to receive additional feedback.

Jiyoung, another relatively novice scholar, also seemed to have stumbled on one of her strategies. Jiyoung explained that one of her co-authors hired a native-speaker to proofread the final manuscript. Because this native-speaker was available to her for proofreading, she did not need to take the manuscript to a writing center.

> Interviewer: You mentioned the writing center. Did you take this manuscript to the writing center at all?
> Jiyoung: No.
> Interviewer: Why is that?
> Jiyoung: I think native speaker author would correct that grammar faster than me. And, for this particular article, first author is not a native speaker either, so she would send to the native speaker. We have our own proofreader, a native speaker. So, she would send that whole article to get proofreading to see if there are grammatical errors.
> Interviewer: Can you tell me more about this proofreader? Is it like an editing service?
> Jiyoung: I heard that she is not an editor but she's doing this job like part time. Like, I asked you if you knew anybody in your field who wants to do a part time job.
> Interviewer: Do you know if this person is somebody from your field?
> Jiyoung: I heard that she's kind of like in your field. She is a writing specialist or something like that. And, we also have, in AMJ, that article center, when we submit the article, they also suggest us if you are a non-native speaker that there are editing service you can get if you have the membership. If you have the membership, then you will get editing service. So, there is an official editing service link.
> Interviewer: So, if you are a member, is the editing service free?
> Jiyoung: No, I can get discounts.

Jiyoung seemed to have learned from this experience the strategy of hiring a native-speaker proofreader who was a writing specialist. She had emailed me at one point to ask if I knew someone in my field who was interested in a part-time job proofreading her other articles and dissertation. Jiyoung also seemed to be learning co-authoring practices from her experiences with her advisor. She explained how co-authoring generally worked in her field as she referred to her own experience.

> This is the general rule of our field. The first author is the leader of the project. The first author is in charge of framing and theories. That's what the first and second author is doing, normally. Depends on the project. Second and third author is in charge of the method and results, like analyzing the data. Well, some projects I'm first author. I'm doing the whole thing. I'm analyzing the data and also writing the theory. For this particular project, I was mainly in charge of analyzing the data and making the model. I mainly wrote the method and results section. And then when the first author completes the theory part, then I jump in and start revising that part as well as a co-author. But my main role is writing the methods and results section.

Xiwang and Jiyoung had not intentionally sought out co-authors and native-speaker proofreaders to facilitate writing of their manuscripts. However, they both mentioned the usefulness of these resources for their writing and relied on them for specific writing-related purposes.

Summary

In summary, much variation was found in how writers accomplished their goals. They had similar goals, but took different actions using different resources. A number of variables influenced writer's strategies. Table 5.2 lists the variables identified in this study as having influenced writers' goals and strategies.

Table 5.2

Variables Influencing Researchers' Goals and Strategies

Variables Influencing Writers' Goals
advisors
interdisciplinarity of field
journal
perceptions about good writing
experiences writing in first language
writing in an L2
perceptions about own proficiency level
previous feedback on writing
perceptions about attainability of goals
experience writing for publication
time constraints
Variables Influencing Writers' Strategies
availability of resources
role of people involved in writing task
ease of using a resource
language proficiency
financial concerns
familiarity with discipline-specific language
language medium in which writers received training
personal preference
past experiences with resources
perceptions about the effectiveness of resources
awareness of strategies
exigency
task difficulty
other ongoing writing projects

CHAPTER 6

DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

The goal of the study was to apply and validate the author's framework for understanding L2 writing strategies. This chapter discusses the application of the framework and the findings regarding the participants' goals, strategies, and influence of various contextual factors. The chapter begins with an evaluation of the framework in terms of describing and understanding the writing strategies of researchers. I then present various ways the framework could be used to inform further research and pedagogy. In the section that follows, I discuss interesting findings from studying researchers' writing activities and draw on findings to suggest implications for pedagogy and research. I conclude the chapter with a discussion of study limitations and directions for future research.

Validity of Framework

The framework introduced in Chapter 2 was useful for understanding the various strategies of the participants. The definition of writing strategies was useful in identifying writers' strategies. Writing strategies was defined as *the conscious and internalized agentive ideas of a writer about the best way to act, often with the use of resources, in order to reach specific writing goals embedded in a context*. Based on the definition, the unit of analysis in this study was a pairing of an action (or inaction) with a goal to facilitate writing. The classification system was useful for categorizing writing strategies with the addition of a seventh category, publication. The classification system was based

on goals for employing strategies and consisted of seven categories: coping, learning, composing, communicating, self-representation, meta-strategies, and publishing.

Findings from examining participants' writing process support the points made in Chapter 2 regarding potential benefits of categorizing strategies according to goals rather than writers' actions or resources. Some of the strategies used by the writers did not require taking any actions or use of resources. Prior to this study, strategies had been categorized according to types of composing processes (e.g., Arndt 1987; He et al., 2011; Petrić & Czárl, 2003; Sasaki, 2000) and mediating resources (e.g., Kang & Pyun, 2013; Lei, 2008; Rahimi & Noroozisiam, 2013). These categorization systems would have excluded the experiences of Kyung, who said that she often had a "gut feeling" about a meaning of an unfamiliar word but did not act on her gut feelings. In another instance, Kyung coped with limitations in her language proficiency by giving up her pursuit of a goal. These examples of action-less strategies would not be categorizable using classification systems that organize strategies according to writers' actions.

The classification system not only provided a way to describe writer's strategies but also served as a guide in the discovery of various strategies researchers used throughout the composing process. The final interview questions were developed with the knowledge that writers typically have goals related to coping, learning, composing, communicating, and self-representation based on existing research on writers' strategies. The participants were asked in the final interview whether or not they had goals related to each category if the participants had not already mentioned them in the stimulated recall interview or process logs. This allowed the author to elicit strategies that were not observable or had not already been mentioned through other data collection methods.

The framework was also helpful in detecting variability in writers' use of strategies. The framework emphasizes the importance of examining writer's strategies holistically, as a combination of writers' goal, action, and resource. When focusing only on one aspect of writer's techniques, such as writers' actions or use of resources, the writers can appear to compose in similar ways. However, when examining writers' strategies holistically, much variation could be seen in writer's use of strategies. As described in Chapter 5, both Kyung and Xiwang highlighted areas of their text that they needed to revise later, but their reasons for revising selectively were different. Kyung revised grammatical errors later because she did not want to lose her train of thought while revising content. Xiwang revised easy issues first and difficult ones later because she liked the idea of having completed many revisions at the end of the day. As another example, Kyung, Carla, and Jiyoung all used reading materials to develop discipline-specific language but they took different actions with the reading materials. Kyung read a lot of articles just before she began writing her own article so that she could recall professional language more easily. Carla studied a few models carefully. Jiyoung wrote down useful expressions that she came across in an Excel sheet. Because much variation can exist in the ways writers use similar resources and in the purposes for which writers engage in similar actions, it is important when researching writers' strategies to examine and describe writer's strategies holistically in order to develop accurate pictures of writing behavior.

Potential Benefits of the Framework for Research and Pedagogy

The framework introduced in this study provides a systematic way of understanding and describing writing goals, strategies, and resources. This classification system based

on goals can be used to inform future research and development of writing pedagogy in various ways. As mentioned in the previous section, for researchers studying writing strategies, the usefulness of classifying strategies according to goals is that when researchers are aware of different types of goals writers may have for employing strategies, they can better identify strategies used by writers. Some strategies are not easily observable by researchers (those that do not require actions or use of resources), but researchers can ask writers what types of strategies they used to accomplish various goals. Additionally, researchers can categorize all identified strategies according to types of goals but not necessarily according to types of actions or resources, since not all strategies require them.

For strategy instruction, classifying strategies according to goals allow teachers and learners to first choose what writing goals they want to address and then consider the strategies and resources that are useful for accomplishing them. The classification system could be used to create an inventory of writing strategies for accomplishing various goals. The inventory might look similar to the list of goals and strategies in Chapter 4. The inventory can be referred to by learners as they complete their writing projects. When students have a goal they want to accomplish, they can find their goal in the inventory and then look at the various ways they can accomplish their goal. The inventory will probably be most useful if each class or institution developed their own inventory of writing strategies. This is because the availability of resources may vary from institution to institution. For instance, at my institution, the institution's library website is useful for creating accurate references efficiently. Additionally different genres might require different inventories. For instance, an appropriate self-representation goal when writing

research articles might be showing expert-knowledge of a research area. A self-representation goal when writing business emails might be showing politeness.

The classification system could also be used to guide development of curriculums and needs assessment regarding writing strategies. Teachers can use the classification system to determine whether or not they are helping learners accomplish diverse goals. Teachers can also ask students the strategies they use to accomplish various goals. By students' answers or lack of answers, teachers can know whether or not students need to be taught strategies for accomplishing specific goals and teachers can also identify strategies their students use that may be inappropriate or ineffective for accomplishing particular goals. Teachers may also find that students are not aware of some goals. For instance, some students may not think much about goals related to self-representation as they write. In this study, some of the participants, specifically the participants with little experience writing research articles, stated that they had not thought about how potential readers might make judgments about them as researchers or writers based on their writing.

Finally, another potential use of the classification system is that learners can use it to guide reflection of their writing process. Students can perhaps even use the classification system to guide analysis of a classmate's writing goals and strategies. By encouraging students to reflect on their own or classmate's writing goals and strategies, teachers facilitate development of meta-awareness.

Discussion of Researchers' Goals, Strategies, and Influence of Contextual Factors Identified in Study and Implications for Research and Pedagogy

In this section, I highlight some of the findings of participants' goals, strategies, and influence of contextual factors. I draw on these findings to make implications for future

research and L2 writing pedagogy. I also suggest ways teaching of writing strategies can be incorporated into classroom teaching.

The Goals and Strategies of Researchers

The study sheds insight into researchers' goals, strategies, and the various contextual factors that influence their writing activities. Many of the researchers' strategies identified in this study are similar to strategies of researchers reported in other studies. Some of the similar strategies include using native-English speaking friends, using language service companies, hiring native-speaker editors, seeking assistance from advisors, inviting co-authors, borrowing expressions from articles, collecting useful phrases, studying models, reading articles extensively, matching journal style, using dictionaries (e.g., Cheung, 2010; Chiu, 2011; Flowerdew & Li, 2007; Gosden, 1996 ; Jiang, Borg, & Borg, 2015; Karimnia, 2012; Li, 2011; Lillis & Curry, 2006; St. John, 1987; Shaw, 1991; Okamura, 2006). However, there were also a number of strategies that the researchers in this study used that were not reported in other studies on strategies of researchers. Some examples of resources used by the researchers in this study that were not reported in other studies include use of various corpora—Google, Google News, corpus of bilingual texts; different types of dictionaries—monolingual and bilingual; various Microsoft Office tools—Track Changes, Spell Check, Synonyms; and music software. This study also provides detailed reports of how the researchers interacted with each resource as well.

As mentioned previously, the method of analyzing writers' strategies in this study led to a greater understanding of variation in the researchers' strategies. Some of the variations were quite interesting and are worth discussing. It was particularly interesting

to see differences in the researchers' use of proof-readers/editors in relation to their co-authoring practices. Three researchers sought grammatical feedback from native-speaker colleagues, friends, or individuals who edited for part-time work. Lillis and Curry (2010) refer to these individuals who provide language support as "language brokers." Three researchers sought feedback on content from advisors and other professors. Lillis and Curry (2010) refer to these individuals who provident feedback on content and disciplinary conversations as "academic brokers." All participants in this study used brokers as resources, but the participants differed in their perspectives of whether or not the brokers should be listed as co-authors in their study. Jiyoung used both language and academic brokers, but listed only academic brokers as co-authors in her article. Xiwang used both language and academic brokers, and listed both as co-authors in her article. Kyung used only language brokers, and she listed some as co-authors and others not in her article. Carla had only used academic brokers, and she did not list any of them as co-authors in her article.

Table 6.1
Differences in Co-authorship Practices

	language broker	academic broker
Xiwang	used (co-author)	used (co-author)
Jiyoung	used	used (co-author)
Kyung	used (sometimes list as co-author)	did not use
Carla	did not use	used

It is not possible to explain why researchers' co-authoring practices differ based on a study of four researchers. Perhaps these differences were due to the researchers belonging to different disciplines. Perhaps the researchers viewed the contribution of language brokers and academic brokers differently. Perhaps the researchers considered only individuals in their discipline as co-authors regardless of their role as language broker or

academic broker. All of these could be possible explanations, but none of these explanations seem to apply to all four researchers in this study. For instance, one of the researchers listed an individual from a different discipline as a co-author, while another researcher did not list an individual from her discipline as a co-author. It would be worthwhile to further investigate researchers' co-authoring practices as it relates to language and academic brokers. Some of the researchers in this study seem to be under the impression that there are rules for who should be listed as co-authors. Their understandings of these rules could lead them to potentially being disadvantaged. For instance, some researchers may feel hesitant seeking assistance from language or literacy brokers if they are under the impression that all brokers should be listed as co-authors regardless of the significance of the brokers' contribution to the study. Additionally, researchers' career advancement may be influenced by the number of articles they have published as a co-author. The strategies of the participants in this study suggest that it may be possible that native-speakers have more opportunities to be co-authors because of their English abilities.

Importance of Teaching Strategies in L2 Writing Classrooms

The researchers in this study showed themselves to be resourceful and innovative in finding ways to accomplish their writing goals. The researchers reported that they had discovered many of their own strategies and resources for accomplishing goals. Additionally, although most of the participants had not taken any ESL writing courses, they were fortunate to learn goals and strategies from other sources, such as advisors, colleagues, friends, writing textbooks, writing centers, L1 writing classes, and doctoral seminars. Only one of the participants reported having taken an English writing course.

The researchers' resourcefulness is similar to that of the undergraduate students described in Leki's (1995) study of coping strategies who also had not taken English writing classes prior to their undergraduate studies but were found to be quite resourceful and flexible in responding to new demands. A pedagogical implication that can be drawn from this is that teachers can probably expect to have students in their classes who are resourceful in developing their own strategies. A useful pedagogical practice might be to allow opportunities in classrooms for students to share their strategies. In this way, teachers can expand their own knowledge of various strategies that can be taught to other students.

While the researchers in this study managed to find ways to overcome difficulties and accomplish their goals, most of them expressed that they wish they had acquired some of the strategies earlier in writing classes. The writers appeared to have developed their strategies over quite some time after trying out different strategies to accomplish their goals. Jiyoung was the only researcher who had taken a writing class, but she expressed regret that she had not learned many coping strategies in the class. As Jiyoung reflected on her writing class, she said, "For me, it would've been better if they taught [coping] strategies earlier. It took me a while to find my own way." Additionally, Xiwang, the most novice researcher who was writing her first article, explained that she did not use many online resources simply because she did not know other resources besides the bilingual dictionary on her computer.

Some of the researchers' strategies did not appear to be efficient, and the researchers could have benefited from receiving some guidance in using strategies. For instance, one of the researchers tried to understand the difference between "blame" and "accuse" by finding example sentences of each and comparing the context in which those words were

used. Kyung ultimately did not appear to understand the difference between 'blame' and 'accuse' using her own strategy of examining example sentences. While Kyung's strategy was not a bad one, a more efficient strategy would have been to simply put into the Google search bar, "What is the difference between blame and accuse?" Some of the explanations may not be accurate, so she would need to read a few explanations.

As another example, one of the participant seemed to use thesaurus.com with misguided understandings about the information available on the website. The writer explained how she used thesaurus.com to better understand the nuance of "distinguish." She explained that the website shaded synonyms that were closer in meaning to "distinguish" with dark yellow and shaded synonyms that were farther in meaning to "distinguish" with light yellow. By looking at the list of words shaded in dark yellow versus light yellow, she could understand the definition of "distinguish" better. This appears to be an extremely useful strategy. However, when I looked up "distinguish" in thesaurus.com, it did not appear to me that the darker shaded words were closer in meaning to "distinguish" than the lighter shaded words. The two darkest shaded words were "analyze and categorize" and the two lightest shaded words were "tell between and tell from."

The difficulties researchers experienced suggest that it is important to provide learners with guidance in their use of strategies. To intervene in learners' use of potentially ineffective or inefficient strategies, teachers must first know what strategies their students use to accomplish specific goals. It would be difficult for teachers to gain sufficient knowledge of students' strategy use by simply looking at students' preliminary drafts. Problems in students' written products might suggest students may be using

strategies inappropriately or are not aware of certain goals or strategies; however, written products do not provide information about the specific actions writers are taking and resources they are using. To understand students' strategies, teachers can facilitate classroom discussions where students are encouraged to share their strategies. Students can be asked to share resources they use and how they use those resources to accomplish specific goals. It is important for teachers to understand not only what resources students use but also how they interact with those resources to accomplish specific goals because there can be great variability in how writers use resources, as mentioned previously. It is unlikely that resources themselves are bad; it is writers' interaction with the resource to accomplish a specific goal that might be inappropriate.

Another way teachers can incorporate strategy teaching into classroom instruction is allowing for in-class writing time. When students ask for help with vocabulary or a grammar point (e.g., students ask what the difference is between "blame" and "accuse"), teachers can use the opportunity to provide instruction on strategies rather than giving direct answers to questions (e.g., ask students how they can find the difference between "blame" and "accuse" instead of explaining the difference). The teacher can also open up the discussion to the entire class and invite other students to suggest strategies as well. This would allow teachers to learn what kind of strategies students use. I found this teaching strategy to be useful in my own teaching. Previously, when students asked me how a word was spelled, I used to tell them the correct spelling. Later, I began to ask students to share their strategies for finding correct spelling. By asking this, I began to understand some of the difficulties they had in finding correct spelling and the limitations

of using Microsoft's Spell Check tool to find correct spelling, especially when students had extremely low language proficiency.

Teachers can also learn more about difficulties students have by engaging students in the "self-monitoring strategy" described in Cresswell (2000). The strategy involves students writing marginal annotations about their problems with grammar, vocabulary, content, and organization. The annotations are used by the teacher to provide feedback. Cresswell explains that the self-monitoring strategy increases autonomy in learning and gives learners greater control over the feedback they receive from teachers.

Importance of Distinguishing Learning Strategies from Other Strategies

The present study highlights differences between writers' learning strategies from other strategies (e.g., coping strategies), which research had tended to conflate in literature in studies of language learner strategies and L2 writing strategies as well. In classroom settings, it is understandable that it would be difficult to distinguish learning strategies from other strategies, because, students complete writing tasks with a primary goal of learning writing. As pointed out by Hsiao & Oxford (2002), language learning is accomplished by using language through meaningful communication. The data collected from the participants' writing activities suggests that it is important to distinguish learning strategies from other types of strategies, particularly coping strategies. The participants in this study seem to distinguish strategies that would help them efficiently and instantly overcome difficulties they encountered as they wrote the journal articles from the strategies that might help them develop their language proficiency or writing ability in the long run.

The participants often expressed that they were pressed for time in completing their manuscripts. Their time constraints lead them to use some "instant solution" strategies, as characterized by Jiyoung. She explained that her instant solution for dealing with her lack of vocabulary was to use thesaurus.com, but when she had more time during her MA studies, she wrote down useful vocabulary and phrases while reading and also memorized them. Other researchers, too, distinguished strategies that were more useful for finding instant solutions to their language issues from those strategies that were helpful for developing language or writing ability in the long run. This is not to say that the researchers did not learn through their use of coping strategies; however, their main purpose for using certain strategies oriented towards coping more than learning.

Perhaps, teachers can distinguish coping strategies from learning strategies in classrooms by considering which strategies are more helpful as "instant solutions" and which strategies are more helpful in the long-run. In teaching strategies, it is important to distinguish those strategies that may be more helpful for coping with limitations in language proficiency from those that are more helpful as learning tools in order to ensure they are sufficiently covering both types of strategies in their classrooms. As shown from the researchers in this study, these "instant solution" strategies may operate more as coping strategies outside of classrooms. It is important for writers to develop both coping strategies and learning strategies.

Importance of Considering Various Contextual Factors Influencing L2 Writer's Strategies in Strategy Teaching

Various contextual factors influenced the researchers' goals and strategies, as explained in Chapter 5. Although the subjects of the study were researchers, it is likely

that some of the variables that influenced researchers' goals and strategies are influential for other writers as well. For instance, the writers' language proficiency seemed to play a role in what strategies the writers found useful. One of the researchers explained that she did not like to use monolingual, English-English dictionaries because she found them time-consuming and burdensome; she preferred to use bilingual dictionaries because she could read definitions in Korean more quickly. The potential influence of language proficiency on a writers' use of strategy suggests that there might be some strategies that may be more appropriate for writers with higher proficiency levels than those with lower proficiency levels.

Other research studies have also reported that writers' strategies are influenced by different situational variables. Some of these situational variables include the audience, purpose for writing, genre of writing task, time constraints, writing medium, language medium, availability of resources, cognitive demand of the writing task, writers' previous literacy experience, writers' attitude toward the use of certain strategies, writers' familiarity with a writing situation (e.g., Akyel, 1994; Cumming, 1989; Faigley & Witte, 1981; Haas, 1989; Raimes, 1985; Sasaki, 2004; Uzawa, 1996; Zamel, 1983).

When teaching strategies, it is important for teachers to consider how their students' goals and strategies may be influenced by various factors. Perhaps teachers can help increase the repertoire of strategies their students encounter in their classes by changing the task environment occasionally. For instance, teachers can vary the amount of time they give their students to complete writing tasks, or assign students some difficult topics to write about rather than letting them choose their own topic for every assignment, or by assigning students to write various genres.

Importance of Understanding Writers' Techniques Holistically

As mentioned previously, the framework introduced in this study highlight the importance of understanding writer's techniques holistically, as a combination of writers' goal, action, and resource. When teaching strategies, it is important to teach strategies as a unit of goal plus action/resource. If teachers emphasize to students the value of engaging in certain actions (e.g., splitting the writing process into stages) without a sufficient explanation of the goals those actions are meant to accomplish (e.g., managing cognitive demand), it is possible that students may not see the usefulness of taking those actions in other writing situations. Perhaps students will be able to transfer strategies from one writing task to another more easily if they learned strategies as being helpful for accomplishing specific goals (e.g., topic sentence are useful for making main ideas of a paragraph clear) rather that associating a strategy broadly with a writing task (e.g., topic sentences are used in five paragraphs essays).

Study Limitations and Directions for Future Research

A limitation of the study was that much of the data came from writers' reports of their strategy use. Observations via screen-capture recordings were helpful for triangulating researchers' reports of their strategy use, but there were limitations to the information that could be gained from the observations. As explained previously, observations do not provide information about writers' mentalistic strategies and writers' goals for employing strategies. Taking these limitations into account, the purpose of this study was not to identify every strategy the researchers used and make generalizations about how researchers write. Rather, the purpose of the study was to explore potential goals

researchers may have, strategies they may employ, and the various ways the researchers may be influenced by different variables.

Additionally, based on information gathered from a small sample of four researchers, it was not possible to make generalizations about how various contextual factors influence groups of researchers with similar characteristics. For instance, two of the researchers in this study wrote journal article publications for the first time and two of the researchers were experienced in writing articles. However, it was not possible to make generalizations about how researchers' experience or lack of experience publishing influenced their use of strategies by comparing the four researchers in this study because of the small sample size. Because of this limitation, in this study, rather than comparing researchers to understand how their goals or strategies were influenced by situational variables, I relied on researchers' individual reports of why they had certain goals or used certain strategies. In the future, it may be helpful to conduct a large-scale study with more participants to develop a more accurate account of how researchers' goals or strategies may relate to various situational variables or researcher characteristics (e.g., level of language proficiency or writing expertise).

Another limitation of the study was that the research unintentionally centered on writers' coping strategies over other types of strategies. There are several reasons why coping strategies might have unintentionally been focused upon more than other types of strategies. As mentioned previously, the screen-capture video recordings were used primarily to understand the various resources writers used and how they interacted with those resources. It appeared to be the case that the researchers used physical resources to accomplish goals of coping more than other types of goals, such as communication goals

or self-representation goals. By focusing on the physical resources that writers used, I may have unintentionally lead the researchers to discuss their coping strategies more than other types of strategies. Additionally, the researchers may have thought that I was interested in their strategies for coping with language issues. This is because the researchers knew that I was studying Applied Linguistics. Another explanation for why many coping strategies were discovered might be that I offered to provide editing service or an Amazon gift card in exchange for the researchers' participation in the study. Three of the four researchers requested editing service from me. One researcher, who evaluated herself as being highly proficient in English, did not request editing service. The incentive to participate in the study might have attracted researchers with certain needs over others. The study might have produced better results if I had focused on investigating one type of strategy at a time.

Finally, the present research study was exploratory and focused primarily on understanding what strategies writers used to accomplish specific goals; the focus of the study was not on understanding whether or not the strategies the researchers used were effective. The study did not discuss what can be constituted as an "effective strategy." A future study might explore how various people involved in a writing activity (e.g., writer teacher, learners, disciplinary professors, researchers) might influence perceptions about what strategies constitute as being effective or appropriate.

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APPENDIX A

IRB PROTOCOL

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Paul Matsuda
English
480/965-6356
pmatsuda@asu.edu

Dear Paul Matsuda:

On 12/18/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Writing Strategies of Multilingual Researchers at Different Levels of Writing and Field Expertise
Investigator:	Paul Matsuda
IRB ID:	STUDY00001958
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Consent Form.pdf, Category: Consent Form; • IRB Protocol.docx, Category: IRB Protocol; • Initial Interview, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Final Interview, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Weekly Questionnaire, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Instructions for Stimulated Recall, Category: Participant materials (specific directions for them); • Recruitment Email to PhD Students.pdf, Category: Recruitment Materials; • Recruitment Email to Professors.pdf, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/18/2014.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Youmie Kim
Youmie Kim

APPENDIX B

INITIAL SEMI-STRUCTURED INTERVIEW GUIDE

Language proficiency

1. What languages do you speak?
2. Which language do you consider to be your dominant language?
3. Where did you learn English?
4. Language proficiency sheet

Writing expertise level

5. I'd like to know some information about your experience writing for publication.
    a. Could you tell me how many articles you have written?
    b. When did you first publish your article?
    c. Expertise level worksheet:
        Why would you place your confidence level there and not more or less?
6. Would you mind sharing your CV with me?
7. Did you have ever taking writing classes? If so, when did you take writing classes?

Current research project

8. Are you currently working on a research article? What stage are you generally at in your writing? (e.g., generating ideas, drafting, revising, etc.)
9. How long does it typically take you to complete the introduction or literature review?

Future study

10. Do you have a Mac or PC? Do you have Skype, Cam Studio, Face Time, or Quick Time?

Language proficiency

11. Have you every taken the TOEFL? How was it? Do you mind if I ask your score? When did you take it?

APPENDIX C

LANGUAGE PROFICIENCY QUESTIONNAIRE

Directions: Please self-evaluate your proficiency level in the following areas by placing a dot on the line.

1. Listening in English

   Beginner Advanced

   _____

   Listening in dominant language other than English

   Beginner Advanced

   _____

2. Reading in English

   Beginner Advanced

   _____

   Reading in dominant language other than English

   Beginner Advanced

   _____

3. Speaking in English

   Beginner Advanced

   _____

   Speaking in dominant language other than English

   Beginner Advanced

   _____

4. Writing in English

   Beginner Advanced

   _____

   Writing in dominant language other than English

   Beginner Advanced

   _____

APPENDIX D

WRITING EXPERTISE QUESTIONNAIRE

Directions: Please indicate how confident you are in your knowledge or ability in the following areas by placing a dot on the line.

1. Knowledge of **subject matter** in your field

   None Confident

   _____

2. Knowledge of appropriate **genre conventions** for the article (e.g., language typically used, typical organizational structure, typical citation practices, typical ways of structuring arguments, typical author stance etc.)

   None Confident

   _____

3. Familiarity with readers/Knowledge of **readers' expectations** (e.g., knowing how much information to provide and what kind of information to provide to readers)

   None Confident

   _____

4. Knowledge of how to **organize ideas** in a journal article

   None Confident

   _____

5. Ability to use **English phrases, vocabulary, and grammar** appropriately

   None Confident

   _____

APPENDIX E

INSTRUCTIONS FOR STIMULATED RECALL

What we're going to do now is watch the two video recordings side by side on a split screen. I am interested in what you were thinking while you were writing. I can see what you were doing by looking at the video, but we don't know what you were thinking. So what I'd like you to do is tell me what you were thinking, what was in your mind at that time while you writing.

You can pause the video any time that you want by hitting the space bar. So if you want to tell me something about what you were thinking, you can push pause. If I have a question about what you were thinking, then I will push pause and ask you to talk about that part of the video

APPENDIX F

PROCESS LOG QUESTIONNAIRE

Directions: Please answer the below questions as you reflect on **this past week**.

1. What is today's date?

2. Approximately how many hours did you spend on your article (please including any time thinking about ideas in your article as well)?

3. What were your overall goals for writing? What are some things you focused on (while either outlining, writing, or revising)?

4. Did you encounter any challenges or difficulties while writing? If so, please describe them below. Please also explain what you did to deal with those challenges. What are you still struggling with?

5. Did you use any resources (e.g., dictionaries, writing center, etc.) while writing? If so, what were they?

6. Did you talk to anybody? Who did you talk to? How did it help or not help with your writing?

7. What did you do to prepare for this week's writing? What are some activities you did just before you wrote? What are some activities you did just after you wrote?

8. Was this week's writing different from your previous writing experience? If so, how was it different?