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Metadiscourse, Academic Writing,

and First-Year Composition

by

Diantha Smith

A dissertation

submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy in English and the Teaching of English

Idaho State University

Fall 2019

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Committee Approval

To the Graduate Faculty:

The members of the committee appointed to examine the dissertation of DIANTHA SMITH find it satisfactory and recommend that it be accepted.

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Human Subjects Committee Approval

November 1, 2016

Diantha Smith English and Philosophy MS 8056

RE: regarding study number IRB-FY 2017-20: Vocabulary & Composition

Dear Ms. Smith:

I agree that this study qualifies as exempt from review under the following guideline: Category 1: Normal educational practices & settings. This letter is your approval, please, keep this document in a safe place.

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Sincerely,

Ralph Baergen, PhD, MPH, CIP Human Subjects Chair

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Metadiscourse, Academic Writing, and First-Year Composition Dissertation Abstract—Idaho State University (2019)

Over the last two decades, several scholars have called for a greater focus on language in First-Year Composition (FYC) courses (Connors, 2000; Hyland, 2005; MacDonald, 2007; Aull, 2015; Lancaster, 2016a). This dissertation strives to answer their call by looking at a language feature called metadiscourse. Metadiscourse is a name for the formulaic language writers use to guide their readers through texts. It includes items such as transitions (e.g. in addition, on the other hand, however), hedges (e.g. probably, likely), boosters (e.g. absolutely, certainly), and a variety of other words used to signal stance and organization. Based on Aull's (2015) comparison of metadiscourse use by college freshmen and expert academic writers, I developed a curriculum to help FYC students learn more about metadiscourse commonly used in academic writing. After implementing this instruction in six different composition classes, I was able to gain important insights on metadiscourse instruction, with five overall guidelines that instructors can follow when teaching metadiscourse in FYC.

Keywords: metadiscourse, academic writing, first-year composition, discourse, corpus, linguistics, genre

Chapter One

Once upon a time someone had a question.

This simple statement describes the beginning of almost all academic research, but it is strange way to begin a dissertation. Why? The sentence "Once upon a time someone had a question" is grammatically correct. It is easy to understand. But the phrase "Once upon a time" usually signals the start of a story, more specifically a fairy tale that will entertain a young audience, and that is, unfortunately, not the purpose of a doctoral dissertation. This might seem obvious, and it certainly is to anyone who grew up exposed to both academic writing and Disney movies, but there are interesting questions beneath the surface of this unusually phrased introduction. For example, why do stock phrases like "Once upon a time" exist? Are there other words and phrases that act in similar ways? How often are they used? Do people use them consciously? Unconsciously? And what if people, specifically college students trying to master academic writing, were taught more about this kind of language? Would it change the way they wrote, even improve it? Once upon a time I started to think about these questions, and the rest of this dissertation describes my quest to answer them.

Though I initially thought that I had stumbled on new research territory, I quickly discovered that I am not the first to notice phrases like this and wonder about their purpose. Over time various scholars have come up with at least five different labels to describe chunks of language like "Once upon a time": lexical bundles (or clusters, or chunks) (Biber & Barbieri, 2007; Hyland, 2008; Byrd & Coxhead, 2010); formulaic sequences (Wray, 2000; Schmitt, 2004; Simpson-Vlach & Ellis, 2010), metatext

(Moreno, 2003; Thonney, 2016), metacommentary (Rymes, 2014; Graff & Birkenstein, 2018), and metadiscourse (Harris, 1959; Vande Kopple, 1985; Crismore, 1989; Hyland, 2019). Though there is some variation in what each of these terms means, overall, they point to the idea that there are commonly used words and phrases that are needed and expected in register-, discipline-, and genre-specific situations (Hyland, 2019). These words and phrases can signal the start of a new idea, the end of an argument, the feelings of the person writing or speaking about the topic, and even the way the writer or speaker is anticipating what their audience may be thinking or feeling. For example, the phrase "for example" was used at the beginning of this sentence because I anticipated that my readers might want or need more information in order to understand the broad definition that encompasses lexical bundles, formulaic sequences, metatext, metacommentary, and metadiscourse. I could have also used a phrase like "for instance" or "in other words" or even "it's like when you...", but I chose "for example" because it seemed like the most appropriate fit for my purpose and audience. To sum up, no matter what they are called, phrases like "once upon a time" and "for example" (and also "to sum up") demonstrate that a writer (or speaker) is aware of their reader (or listener) and is trying to guide them through the text.

To avoid potential confusion that could be caused by using five different yet very similar terms, in this dissertation I will use the word "metadiscourse" to refer to language described thus far, i.e. formulaic language that can be used to guide readers and listeners through a piece of communication. I chose "metadiscourse" because this label encompasses both phrases and individual words (unlike lexical bundles or formulaic sequences that focus more on multi-word chunks of language). I also felt

"metadiscourse" was the best term for my work because it has a longer history in rhetoric and composition scholarship than any of the other terms (Crismore, 1982; Vande Kopple, 1985), and it is the term used by scholars doing the most cutting-edge research on language and writing studies today (Aull, 2015; Lancaster, 2016a). Additionally, because "metadiscourse" is a term that is also commonly used by linguists and second-language acquisition scholars, using "metadiscourse" may make this dissertation more useful to these disciplines as well. It is also important to note that though metadiscourse is often used in spoken language and can be used in a variety of genres and registers, I will only be discussing its use in academic writing at the college level, specifically in FYC (firstyear composition) classes.

Now that the scope and key terms of this dissertation have been identified (i.e. metadiscourse, academic writing, FYC), it is important to understand more about how scholars have learned about metadiscourse and its effects on writing. The first major breakthroughs in studies of metadiscourse came in the 1970s and 80s when computer technology offered applied linguists new ways to explore language. Though Zellig Harris began tracking recurring patterns in language in the 1950s, one can imagine how difficult it would be to try to find commonly repeated words and phrases in large texts without access to something as simple as the "search" tool now available in all word-processing software. John Sinclair (1966, 1991) was a pioneer is using computers to track patterns of language, particularly idioms, and he argued that meaning was not just contained in single words, but rather in chunks of words that were regularly used together (i.e. collocations). Through Sinclair's (and many others') efforts, we now have a robust method for researching patterns of language: corpus linguistics. Many scholars have used

corpus linguistics to study metadiscourse, and their work has been influential in answering some important questions about why and how writers write the way they do.

To understand corpus linguistics and how it can impact studies in metadiscourse and writing, it is important to first understand the concept of a corpus. A corpus is a collection of texts, and there are various kinds of corpora to study. The most widely used corpus of English is COCA (Corpus of Contemporary American English), and it includes more than 560 million words from a collection of thousands of popular and academic texts. There are also many smaller, specialized corpora, including an Old English Corpus, an Air Traffic Control Corpus, the Corpus of Estonian Written Texts, and the Japanese Speech Corpora of Major City Dialects. The corpus one chooses depends on the data one wishes to collect. For example, if a researcher wanted to find out how often advanced college students use contrastive transitions (e.g. however, conversely, on the other hand, etc.), she could use a software like AntConc to search a corpus of student writing such as MICUSP (Michigan Corpus of Upper-Level Student Papers) and find out how often students used this kind of transition in their essays. Though a corpus can offer a lot of useful information about general patterns across genres or disciplines, it is important to remember that disciplines are constantly evolving and so is language. As many scholars' work demonstrates, however, corpus analysis can help researchers gain a deeper understanding of language, genre, and discourse communities (Aull, 2015, Lancaster, 2016a).

For those who teach FYC, the promise of a greater understanding of language, genre, and discourse communities is tantalizing; everything in composition relates to these concepts. Fortunately for those who teach FYC, there is a growing body of corpus

linguistic research that can help teachers understand how metadiscourse functions in academic writing and the many genres that are part of it, and how metadiscourse impacts entry into academic discourse communities.

First, it is interesting and important to understand what corpus linguistics can tell us about how metadiscourse functions in academic writing in general. In corpus-based studies of academic writing, Hyland (1998, 1999) found that transitions (e.g. in addition, however, next) and hedges (e.g. likely, probably, could be) are the most common forms of metadiscourse used by academics. Hedges seem to be especially useful in academic writing because they help create a credible authorial presence that expresses arguments "precisely, explicitly and with due circumspection" (Hyland, 2019, p. 112). Additionally, since all research is limited in one way or another, hedges like "could be" or "tend to" help academic writers acknowledge the limits of their work and even invite others to continue to explore an area of study. In contrast, transitions do more to support clarity than credibility. For example, when an academic writer uses chronological transitions like "first, second, and third" or contrastive transitions like "however," it is easier for a reader to feel that the author is giving a clear explanation of their position.

Since it is clear that these patterns for using hedges and transitions are both common and effective, it might seem natural and easy to include them in FYC instruction. But before adding them into the curriculum, it is important to consider how students can acquire this kind of language most effectively, and that means understanding genre. Foundational work on genre is commonly credited to M. M. Bakhtin (1986) who introduced the concept of "intertextuality" (i.e. all texts are connected because all utterances are shaped by prior utterances). Carolyn Miller (1984) describes genres as a

synthesis of "rhetorical substance (semantics)," "form (syntactics)," and the "rhetorical action the discourse performs (pragmatics)" (p. 152). In her view, learning genre is not just about learning "a pattern of forms or even a method of achieving our own ends" but rather learning genre should help us understand what we want to accomplish, "the situations in which we find ourselves," and "the potentials for failure and success in acting together" (Miller, p. 165). This view of genre means not only following but also adapting forms.

Fortunately, many composition teachers already devote much of their instruction to teaching genre and helping students see how genres can be adapted to serve a particular audience and purpose. What is not always included in these discussions, however, is how language (specifically metadiscourse) can help students signal that they are writing in a particular genre and adapting it appropriately. For example, as mentioned previously, Hyland's (2005) research shows that academic writing often includes hedges, but the placement and use of those hedges varies with genre. It may be appropriate to use hedges to qualify a broad statement in an academic argument (e.g. "Heavy use of social media may increase social anxiety"), but hedges are much less common in more informational genres like reports where statements of fact are preferred (e.g. "Facebook, Twitter, and Instagram are social media platforms. Users' experience with them varies").

Additionally, the use of hedges can vary not only between genres but also within a single genre. One example of this is the argumentative research paper typically assigned in FYC composition classes. Almost all students know that a thesis is an essential part of an essay, but some students water down the strength of their argument by adding too many hedges into their thesis (e.g. Because social media *could be* the cause of anxiety

and depression for *some* teens, parents *may want to consider perhaps* limiting teens' use of *some of* it). Too many hedges not only obscure the argument but also make it sound disjointed or boring. Indeed, most strong thesis statements have minimal (if any) hedging (e.g. Because social medial can cause serious issues with anxiety and depression, parents should limit teens' use of it). Therefore, it is important to not only be aware of the role of hedges (and other types of metadiscourse) across various genres but also how to use metadiscourse strategically within each part of a specific genre.

In addition to understanding genre and metadiscourse, it is also essential to understand how students are socialized into discourses and the role that metadiscourse can play in that process. First and foremost, it is important to give clear definitions for a discourse and a discourse community. Gee (2015) defines discourses as "ways of behaving, interacting, valuing, thinking, believing, speaking, and often reading and writing, that are accepted as instantiations of particular identities (or "types of people)" (p. 3). A discourse community, then, is a group of people that share similar expectations for ways of being, knowing, and communicating. Unfortunately, Gee (2015) also notes that most of these expectations are tacit, and that means that if one is trying to enter a new discourse community (as all college students must do when choosing a major), it can be tricky to figure out the "right" ways of being, knowing, and communicating that fit a particular group. This is especially true for students who are marginalized because their race, socioeconomic status, and home language do not fit the expectations of discourse communities that were established to reinforce the ideals of white, middle class Americans (Heath, 1981; Rose, 2014). In fact, Gee (2008) goes so far as to say that "it is

a moral obligation to render one's tacit, taken-for-granted theories [about correct behavior and language] overt when they have the potential to hurt people" (p. 5).

Very few, if any, composition instructors have any desire to hurt people, especially their students, but unfortunately, it can be all too easy to do if one is not aware of how to make "taken-for-granted theories" (e.g. conventions of academic writing) more accessible. The first step to making academic writing accessible is to frame academic language conventions in an additive rather than subtractive way. In other words, instead of telling students they have to "subtract" their native language or dialect out of communication to be effective, FYC professors should encourage students to "add" academic discourse to their already amazing repertoire of language options. Or as Stanley Fish (2009) put it, start by validating students' right to their own language and then say, "I am not here to take that language from you; I'm here to teach you another one."

Once it is clear that academic discourse is just a way to communicate and not the way to communicate, it is also important that both professors and students know that academic discourse is actually a conglomerate of many discourse communities, and these communities do not always agree on what language is best. For example, in an analysis of various composition textbooks Thonney (2016) found that most textbooks advise students to avoid metadiscourse such as "In this essay, I will...", but she also found that many disciplines regularly use metadiscourse this way in the introduction to research articles. In fact, Thonney specifically points to research that used corpus linguistics to track metadiscourse features called "text-internal markers" (i.e. in this study, in this paper, in my sample, etc.) in both FYC student papers and published academic writing

and found that expert writers use this type of metadiscourse twenty times more frequently than student writers (Aull, 2015).

While Thonney appreciates the fact that students may not be using metadiscourse as effectively as expert academic writers, she also argues that instead of teaching students to simply avoid phrases like "In this essay, I will...", FYC instructors should help students understand the rhetorical function of this kind of metadiscourse and prepare them to recognize resources for deciding whether or not it is a good fit for the discourse community they are writing for. It may not be effective for a student to write "In this essay, I will..." for their rhetorical analysis in an FYC class, but students should know that a chemistry professor might prefer this metadiscourse in an introduction. Thonney also points out that EAP (English for Academic Purposes) and ELL (English Language Learner) research has shown that when students do use metadiscourse to frame their ideas in an introduction, professors in various disciplines give their work better scores than student essays that lack this metadiscourse (Durrant & Mathews-Aydinli, 2011; Tedick & Mathison, 1995).

Unfortunately, despite clear evidence that metadiscourse impacts the rhetorical effectiveness of academic writing, and despite the excellent research from various scholars in linguistics, EAP, ELL, and other fields showing that teaching metadiscourse helps students to write more effective essays, metadiscourse has still not received a great deal of attention in the broader field of rhetoric and composition. In fact, if one were to ask FYC instructors across the United States about metadiscourse, many would probably not even know what the word meant (at least that has been my experience when colleagues ask about my dissertation).

But that does not mean that composition teachers are not aware of the importance of common language patterns in academic writing. In fact, the popularity of Gerald Graff and Cathy Birkenstein's textbook, *They Say, I Say*, suggests the opposite. Many FYC professors absolutely love *They Say, I Say*. Since it was first published in 2006, the textbook has been endorsed by some of the biggest names in composition studies. For example, David Bartholomae's summary of the text (which is included on its Amazon page) says: "The argument of this book is important—that there are 'moves' to academic writing . . . and that knowledge of them can be generative. The template format is a good way to teach and demystify the moves that matter. I like this book a lot." Similar statements can be found from Patricia Bizzell, Mike Rose, and professors from several other universities and community colleges throughout the United States.

In many ways, it's not hard to see why so many "like this book a lot." Graff and Birkenstein take decades of research on the rhetorical and dialogic nature of writing (see Burke, 1969; Bakhtin, 1986; Lunsford & Ede, 1990; Williams & Colomb, 1993; Swales and Feak, 2004, etc.), and simplify it into a slim book of practical, easy-to-read advice and exercises. For example, when describing the process of incorporating a direct quote, Graff and Birkenstein use the analogy of a "hit-and-run" accident. They tell students to avoid dropping in quotations and figuratively running away, and then they give students several examples of how to follow up a quote with an explanation or interpretation (e.g. "in other words…").

While there is no doubt that *They Say, I Say* is a successful textbook, it is important to carefully consider whether or not this approach to teaching metadiscourse is as effective and powerful as Graff and Birkenstein (and their many fans) claim it to be.

The main argument of the book is that if teachers will teach students academic "moves" (i.e. transitioning between ideas, introducing quotes, making concessions, agreeing/disagreeing, etc.) with templates based on academic language (e.g. According to..., X states that..., On the one hand...on the other hand...), then students will be able to build on these templates to create effective academic arguments. In fact, the authors are so confident in their approach, that they make several bold claims including:

One virtue of such templates, we found, is that they focus writers' attention not just on what is being said, but on the forms that structure what is being said. In other words, they make students more conscious of the rhetorical patterns that are key to academic success but often pass under the classroom radar. (p. xxi)

While this claim seems to make good sense, unfortunately it is not backed up by any empirical classroom research. When Graff and Birkenstein do give evidence, it is highly anecdotal. For example, when talking about the influence of templates on students' writing, the authors explain that students initially struggled to form good arguments, but after "...Cathy sketched out templates on the board...[and gave] her students some of the language and patterns that these sophisticated moves require, their writing—and even their quality of thought—significantly improved" (xx). Significant improvement in writing and thinking is indeed a worthy goal, but one has to know how this improvement was measured, under what exact circumstances it was experienced, and with what methods it was achieved in order to reproduce it. Before I go further, let me be absolutely clear. I am not arguing against using templates to teach students about metadiscourse and academic writing, and I find much of Graff and Birkenstein's work very useful. What I am arguing is that in order to truly know how templates can be used to improve students'

academic writing, we need more empirical research that more firmly establishes best practices in teaching *They Say, I Say* templates in writing classes.

In addition to a lack of research supporting their claims about student learning, another issue with Graff and Birkenstein's work is that they never explain their method of isolating the "basic moves" that are so central to their template model. This is potentially problematic for several reasons. First and foremost, though Graff and Birkenstein use the word "moves," the book does not describe how the authors identified these moves, and the authors barely reference John Swales' work, even though he was the first to define a "move" as a portion of text that serves a particular communicative function (Swales 1981, 1990). In the *They Say, I Say* introduction, Graff and Birkenstein explain that, "All writers rely on certain stock formulas that they themselves didn't invent—and many of these formulas are so commonly used that they can be represented in model templates that students can use to structure and even generate what they want to say" (xv). This explanation may be adequate for a textbook introduction, but to my knowledge, Graff and Birkenstein have never offered any other explanation or research to explain how they found their formulas and how they know that they are in fact "stock formulas" and not just their own preferred way of communicating their ideas.

Their lack of transparency about the process of choosing the language of their templates is especially evident if we compare Graff and Birkenstein's templates to John Morley's *Academic Phrasebank*, an online resource available on the University of Manchester's website. In contrast to Graff and Birkenstein's general statements about "formulas" in writing, Morley's Phrasebank draws directly on Swales' (1981, 1990) research on rhetorical moves. Morley's Phrasebank is also based on corpus linguistic

research along with psycholinguistic research that has revealed that we primarily learn language in chunks or phrases, and that these phrases are what we store and retrieve when receiving or producing communication (Bolinger, 1976; Pawley & Syder, 1983). All of Morley's phrases are taken from academic sources (i.e. dissertations and academic articles) and the following questions (listed on the Phrasebank website) are used to determine whether or not a phrase qualifies for inclusion in the Phrasebank:

• Does it serve a useful communicative purpose in academic text?

· Does it contain collocational and/or formulaic elements?

· Are the content words (nouns, verbs, adjectives) generic in nature?

• Does the combination 'sound natural' to a native speaker or writer of English? Morley is also careful to consider whether or not it is ethical to reuse other authors' words, and based on research that included a survey of over 40 professors from two British universities, he and a colleague developed another simple list to determine whether or not a phase would count as plagiarism (Davis & Morley, 2013). Based on their survey data, Morley explains on the Phrasebank website that a reused phrase:

- should not have a unique or original construction;
- · should not express a clear point of view of another writer;
- may be up to nine words in length (beyond this 'acceptability' declines); and
- may contain up to four generic content words (nouns, verbs or adjectives which are not bound to a specific disciplinary domain).

With all of this careful research and consideration of academic expectations for writing, Morley offers a much more robust resource for writers who are trying to figure out how

to use metadiscourse to write for an academic audience. And unlike the textbook *They Say, I Say,* the Academic Phrasebank is freely available to anyone with internet access.

In addition to Morley's work, it is also important to consider the value of *They Say*, *I Say* in light of recent research from writing scholars who have used corpus linguistics to analyze metadiscourse and academic writing. In an effort to find out whether or not Graff and Birkenstein's templates actually were characteristic of the language that academics use in their writing, Zak Lancaster (2016a) conducted a corpus study of the *They Say*, *I Say* templates. He found that the language in the templates was not a very good reflection of the language that academic writers actually use. For example, the phrase "On the one hand, I agree with X that..." is presented as a good strategy for making concessions in *They Say*, *I Say*, but Lancaster found that most academic writers use this phrase to highlight a contrast between ideas, and it was only rarely used to make concessions (p. 454). Based on this corpus-based research, it is clear that a more nuanced presentation of the function of *They Say*, *I Say* templates is needed to accurately reflect academic metadiscourse.

Another example of the need for revising *They Say*, *I Say* is that many of the templates are listed under a single function (e.g. "Templates for Disagreeing, with Reasons"), but Lancaster (2016a) found that the phrases are not all equally applicable or equally effective for those writing situations. For example, Lancaster notes that "the difference between a hedged formulation like *Some may challenge my view that* and a more assertive one like *Many readers will object that* is significant, with the latter projecting greater commitment to the claim of what readers are thinking" (p. 442). Based on his findings, Lancaster warns instructors to use the templates with caution and also

calls composition scholars and teachers to make language a stronger focus of their research and instruction so that they can teach the form and function of metadiscourse more effectively.

Fortunately, another scholar, Aull, has already answered Lancaster's (2016a) call for a greater focus on language, and her book, First-Year University Writing: A Corpus-Based Study with Implications for Pedagogy, offers an excellent foundation for anyone interested in research on metadiscourse and undergraduate writing. Using COCA, a corpus of upper-division student writing called MICUSP (Michigan Corpus of Upper-Level Student Papers), and a corpus of FYC essays that she collected, Aull conducted a corpus-based study to track the differences in the ways that new freshmen, advanced college students, and scholars across academic disciplines use language. Aull's (2015) research identifies four areas where FYC students' metadiscourse is significantly different from language used in advanced academic writing. These four areas are: hedges and boosters (e.g. epistemic markers of possibility and certainty such as "could be" or "definitely"), transition markers (i.e. organizational markers such as "in addition"), reformulation markers (i.e. restatement markers such as "in other words"), and scope markers (e.g. "in this chapter" or "in Johnson's study"). Aull argues that writing instructors should be aware of the impact these four kinds of metadiscourse have in academic writing, and more importantly, help students to adopt these four patterns of language in their writing so that they can produce effective academic writing.

My research builds on Aull's work, but whereas Aull's research highlights the gap between composition students' and expert writers' use of metadiscourse, my research seeks to answer the question: How do composition teachers help to close that gap? Or in

other words, what is the most efficient and effective way to incorporate metadiscourse instruction into FYC classes? Though Aull (2015) gives suggestions for several ways to introduce metadiscourse into FYC classrooms, her research did not extend to actually finding out what kinds of instruction are most (or least) effective and whether or not students were able to apply what they had learned about metadiscourse in their FYC essays.

Another important gap my research addresses is that it provides data on native English speakers of English in FYC classes. While is encouraging that past research has shown that students who are given explicit instruction on features of academic writing can improve in their ability to tackle academic genres (Williams & Colomb, 1993; Young & Potter, 2013; Hardy et al., 2015; Townsend, 2015; Hyland, 2019), most of the research on metadiscourse has been done with English language learners by scholars who specialize in EAP (English for Academic Purposes) or L2 Writing (Intarprawat & Steffensen, 1995; Cheng & Steffensen, 1996; Conklin & Schmitt, 2008). Some research has also been done with native English speakers in American high schools (Uccelli et al., 2013), but outside of Aull's (2015) and Lancaster's (2016b) work, there is a dearth of recent research on native English speakers' use of metadiscourse in FYC classes. Overall, this dissertation begins to address not only how to teach metadiscourse, but more specifically, how to best teach it to the wide range of college students in FYC classes. Through a combination of an experimental classroom study with six different composition classes and a rich description of the lessons and teaching strategies I have developed, my work can help composition teachers incorporate metadiscourse into

courses they have already developed and avoid pitfalls in teaching metadiscourse in less effective ways.

While this chapter has given a broad overview of what metadiscourse is and why it is important to FYC, the rest of the dissertation explores my research on teaching metadiscourse in composition classes. Chapter Two of this dissertation gives an overview of the theory and methods used to gather and analyze research about teaching metadiscourse. I describe the participants in the study and give a rationale for why I chose these classes and how I organized the curriculum to include metadiscourse throughout a semester-long course. I also explain the design of my research, including both qualitative and quantitative measures of students' understanding of metadiscourse, and give an overview of the main research questions I attempt to address.

Chapter Three of this dissertation analyzes students' learning experience with academic writing in four classes: two that received instruction on metadiscourse and two that did not. All of these classes were given a pre-test and a post-test (a short essay assignment), and these essays were then scored by four composition instructors. Once the essays were scored, it was possible to compare the results of the pre- and post-tests for students who had received instruction on metadiscourse and those that did not. Additionally, based on Schmidt's (1990) "noticing hypothesis" (i.e. attending to specific language features is a necessary and important part of language learning) and Kellogg's (2008) three stages of writing development, I offer analysis of students' pre- and posttests and reflect on why the students may (or may not) have been successful in learning metadiscourse through online quizzes.

Chapter Four of this dissertation takes a slightly different turn and focuses on the quiz questions used to help students learn and practice metadiscourse throughout the semester. For this chapter, I used discourse analysis to analyze and compare responses to quiz questions about metadiscourse in one semester's composition class with revised quiz questions used in a subsequent semester's class. This chapter may be particularly useful in helping teachers to design effective exercises for different kinds of metadiscourse, and it also includes examples of ineffective teaching practices that should be avoided.

Similar to Chapters Three and Four, Chapter Five also focuses on data gathered from composition classes, but instead of comparing whole classes, I tracked individual students' procedural and declarative knowledge of metadiscourse throughout a semester by comparing students' use of metadiscourse in the first writing assignment of the semester with their use of metadiscourse in the final paper. This chapter includes data on students' use of hedges, boosters, transitions, and reformulation markers, including both the frequency of students' use of metadiscourse and the effectiveness of their use of metadiscourse.

Chapter Six builds on the research presented in the previous chapters and gives an overview of the literature related to teaching language features like metadiscourse, along with several descriptions of what this instruction might include. I give suggestions for the scope and sequence of including metadiscourse in a semester-long composition class, describe effective mini-lessons, and also give ideas for assignments and assessment practices that can help students recognize the importance of including metadiscourse features in their writing.

Last but not least, I offer a concluding chapter that summarizes the five major takeaways from my research on pedagogy and metadiscourse, offers suggestions for those either teaching or researching metadiscourse in the future, and calls on writing teachers everywhere to include a more specific focus on language in their teaching and research.

Chapter Two

Methodology

One of the most foundational questions any teacher can ask is whether or not learning is taking place. There are a variety of ways to measure learning, but first it is important to establish clear research questions, frameworks for studying those questions, and methods for testing the questions. This dissertation is about students' use of metadiscourse in college writing classes, and the goal of the preceding research was to find out (a) whether or not instruction on metadiscourse could lead to improved use of metadiscourse, (b) whether or not instruction on metadiscourse would lead to improved student writing, and (c) how metadiscourse instruction can be delivered most effectively. This chapter outlines the theory and methods that were used to find the answers to those questions.

In pedagogical research, the answers to questions are dependent on the theory or framework one uses for learning, instruction, and assessment. In her research on developing academic literacy, Ann M. Johns (1997) points out that it is essential to assess our individual theories of literacy because whether we think about them consciously or not, they impact every decision we make about reading and writing. Johns especially encourages teachers to reflect on their theory of teaching literacy. Do teachers believe students should be acquiring blocks of knowledge and skill sets through direct instruction from an expert (i.e. a more traditional, positivist view)? Or do teachers believe that literacy is built on social motivations and social networks, that writing is something that evolves as part of a process and that this process is best facilitated by mentors, peers, and rich contextual experience (i.e. a more socio-literate, culturally constructed view)?

As with most situations, either side of this traditional vs. constructivist dichotomy brings both benefits and drawbacks, so fortunately, Johns (1997) also offers another option: a combination of both approaches to pedagogy. This balance of both traditional and sociocultural models is especially important for teaching metadiscourse. On the one hand, corpus linguistics makes it very easy to identify patterns and discrete language markers that can be taught explicitly and assessed directly. Concrete items like lists of transitions are also easily transferred into worksheets and other "drill and kill" types of learning activities. Though this type of learning is often disparaged, it does have its place. It is very difficult for students to engage in higher level thinking such as analysis and synthesis if students do not start with the ability to identify and understand the basic form and function of language features (Lang, 2016).

On the other hand, however, traditional skill-based models alone cannot teach students to truly acquire metadiscourse. As Johns (1997) notes, students may be able to identify features like transitions in a text, but too often they do not "ask why these feature concentrations appear in particular texts, or what personal or social factors influence linguistic choices" (p. 6). Without critical thinking about the "why" behind metadiscourse, students are unlikely to be able to transfer what they have learned on a quiz or a worksheet into a more complex, high-stakes writing situation. For example, a teacher might ask questions like, "Do students not only know what a transition is but also whether or not they should include a transition between two paragraphs in their literary analysis, lab report, or business memo?" "Do students know which transition is most appropriate for this particular part of their text?" And more importantly, "Do students recognize that their decision of whether to include a transition (and which transition)

should be based on what they know about their audience, their content, and their overall purpose for writing?"

In order to answer these kinds of questions, theories about language, communication, and writing were applied to three sets of data collected about students' learning of metadiscourse: Schmidt's (1990) "noticing hypothesis," Kellogg's (2008) three stages of writing development, Gee's (2014) theory of discourse analysis, and Faerch and Kasper's (1986) framework for declarative and procedural knowledge. The three sets of student data are presented and analyzed in Chapters Three, Four, and Five. In each chapter, I have applied each of these frameworks to specific questions connected to metadiscourse, writing, and pedagogy. In Chapter Three, I use the "noticing" hypothesis" and Kellogg's (2008) three stages of writing development to examine students' learning of metadiscourse through quizzes over the course of a semester. In Chapter Four, I use discourse analysis to evaluate student responses to revisions to the quizzes and whether or not my changes to the instruction for metadiscourse improved the students' understanding of metadiscourse. In Chapter Five, I examine the gap between students' declarative knowledge and procedural knowledge of metadiscourse and explore reasons why some students are able to "know" and "do" things with metadiscourse while others continue to struggle. In the rest of this chapter, I will discuss the setting, participants, and methodology for my research overall as well as the data collection for Chapters Three, Four, and Five individually.

Setting

This research was conducted at Idaho State University (ISU), located in southeastern Idaho. ISU is a state university with an open enrollment policy, and students

come to its composition courses with a wide range of reading and writing abilities. Most students who attend ISU are white, and much of the total student population (roughly 13,200 in 2017) comes from rural areas in Idaho. However, ISU's student body also includes about 1,000 Hispanic students, along with international students who come from all over the world, with the majority (in 2017) coming from gulf countries in the Middle East. Like many other American universities, ISU also has more female students (about 7,500 in 2017) than male students (about 5,600 in 2017). Specific demographic data was not gathered from the classes that participated in this study, but the students who

The English department at ISU includes two composition courses: English 1101 and English 1102. The first course, English 1101, is designed to introduce new college students to the fundamental moves of academic writing, including thesis development, basic research methods, and the conventions of citations and mechanics. Other objectives for English 1101 include helping students gain rhetorical awareness through analysis of a wide variety of genres, and helping students learn to work through the writing process, including revising as they give and receive feedback from both the instructor and their peers. Like English 1101, the English 1102 course also helps students gain a strong foundation of academic writing skills, but it focuses more on deepening students' critical thinking and guiding students to find and synthesize credible sources into a clear, coherent, and persuasive argument. Though English 1101 is a prerequisite for English 1102, a few students are able to enroll directly into English 1102 because they test-out or because they took a dual-enrollment section of English 1101 in high school.

All of the data presented in this dissertation comes from English 1102 courses. Though the instruction on metadiscourse could be useful in both English 1101 and English 1102, I chose to use only English 1102 classes because (1) English 1102 students would (hopefully) have a better command of basic sentence structure and thus be prepared to incorporate metadiscourse more easily into their writing, and (2) the persuasive/argumentative focus in 1102 means that students are more likely to need all of the metadiscourse features that would be taught in the class (e.g. using hedges to qualify claims and using reformulation markers to restate or reframe claims and/or evidence).

Additionally, since I wanted to conduct a study that included a robust control group and experimental group, I needed to find four sections of the same class that were taught by the same instructor. In ISU's English department, English 1102 is the only course where instructors teach four sections of the same course; English 1101 is primarily taught by graduate TAs and no full-time instructors were teaching more than three sections of 1101 in Spring 2017. Therefore, in terms of student preparation and practical considerations relating to establishing a control group and an experimental group, English 1102 was the best fit for this study.

Participants

In order to find out how instruction on metadiscourse could impact students' writing, I conducted research through a type of non-probability sampling called judgment sampling. The advantage of using judgment sampling is that a researcher is more likely to find representative data if they choose a select group to study rather than allowing any person to participate. After identifying the type of participants best suited for my research (i.e. English 1102 students), I gathered data from six composition classes. All of these

classes were English 1102 courses, and all of these classes were taught face-to-face on campus using Moodle as an online learning management system. Four of the six English 1102 classes were taught by the same instructor (a lecturer at ISU), one of the classes was co-taught by myself and another professor, and the last class was a summer course I taught by myself. In order to prevent unfair comparisons between the different classes, I separated the data gathered from the four classes taught by the lecturer and the two classes where I was an instructor. Henceforth, I will refer to the classes taught by the lecturer as Group 1 Participants (or group 1) and the classes I taught as Group 2 Participants (or group 2).

Group 1 participants. The Group 1 participants came from four English 1102 classes taught by a lecturer at Idaho State University. All of the four sections in the study met for fifty-minute class periods each Monday, Wednesday, and Friday for fifteen weeks, and all sections met in the same classroom. Normally English composition courses have a cap of 25 students, but enrollment was low during spring semester 2017. In addition, only a limited number of students in each section chose to complete the preand post-tests, so the overall sample size for all four classes was only seventeen (n = 17), with seven students in the control group and ten in the experimental group. The classes in control group received no extra instruction on metadiscourse, while the classes in the experimental group were given instruction on metadiscourse through online tasks throughout the semester. Because I was not the teacher in this class and was concerned about burdening the lecturer with additional work, students in the experimental group only received instruction on metadiscourse through the online tasks they completed on Moodle. Information about each class is broken down in the table below (see Table 1).

	Class Time (MWF)	Research Group	Total Number of Students Enrolled	Consenting and Participating Students	Instruction on Metadiscourse
Section 1	9-9:50 a.m.	Control	16	6	none
Section 2	11-11:50 a.m.	Experimental	14	7	online tasks
Section 3	12-12:50 p.m.	Experimental	11	3	online tasks
Section 4	2-2:50 p.m.	Control	2	1	none

Table 1: Group 1 participants

Group 2 participants. The Group 2 Participants were English 1102 students in two classes. The first class (section A) consisted of twenty-three students enrolled in a fifteen-week spring semester section of English 1102, and I co-taught this class with another professor. The other class (section B) consisted of six students enrolled in an accelerated eight-week summer section of English 1102, and I taught this course alone. Because I was an instructor in both of these courses, I also developed in-class activities on metadiscourse along with the online tasks on metadiscourse. After teaching section A in the spring, I decided to modify some of the online tasks to find out if it improved the learning for section B. Unfortunately, because the summer section of the course was much smaller than the spring section, it is only possible to make tentative conclusions about the effectiveness of the changes in instruction. However, close analysis of students' quizzes and essays reveal some interesting patterns in their responses to adjustments in metadiscourse instruction (see Chapters Four and Five). More specific details on the numbers of each student group are given in Table 2.

Tał	ole	2:	Group	2	participants
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	Class Time	Semester	Total Number of Students Enrolled	Number of Students Who Consented to Participate, Completed at Least One Quiz, and Submitted a Final Paper	Instruction on Metadiscourse
Section A	10:00-10:50 a.m. MWF	spring 2017 (15 weeks)	23	15	Face-to-face class activities and online tasks
Section B	9:30-10:45 a.m. MTWTh	summer 2017 (8 weeks)	6	3	Face-to-face class activities and modified online tasks

Data and Analysis

I collected three sets of data through ISU's online learning management system (i.e. Moodle). Using Moodle, students submitted pre- and post-test writing samples, read about metadiscourse, practiced using it in quiz questions, and then reflected on what they had learned in short-answer responses. All of the student work on Moodle was collected, assessed, and analyzed, but only three sets of data are included in this dissertation:

- Pre-/Post-test data from Group 1 Participants (i.e. sections 1 4)
- Responses to Quiz Questions from Group 2 Participants (i.e. sections A and B)
- Comparisons between use of metadiscourse in Group 2 Participants' (i.e. sections

A and B) writing assignments at the beginning and end of the semester

The online instruction I created consisted of thirteen tasks in all: two surveys, nine quizzes that covered the different kinds of metadiscourse, and two short essay activities that functioned as a pre-/post-test to evaluate whether or not the instruction on metadiscourse actually impacted students' writing or not. Though data was gathered from all of these online activities, I have chosen to focus primarily on the pre- and post-test

data for the Group 1 participants because I wanted a quantitative measurement of the effects of metadiscourse instruction. The data I collected from Group 2 offers more of a qualitative look at students' performance and the online instruction. Though I also collected survey data from the participants in both groups, I chose to leave out this data because so many of the final responses were evaluations of the instructor and their teaching style than reflections on what the students had learned about metadiscourse. For a complete list of the online instruction and activities, please see Table 3.

Table 3: Online Tasks – Type, Title, and Purpose of the Activities

Туре	Title	Purpose
Pre-survey	Introduction to Academic Language	Gather information about students' confidence and knowledge about writing for academic audiences, and give students an easy introduction to taking quizzes on Moodle
Pre-test	Short Essay on Participation Trophies	Gather a sample of students' writing at the beginning of the semester
Quizzes	Identifying Transitions	Help students notice key transition phrases
	Practice with Transition Phrases	Give students practice with selecting appropriate transitions phrases for different situations
	Identifying & Using Reformulation Markers	Teach students the function of reformulation phrases like "in other words" or "meaning that"
	Reformulation Markers Part 2	Teach students the difference between i.e. and e.g. for reformulation
	Identifying Boosters	Help students notice boosters and be aware of students' tendency to overuse them
	Identifying Hedges	Help students notice hedges and be aware of students' tendency to underuse them
	Identifying Scope	Help students notice how specifying scope changes claims
	Practice with Hedges, Boosters, and Scope	Give students practice choosing appropriate hedges, boosters, and scope to revise a paragraph
	Putting it all together: Hedges, Boosters, Scope, Transitions, and Reformulation Markers	Give students practice choosing appropriate metadiscourse to revise various sentences
Post-test	Short Essay on Medical Websites	Gather samples of students' writing after instruction on metadiscourse
Post- survey	Survey on Language and Academic Writing	Gather information about students' confidence in academic writing after taking ENGL 1102, and find out how much they valued the instruction on metadiscourse

The rest of this chapter summarizes the methods for creating the pre- and posttests, online tasks, and writing assignments, as well as three frameworks for analyzing the data.

Data Set #1 (Chapter Three)

The "Noticing Hypothesis", Stages of Writing, and Pre- & Post-Tests for **Metadiscourse Instruction.** Though learning to write academic discourse is not exactly like learning an entirely new language, academic discourse is no one's native language and many of the theories of second language acquisition are useful to those trying to understand how students learn to write for academic audiences. The most basic premise of language learning is that it starts with some kind of input (i.e. experience with language). Once one experiences input, there are several different perspectives on what happens next. According to Krashen (1985), input activates unconscious and innate mechanisms that allow humans to acquire language. As long as humans are exposed to enough "comprehensible input," are ready to acquire new input, and do not have "affective filters" blocking the input (i.e. stress, anxiety, etc.), they can successfully acquire language (Krashen, 1992, p. 409). Though Krashen acknowledges that some explicit knowledge of grammar is useful, he believes that its impact is negligible in comparison with immersion in communicative experiences (i.e. listening, speaking, reading, and writing). Thus, those who follow Krashen's theory tend to teach through methods of wide-reading, conversation, and listening activities rather than more drillbased, formal instruction.

In contrast, Schmidt (1990) argued that wide exposure to language is not enough; rather, it is essential to pay attention to specific aspects of language input in order to

actually learn a language. Schmidt's argument was grounded in research on attention and memory that showed that stimuli must be processed through short term (or working) memory before it can be moved to long term memory. Thus, Schmidt (2003) posited that "noticing" was the difference between mere exposure to input (i.e. stimuli) and "intake" (the beginnings of processing information in memory), and that "intake" would eventually lead to "uptake" (retention of knowledge in long-term memory) (p. 209). Those who followed Schmidt's theory tend to teach in ways that help students notice specific structures, vocabulary, language features, etc. and then practice them until use of these forms became accurate and fluent.

For several decades SLA scholars have debated and tested the relative merits of Krashen's "input hypothesis" and Schmidt's "noticing hypothesis" (see Tomlin and Villa, 1994; Robinson, 1995; Laufer, 2003; Godfroid et al. 2010), but overall, most side more with Schmidt and believe that "noticing" is an important part of language acquisition. This support for Schmidt is likely due to the fact that several studies have shown that "noticing" positively impacts students' ability to learn and retain language (Leow, 2000; Scovel, 2001; Ellis, 2003; Robinson, 2003; Mackey, 2006), and because pedagogical methods that "focus on form" (Doughty & Williams, 1998) have proven beneficial to language learners.

In addition to research from second language acquisition on "noticing," I also found it valuable to consider research in cognitive science and writing development. Ronald Kellogg (2008) has done decades of research on the cognitive development of writers, and he divides writing development into three stages: knowledge-telling, knowledge-transforming, and knowledge-crafting (see Fig. 4).

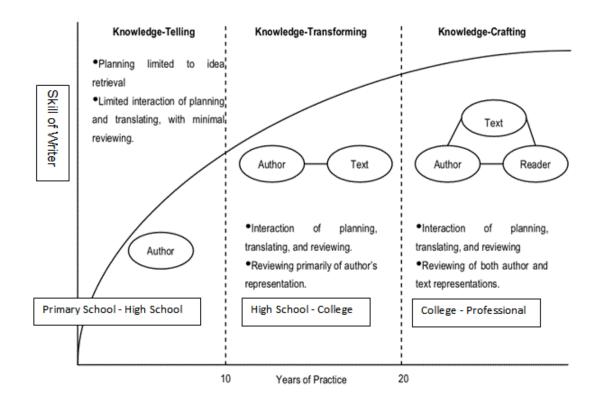


Figure 1: Macro-stages in the Cognitive Development of Writing Skill. (Kellogg, 2008, p. 4).1

According to Kellogg, freshman and sophomore writers are generally capable of knowledge-transforming, but most struggle with knowledge-crafting because they have limitations on their working memory that make it difficult for them to not only plan, generate clear sentences, and organize, but also juggle their own view on a subject, what outside sources say on the subject, and what their imagined readers might think about their view on the subject (Kellogg, 2008, p. 5). The cognitive load of writing is truly substantial, and when one considers that, based on Kellogg's research, only advanced writers are capable of managing a view of their reader (or audience) along with their

¹ Boxes labeled "Skill of Writer" and age ranges (e.g. Primary School, High School, College, and Professional) were added to this diagram for clarity.

purpose, text, etc., it becomes obvious why metadiscourse is difficult for students to produce unless they are prompted to notice it and use it.

One way to reduce the cognitive load on students and enhance "noticing" is something Kellogg and Whiteford (2009) call "deliberate practice" (p. 253). Deliberate practice helps students to isolate moves and strategies, takes away the pressure of composing the entire essay with all aspects of the rhetorical situation (i.e. audience, text, and author) in mind all at once, and makes it possible for developing writers to give their full attention to improving in one area at a time. My own work also builds on both Schmidt's "noticing hypothesis" and Kellogg's theory of writing development and Kellogg and Whiteford's concept of "deliberate practice." I designed the metadiscourse quizzes with the intent that they would help students begin the process of "noticing" metadiscourse in academic writing and, through deliberate practice, eventually become more effective as writers.

In order to find out if students were actually "noticing" and applying their knowledge, I designed a pre- and post-test that would allow students to demonstrate their ability to argue for a specific point, organize ideas, use academic tone, etc. (all qualities enhanced by effective use of metadiscourse). To create the essay prompts for the pre- and post-tests, I modified the American College Testing (ACT) writing prompt. This prompt was chosen because it was developed to test the writing ability of high school students applying to college and most composition students are at an equal or greater level of writing ability than the average test-taker for the ACT. The ACT prompt is meant to help students demonstrate their ability to organize and present an argument; however, a few

adjustments were made to elicit responses appropriate to the learning objectives for this study.

First, I took out the ACT's explicit instruction to "clearly state your own perspective on the issue" because this can encourage students to write a personal opinion piece rather than synthesizing perspectives in an argumentative essay. I also added the phrase "use an academic tone" and identified the audience as a university professor, so that students had the opportunity to demonstrate their ability to adjust their language and style to academic discourse conventions (see Table 4).

I also added the requirement of reading and using outside sources in the essay, so that students could authentically use metadiscourse features like reformulation markers (i.e. restating your own or others' claims or ideas to make them clearer). Fortunately, Moodle allows instructors to insert pages of instruction and background information before short-answer essay questions, and I chose to include articles from the New York Times' "Room for Debate" on these information pages because they naturally lead to argumentative discussion, and because the sources are credible, brief, and interesting. In this case, the pre-test included two short articles on participation trophies and the posttest included two short articles on whether or not WebMD is a good source for medical advice (see Appendix for full text of the articles).

Iable 4: Prompts for Short Essays (Pre- and Post-test Paginning of the composter prompt (pre- test)	·
Beginning of the semester prompt (pre-test)	End of the semester prompt (post-test)
• Read the short articles from the <i>New York Times</i> (shown in the next section of this quiz).	• Read the short articles from the <i>New York Times</i> (shown in the next section of this quiz).
• Write a unified, coherent essay of at least 500 words based on the following question: <i>Should every young athlete get a trophy?</i>	• Write a unified, coherent essay of at least 500 words based on the following question: Are medical websites, like WebMD, really helping people who need medical advice?
In your essay, be sure to:	In your essay, be sure to:
 argue for a specific perspective on the issue (your perspective may be in full agreement with any of those given, in partial agreement, or completely different) develop and support your ideas with reasoning and examples (including ideas from the articles you just read) organize your ideas clearly and logically 	 argue for a specific perspective on the issue (your perspective may be in full agreement with any of those given, in partial agreement, or completely different) develop and support your ideas with reasoning and examples (including ideas from the articles you just read) organize your ideas clearly and logically
 analyze the relationship between at least two different perspectives on the issue 	 analyze the relationship between at least two different perspectives on the issue
• communicate your ideas effectively in standard written English	 communicate your ideas effectively in standard written English
 use an academic tone (your audience is a university professor) 	 use an academic tone (your audience is a university professor)

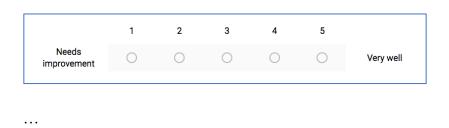
Table 4: Prompts for Short Essays (Pre- and Post-tests)

In addition, I took advantage of the affordances of Moodle to make the prompt more accessible for a college student completing the short essay online. Moodle allows students to read the quiz instructions, type their answer in a comment box, and then submit the response when they are finished. For the pre- and post-tests, students were given a flexible time limit (anytime during a five-day period) so that the students could work on the essay throughout the week rather than having to complete the essay during a single class period. This format is more similar to time limits given for other in-class assignments and gave students time to read the New York Times articles carefully and revise their answers (if they chose to). It may have also prevented students from being overly impacted by test anxiety.

After removing all identifying information from the pre- and post-test responses, I labeled each response with a numerical code to protect the identity of the student who wrote the essay. I also labeled the essays with either a 1 (for the pre-test) or 2 (for the post-test) and made sure the numbers were consistent with the course section so I could easily divide the control group from the experimental group. Once I had removed all identifying information from the essays and labeled them with numerical codes, I recruited four composition instructors to assess the essays. Those assessing the pre- and post-tests had no idea what the numerical codes meant; they simply read and scored each essay.

In order to help the volunteer composition instructors to assess each essay, I created an assessment tool in Google Forms based on the original prompt for the short essays. Each question in the assessment was rated on a Likert scale from 1-5, from "needs improvement" to "very well." The last question was intended to assess the overall quality of the essay, so the question was rated from 1-5 with one being equal to "poor" and five being equivalent to "excellent" (see Fig. 1 for the first and last questions, see Appendix A for the full assessment).

Figure 2: First and Last Questions from Assessment for Short Essays (Pre- and Post-tests)1. How well does this student argue for a specific perspective on the issue?



7. Please rate the overall quality of this essay. (1 = poor, 5 = excellent)

	1	2	3	4	5	
Poor	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	Excellent

Four composition instructors scored the essays. These instructors did not know what the experiment was specifically looking for (i.e. metadiscourse in writing), and simply rated each essay according to the questions on the Google Form (see Fig. 2). Each essay for the pre- and post-test was graded by two separate instructors, and the quality score was based on the average between the two instructors' scores. This assessment methodology ensured that scores would not be overly influenced by confirmation bias (i.e. assuming the presence or absence of metadiscourse influenced the essay's quality) or individual bias (i.e. one instructor's subjective view of the essay). The final data set included each student's pre-test and post-test overall quality score, and a statistical analysis was run to determine whether or not there was a significant difference between the pre- and post-test quality scores in the control group (who received no instruction on metadiscourse). Detailed results, statistical analysis, and discussion of the pre-/post-test data can be found in Chapter Three of this dissertation.

Data Set #2 (Chapter Four)

Discourse Analysis of Students' Response to Quiz Questions on

Metadiscourse. Discourse analysis is the process of looking closely at language (including vocabulary, grammar, syntax, phonetics, etc.) but it does not have to merely describe interesting forms and structures; discourse analysis can also mean looking beyond the language to see what impact it has on its creator, receiver, and society overall. Gee (2014) gives two major reasons for doing discourse analysis: "(a) illuminate and provide us with evidence for...a theory that helps to explain how and why language works the way it does when it is put into action; and (b) contribute, in terms of understanding and intervention, to important issues and problems in some area that interests and motivates us as global citizens" (p. 12). In Chapter Four of this dissertation I look closely at students' use of metadiscourse to better understand how and why metadiscourse "works the way it does when it is put into action", and I also analyze metadiscourse to shed light on the important issue of accessibility in higher education. Since FYC is often used as a gatekeeping course for upper division classes, it is important to examine the ways that teaching metadiscourse might enable more students to have access and control over written academic discourse, especially students who feel marginalized because of race or social class (Gee, 2015; Rose, 2014; Heath 1981).

Since the purpose of metadiscourse is to guide a reader through a text, I found it useful to use Gee's (2014) concepts of "recipient design" and "position design" to evaluate how well students were using metadiscourse. In his book, An Introduction to Discourse Analysis: Theory and Method, Gee (2014) explains that recipient design describes the way we design language based on our perception of our audience.

Typically, we write differently when we are sending a text message to a close friend versus sending an important email to our boss. Position design is also related to our perception of audience, but it describes the ways we use language to invite or entice readers "to be and do what we want them to be and do" (p. 21). For example, we write differently when we are asking someone for a favor versus giving them instructions on how to do a complicated task. Since metadiscourse is part of crafting both recipient and position design, this framework for discourse analysis was particularly useful in evaluating whether or not changes in the quiz questions influenced students' ability to use metadiscourse effectively.

Though the goals of this part of my research were similar to my goals with Group 1, there were some key differences in the way I gathered data. Overall, the students in Group 2 did the same online tasks as Group 1, but I could not establish a clear control group or experimental group with the Group 2 participants because the conditions between spring and summer semester were very different. Not only was the summer semester much shorter, but I was also co-teaching the spring class with another instructor and teaching the summer course on my own. Because of these different circumstances, it was more useful to focus on a qualitative assessment the students' responses to the online quizzes, which were adjusted after the spring semester. Improvements to the quizzes generally included clearer instructions and examples, but they also included much more context for each exercise. Despite these content changes, the overall delivery of the quizzes was similar for both classes. The online quizzes were spaced out throughout the semester (roughly 1-2 quizzes per week) and the last two quizzes reviewed content that students had learned throughout the semester. There was no time limit on any of the

quizzes, and students were also given unlimited opportunities to re-take any of the nine quizzes on metadiscourse. These grading parameters were chosen in hopes that students would see these quizzes as an opportunity to learn and practice in a low-stakes environment.

Of all the metadiscourse quizzes, the one that revealed the most about students understanding of metadiscourse seemed to be the "Putting it all together" quiz. The "Putting it all together" quiz required short-answer responses from students, and after downloading their responses into spreadsheets, I used the concepts of recipient and position design from Gee's (2014) book on discourse analysis to evaluate the students' choices with metadiscourse. Based on this analysis, I was able to identify some strengths and weaknesses in the way I had presented the instruction on metadiscourse, and I explain these insights in detail in Chapter Four.

Data Set #3 (Chapter Five)

Students' Declarative and Procedural Knowledge of Metadiscourse. While discourse analysis is useful for examining both language in use the impact of using specific language, another important tool for understanding students' use of metadiscourse comes from looking closely at the relationship between what students know and what students can do. Faerch and Kasper (1986) define declarative knowledge as understanding the "what" or "that" of something while procedural knowledge is understanding the "how." Both declarative and procedural knowledge are necessary parts of learning how to use language, and not surprisingly, declarative knowledge precedes procedural knowledge. Faerch and Kasper (1986) were particularly interested in how

teachers could help close the gap between declarative and procedural knowledge, and their model is particularly useful for teaching metadiscourse because it allows one to assess not only whether or not students can identify and describe metadiscourse (i.e. declarative knowledge) but also whether or not they demonstrate use of metadiscourse in rhetorically effective ways (i.e. procedural knowledge).

In order to find out more about students transition from declarative to procedural knowledge of metadiscourse, I gathered data about the ways students used metadiscourse in their first writing assignment of the semester (a 2-3 page summary of Solomon Asch's "Opinions and Social Pressures") and their last assignment (a 7-10 page argumentative synthesis on a topic chosen by each student). By comparing a select number of students' essays at the beginning of the semester with essays at the end of the semester, I hoped to be able to get a better picture of whether or not students were actually moving from declarative to productive knowledge with metadiscourse. Though the different genre (summary vs. argumentative synthesis) and length (2-3 pages vs. 7-10 pages) of the essays likely impacted students' use of metadiscourse (and thus prevents a perfect comparison between the students' writing samples), it was still possible to determine the frequency of students' use of metadiscourse features and draw some tentative conclusions about whether they were moving toward more productive knowledge about metadiscourse.

To analyze students' ability to produce metadiscourse, I began with definitions from Laura Aull's research on four kinds of metadiscourse. For the most part Aull's definitions and the quiz definitions matched up fairly closely. For example, Aull (2015) defines hedges as "words or phrases like *may, might, perhaps, possibly* that express

caution or qualification by implying the claims are not necessarily prove or true in every case" (p. 218, emphasis original), and the quiz definition for hedges was "These words or phrases signal a lesser feeling of certainty (e.g. might, likely to, unlikely to, tend to, probably, may, etc.)." Ten different examples with underlined hedges, including sentences like "It often rains in September, but it is less likely to rain in June" and "It is unlikely that you will find someone who likes both Batman and Superman" were included to help students get a better feel for what hedges are and how they are used in sentences.

Boosters, like hedges, also indicate stance, and Aull (2015) defines them as "words or phrases like clearly, certainty, must that show certainty and commitment to a claim; they allow little room for doubt or alternative views" (217). The quiz definition for boosters was simpler, but still very similar to Aull's definition; in the quiz boosters were defined as "a word (or group of words) that signals a strong feeling of certainty." As with hedges, ten different examples with bolded boosters, including sentences like "It **always** rains in September, but it **never** rains in June" and "It is **indeed** rare that you will find someone who likes both Batman and Superman" were given to help clarify what boosters are and how they are used.

Reformulation markers are likely to be less familiar for students, so it was important to give a clear definition and examples for this type of metadiscourse. Aull (2015) defines them as "markers that indicate a writer is restating information in their own words, to show elucidation (*in other words*), emphasis (*particularly*), or counter expectancy (*in fact*)" (218, emphasis original). In the quizzes, I designed an activity that I hoped would not only help students understand what reformulation markers are but also

give them a way to practice using them. Basically, I created a set of paragraphs describing reformulation markers but left a few parts of the sentences blank so that students could fill them in with an appropriate reformulation marker. The paragraphs were as follows:

A writer can use reformulation markers to explain or define important ideas. Reformulation, _______ to form something in a new or different way, can be done in a variety of ways. For example, a writer can use phrases like "which means", "meaning that", or "to be precise" in order to define or explain a specific word. This is often important to do in research papers because a writer may be using technical vocabulary. ______, these phrases can signal to a reader that they don't have to go to the trouble of stopping, looking up something in a dictionary, and then starting to read again. The phrase "which means" is also often used to explain cause and effect. ______ "which means" can not only help writers define terms, but also help writers show how one thing leads to another.

Another important set of phrases that a writer can use are "in other words", "put another way", and "put differently." These phrases help a writer restate ideas, and they often come right after a quote or statistic. For example, a writer could quote Franklin D. Roosevelt and explain what he said like this:

During his inaugural address in 1933, President Franklin D. Roosevelt said, "We have nothing to fear but fear itself." ______, Roosevelt believed the American people should not let their fear of losing everything--as many people had during the 1929 stock market crash--keep them from investing in new growth for the American economy.

Students' options for filling in the blanks included six different phrases: which means, meaning that, to be precise, put another way, put differently, and in other words.

In contrast to reformulation markers, transitions phrases are probably the most familiar type of metadiscourse, and Aull (2015) defines transitions as "words or phrases that show the logic and organization of writing by showing the relationship between

sentences or ideas; e.g. textual relationships such as causation (*due to*), comparison (*similarly, likewise*), contrasting (*conversely*), or countering (*however*)" (219, emphasis original). In the quizzes, transitions were not explicitly defined (the name is somewhat self-explanatory), but examples were given under six different categories commonly used in composition textbooks: addition (e.g. furthermore), causation (e.g. consequently), clarification (e.g. in other words), contrast (e.g. however), illustration (e.g. for example), and adversativity (e.g. despite the fact that). Though it is true that the clarification and illustration categories could also fit under the definition for reformulation markers, I believe it is useful for students to recognize that the different kinds of metadiscourse can overlap, and that the key is knowing how the word or phrase functions, not necessarily knowing how to categorize it.

The one exception in definition was scope markers. Aull (2015) defines scope markers as "words and phrases that signal the breadth and focus of arguments" and subdivides scope into text external markers (e.g. "in this world") and text internal markers (e.g. "in this essay") (p. 218). In my quiz definition, I only focused on text external markers and defined them as "words or phrases that tell exactly who, what, where, and when" in an argument, supplementing this explanation with examples of how to be more specific (e.g. "people should support education" versus "Idaho voters should support education"). I chose to focus on text external markers, because text internal markers are not often needed for the length of papers that students write (less than 10 pages) and because students can often write more effective thesis statements by leaving them out (e.g. "In this essay I will discuss the benefits and drawbacks of xenotransplantation" versus "There are benefits and drawbacks to xenotransplantation,

and both deserve careful consideration"). The main flaw in my definition for scope markers, however, was that I did not include specific examples of what text external markers look like. This made it difficult to determine whether or not students were intentionally using specific words and phrases to narrow the scope or not. Therefore, if teachers plan to teach and assess students' understanding of scope markers in the future, it would be beneficial to revise and/or replace my definition.

Once I had definitions for each kind of metadiscourse, I could assess students' papers to see if they were using hedges, boosters, reformulation markers, transitions, and scope markers in their essays. I began by reading the first paper that students had written and marking each instance of metadiscourse and then I did the same with their final papers. After identifying and counting the four kinds of metadiscourse in student essays, I compared the amount of metadiscourse students used in the first writing assignment of the semester with the amount of metadiscourse students used in the final writing assignment. This gave me a quantitative measure of the frequency of students' use of metadiscourse (e.g. # of hedges in the essay / total number of words in the essay = frequency of hedges in the essay). However, in order to get a clearer picture of their understanding and use of metadiscourse, I also analyzed the types of metadiscourse each student used and the ways they used the metadiscourse. Overall, this helped me to gauge whether or not the instruction on metadiscourse affected not only whether students used it more often but also whether or not they used metadiscourse more effectively.

Conclusion

The purpose of this chapter was to explain the configuration for this research on metadiscourse and methods that I used to find out more about (a) whether or not instruction on metadiscourse could lead to improved use of metadiscourse, (b) whether or not instruction on metadiscourse would lead to improved student writing, and (c) how metadiscourse instruction can be delivered most effectively. The data offers both quantitative and qualitative perspectives on these questions and will hopefully guide other instructors as they make choices about what to include in the composition course and as they pursue their own research questions.

Chapter Three

The "Noticing Hypothesis," Stages of Writing,

and Pre- & Post-Tests for Metadiscourse Instruction

At the end of the semester, teachers often ask students "What have you learned?" There are many ways to answer this question, but since self-reported data can vary so much, it is also useful to gather quantitative measures of student learning. One of the most basic methods for gathering quantitative data in the classroom is to identify a particular variable, create a control group and experimental group, and then develop a pre- and post-test so that the performance of each group in that particular variable can be measured. In this case, the variable I wanted to find out more about was metadiscourse instruction. If one group of students received metadiscourse instruction, how would it impact their writing? Would they perform better or worse than students who did not received metadiscourse instruction?

To answer these questions, I devised a series of online activities that would introduce students to four kinds of metadiscourse, help them identify these four kinds of metadiscourse in academic writing, and give students opportunities to practice producing metadiscourse. I asked a lecturer who was teaching four sections of composition for permission to test the quizzes in two of her classes and see how students would respond. I also developed a pre- and post-test so that I could evaluate the difference between the control group (students who received no extra instruction) and the experimental group (students who received instruction on metadiscourse).

However, data by itself does not give any real sense of whether or not learning occurred. Data must be analyzed, and for questions related to language learning, theories

from SLA (second language acquisition) and cognitive science are very useful. One term that SLA scholars often use when discussing attention is "noticing," which is defined as the "process by which learners pay conscious attention to linguistic features" (Ellis, 2003, p. 141). As mentioned in Chapter Two, Schmidt (1990) was the first to develop the "noticing hypothesis," and it has become very influential in language teaching. Sometimes "noticing" happens by chance, but it is much more likely if a teacher or peer specifically directs a student to "notice" something about language that helps them recognize its value, remember it, and improve their usage of it (Robinson, 2003). Therefore, the Moodle quizzes were designed to help students "notice" different kinds of metadiscourse (e.g. hedges, boosters, transitions, reformulation markers, etc.) and practice using metadiscourse in ways that highlighted both form (where to put it) and function (why to use it).

In addition to the concept of "noticing," a framework that is useful for analyzing students' writing is Kellogg's (2008) three stages of writing development. This framework includes "knowledge-telling" (common among writers in elementary, middle and early high school), "knowledge-transforming" (common among writers in high school and early college), and "knowledge-crafting" (common among advanced college students and professional writers). According to Kellogg, one of the challenges of moving from one stage to the next is the cognitive demand on learners to retrieve ideas, plan and organize based on those ideas, and also craft their ideas in ways that fit a particular audience. And, since balancing all of these demands at once is almost impossible for the average college freshman (especially those who typically attend open-enrollment institutions like ISU), Kellogg and Whiteford (2009) suggest giving students

"deliberate practice" with smaller writing tasks that make it easier to notice and attend to key features of writing, and then revise and improve writing.

With this framework of writing development in place, I will explain more about how the data was gathered. In the rest of this chapter I offer an overview of the methods and the results of the study, and using the concept of "noticing" and Kellogg's (2008) three stages of writing development, an analysis of students' performance. This chapter may be especially helpful to instructors who want to incorporate metadiscourse into writing curriculum, but also want to better understand how to measure whether or not students are applying what they have learned.

Participants

The participants in this study came from four composition classes taught by the same instructor at a university (see Table 5). Overall, seventeen students participated, with ten in the experimental group (i.e. receiving instruction on metadiscourse through online tasks) and seven in the control group (i.e. receiving no instruction on metadiscourse).

	Class Time (MWF)	Research Group	Total Number of Students Enrolled	Number of Students Who Completed the Pre- and Post-Tests
Section 1	9-9:50 a.m.	Control	16	6
Section 2	11-11:50 a.m.	Experimental	14	7
Section 3	12-12:50 p.m.	Experimental	11	3
Section 4	2-2:50 p.m.	Control	2	1

Table 5: Participants in the Study

Methods

In order to determine whether or not explicit instruction and practice with metadiscourse could improve students writing, I designed a pre- and post-test to gauge the quality of students' writing before and after instruction on metadiscourse. More on the methods and analysis of the quiz instruction can be found in Chapter Five of this dissertation, but the pre- and post-test results are the focus of this chapter.

Pre- and Post-test prompts

Near the beginning of the semester the participants in both the experimental and the control groups completed a pre-test where they wrote a short essay about participation trophies. At the end of the semester, students completed a post-test, where they wrote a short essay about medical websites. Other than the content difference, the prompts for the pre-test and post-test were identical (see Table 6 for basic prompt and Appendix for full copy of the articles from the New York Times).

Beginning of the semester prompt (pre-test)	End of the semester prompt (post-test)
• Read the short articles from the <i>New York Times</i> (shown in the next section of this quiz).	• Read the short articles from the <i>New York Times</i> (shown in the next section of this quiz).
• Write a unified, coherent essay of at least 500 words based on the following question: <i>Should every young athlete get a trophy?</i>	• Write a unified, coherent essay of at least 500 words based on the following question: <i>Are medical websites, like WebMD, really helping people who need medical advice?</i>
 In your essay, be sure to: argue for a specific perspective on the issue (your perspective may be in full agreement with any of those given, in partial agreement, or completely different) develop and support your ideas with reasoning and examples (including ideas from the articles you just read) organize your ideas clearly and logically analyze the relationship between at least two different perspectives on the issue communicate your ideas effectively in standard written English use an academic tone (your audience is a 	 In your essay, be sure to: argue for a specific perspective on the issue (your perspective may be in full agreement with any of those given, in partial agreement, or completely different) develop and support your ideas with reasoning and examples (including ideas from the articles you just read) organize your ideas clearly and logically analyze the relationship between at least two different perspectives on the issue communicate your ideas effectively in standard written English use an academic tone (your audience is a

 Table 6: Prompts for Short Essays (Pre- and Post-tests)

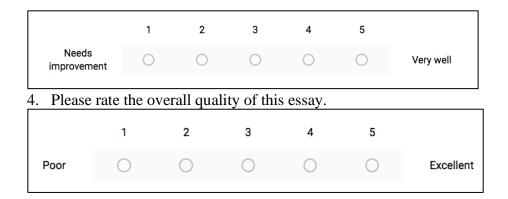
Assessment

After the semester was over, these pre-/post-test essays were graded by four composition instructors. The instructors did not know which essays were the pre-test essays and which were the post-test essays, and because all of the identifying information had been removed, they did not know which students had written which essays. The instructors used a Google Form (see Appendix B) to rate the essays, and two different instructors scored each essay. Each question (except the last) in the assessment was rated on a Likert scale from 1-5, from "needs improvement" to "very well." The last question was intended to assess the overall quality of the essay, so the question was rated from 1-5 with one being equal to "poor" and five being equivalent to "excellent." Of the nine questions on the survey, four questions were especially relevant to metadiscourse (e.g. strength of argument, clarity of organization, academic tone, and overall quality) while the other questions were less relevant (e.g. did the student use evidence from at least two outside sources), so only the results from four of the questions are explored in this chapter (Fig. 3).

Figure 3: Four Questions from the Assessment for Short Essays (Pre-/Post-Tests)
1. How well does this student argue for a specific perspective on the issue?

	1	2	3	4	5	
Needs mprovement	0	0	0	0	0	Very wel
How well does the student organize their ideas?						
	loes me	student (organize	then lue	as :	
	1	2	3	4	5	

3. How well does the student use academic tone?



As far as strength of argument goes, past research suggests that hedges (or qualifiers) can cause an instructor to perceive students' arguments as more nuanced and persuasive, while boosters (or intensifiers) can make the argument appear exaggerated or one-sided (Uccelli et al., 2013, Lancaster 2016b). Since the online instruction I designed taught students to "notice" hedges and boosters in arguments, I included this question on the assessment to see if (1) students' ability to argue would be affected by an increased understanding of metadiscourse, and (2) if composition instructors would perceive their arguments as more effective.

In addition, I also felt it was important to look specifically at how instructors rated students on organization because both transitions and scope markers can help a text to have a sense of cohesion and coherence (Hyland, 2019). Since the online instruction encouraged students to "notice" several types of transition phrases and to carefully consider language that would specify scope, I was interested in whether or not students would effectively incorporate these types of metadiscourse to improve organization and whether or not instructors would perceive their essays as more organized. In other words, I wanted to get a sense for whether or not the quizzes not only helped students "notice"

metadiscourse but also gave them enough context that they could apply what they learned about metadiscourse in more effectively in their writing.

Finally, I was interested to see how instructors perceived the overall academic tone and overall quality of the students' work. Since Aull's (2015) research suggests that there are real differences between the way student writers use metadiscourse and the way experts use metadiscourse, I wanted to know whether or not the students would sound more like academics after receiving instruction on metadiscourse, and I also wondered whether the instructors would perceive their writing as having better quality overall. All writing assessment is at least somewhat subjective, so if metadiscourse impacts teachers' perception of writing, it is likely to also impact the ways that teachers grade. Though the scores on students' essays can give a partial picture of how and whether or not student's writing improved, a more complete picture comes from looking at how students actually use metadiscourse and how that use correlates with their scores (see Chapter Five).

Results

Students' Performance on Argument, Organization, Academic Tone, and Overall Quality. The results for each of the four questions (i.e. strength of argument, clarity of organization, academic tone, and overall quality) varied. Overall there were three kinds of performance for each question: students who improved on the post-test, students who performed the same on the pre- and post-test, and students who did worse on the post-test. In this section I will provide detailed results for each of the four questions and some analysis of students' performance on each question.

Question 1: How well does this student argue for a specific perspective on the

issue? The table below shows the average scores from the Likert scale for the pre-test and post-test scores assessing the strength of the students' argument (see Table 7).

Tuble 7. Overall I erjormance in Experimental and Control Groups for Question 1						
Scores for Question 1: Argument	Experimental Group	Control Group Total	Overall Total			
	Total					
Did the same on the pre- and post-	2	1	3			
test						
Improved from pre- to post-test	3	3	6			
Did worse on the post-test	5	3	8			
17						

Table 7: Overall Performance in Experimental and Control Groups for Question 1

n= 17

Of the seventeen student participants, three students did the same on the pre- and posttests (2 in experimental, 1 in control), six students improved (3 in experimental, 3 in control), and eight students did worse (5 in experimental, 3 in control). Overall, these numbers do not suggest a major difference between the performance of the control and experimental group, though it is interesting that five students in the experimental group did worse on the post-test in arguing for a specific perspective on an issue.

One reason for this result may be that as students devoted more cognitive resources to "knowledge-crafting" by using metadiscourse to guide their audience through the argument, they may have neglected other aspects of developing the argument (Kellogg, 2008, p. 4). One of the most interesting phenomena in language learning is the "U-shaped course of development" where learners begin by demonstrating some proficiency after studying a new concept but then seem to regress before once again performing with proficiency (Ellis, 2003, p. 23). In other words, when learners try something new with language, they can actually get worse before they get better. Sometimes teachers can misinterpret students' regression as laziness or lack of understanding, but as Ellis (2003) argues, often students are making mistakes because

they are reorganizing their current understanding of language to accommodate for a deeper and clearer understanding.

One reason this "U-shaped course of development" may have shown up in the argument section of the rubric, is because students were only given instruction on stance markers (i.e. hedges and boosters) near the end of the semester. Uccelli et al. (2013) found that when students used hedges effectively, they received higher scores on persuasive essays, and I originally placed the quizzes near the end of the semester in hopes that students' ability to "notice" the effects of hedges and boosters in the quizzes would help improve their essays at the end of the semester. Though this may have happened for the three who improved on the post-test, it may have actually backfired for students who were not given enough time to practice using hedges and boosters.

Another consideration, may be the stress level of students near the end of the semester. As Kellogg and Whiteford (2009) explain, motivation is a key factor in learning, and the "learner must be sufficiently interested to endure the effort required by deliberate practice" (p. 254). It may be that the stress of the end of Spring semester (often an extra tiring time for students who have been taking a full load since Fall semester), may have made it harder for them to have motivation to fully engage in the practice on metadiscourse and apply what the quizzes were teaching about hedges and boosters. Overall, it seems that there are several possible factors at work, and so more research is needed to gauge how metadiscourse instruction influences students' ability to present good arguments in writing.

Question 2: How well does the student organize their ideas? The table below

shows the average scores from the Likert scale for the pre-test and post-test scores assessing the clarity of the students' organization (see Table 8).

Tuble 8. Overall Terjormance in Experimental and Control Groups for Question 2						
Scores for Question 2: Organization	Experimental Group	Control Group Total	Overall Total			
	Total					
Did the same on the pre- and post-	5	2	7			
test						
Improved from pre- to post-test	3	1	4			
Did worse on the post-test	2	4	6			
15						

 Table 8: Overall Performance in Experimental and Control Groups for Ouestion 2

n =17

The results from this question also revealed a wide range of performance, though a larger number of scores stayed the same for performance on organization. Of the seventeen student participants, seven students did the same on the pre- and post-tests (5 in experimental, 2 in control), four students improved (3 in experimental, 1 in control), and six students did worse (2 in experimental, 4 in control). One again, these numbers do not suggest a major difference between the performance of the control and experimental group, though it is interesting that in this case, more students in the experimental group did the same or better in organizing their ideas on the post-test. This result may be due to the fact that transition phrases are already taught in most composition classes, so rather than "noticing" them for the first time, they were actually "re-noticing" the transitions.

On the other hand, the fact that transitions were familiar may have prevented students from taking as much time to think about how to use them more effectively, especially if students assumed they were already fairly adept at using them. In the case of those who struggled, however, the opposite might be true. Because transitions were taught at the very beginning of the semester, it probably would have been helpful if students were given a few more reminders to "notice" this language feature. As Schmidt

(1993) notes, though "noticing" can prompt "intake" of a concept into short term memory, repeated practice is necessary for learners (especially struggling students) to achieve "uptake" (storage in long term memory).

Question 3: How well does the student use academic tone? The table below

shows the average scores from the Likert scale for the pre-test and post-test scores assessing the students' academic tone (see Table 9).

Tuble 9. Overall I erjonnance in Experimental and Control Groups for Question 5						
Scores for Question 3: Academic	Experimental Group	Control Group Total	Overall Total			
Tone	Total					
Did the same on the pre- and post-	2	1	3			
test						
Improved from pre- to post-test	6	1	7			
Did worse on the post-test	2	5	7			
n - 17	•	•				

Table 9: Overall Performance in Experimental and Control Groups for Question 3

n = 17

This question also revealed a wide range of performance, but it was unique in that it showed the widest range of difference between the experimental and control group in terms of improvement and lack of improvement. Seven students improved and six of these were in the experimental group. Interestingly, seven students also did worse on using an academic tone, but this time the greater number of students were in the control group (2 in experimental, 5 in control). Finally, three students did the same on the pre-and post-tests (2 in experimental, 1 in control).

It seems likely that at least one of the reasons the experimental group did better in creating an academic tone is because awareness of language (i.e. "noticing") impacts the way we use it. Because the instruction on metadiscourse explicitly taught students to consider an academic audience and include metadiscourse to help fulfill that audience's expectations, these students were probably not only more aware of their intended audience but also more aware of how language (specifically metadiscourse) could help

adjust their tone in order to reach that audience. The quizzes included several examples of both effective and ineffective writing, and these comparisons may have helped students notice not only metadiscourse but also get a stronger sense for the different tone that is created by different kinds of writing for different kinds of audiences. Thus, it seems likely that Kellogg and Whiteford's (2009) concept of "deliberate practice" should include instruction on both what to do and what not to do, and that this kind of practice can positively impact students' writing.

Question 4: Please rate the overall quality of this essay. The table below shows the average scores from the Likert scale for the overall pre-test quality and the overall post-test quality (see Table 10).

Experimental Group	Control Group Total	Overall Total
Total	1	
1	2	3
4	4	8
4	2	6
	Experimental Group Total 1 4 4	

 Table 10: Overall Performance in Experimental and Control Groups for Question 4

n =17

The table data shows a wide range of student performance. Of the seventeen student participants, three students scored the same on the pre- and post-tests (1 in experimental, 2 in control), eight students improved (4 in experimental, 4 in control), and six students did worse (4 in experimental; 2 in control). It is interesting that students in the experimental group did worse than those in the control group, but as mentioned previously, this may be due to multiple factors. One is that this may be more evidence of the fact that students are still working towards moving from "knowledge-transforming" to "knowledge-crafting" (Kellogg, 2008, p. 4). The increased cognitive load of audience awareness may be contributing to a "U-shaped course of development" where learners

are aware that multiple factors (including metadiscourse) can influence a good essay, but they have not quite figured out how to combine all of these elements together (Ellis, 2003, p. 23).

In addition, it is also important to consider in how the students' overall participation in the online metadiscourse instruction may have impacted their scores. In addition to looking at the quality of each students' response, I also looked at how many quizzes each student completed and whether or not their participation in the quizzes correlated with a higher, lower, or stagnant score for "overall quality" on the post-test. In the control group, of course, none of the students completed any of the quizzes. In the experimental group, six students completed more than half of the quizzes, and of these, three did better on the post-test, two stayed the same, and one did worse. Of the four students who completed less than half of the quizzes, one scored better (i.e. improving in overall quality), but the other three scored worse (see Table 11).

Metadiscourse Quizzes	Comparison of pre-/post-test	Participant Code #
Completed	score on Question 4 (better,	1
L	worse, same)	
1 out of 9	worse	182
3 out of 9	worse	181
3 out of 9	worse	161
4 out of 9	better	165
5 out of 9	same	183
7 out of 9	better	162
8 out of 9	worse	163
8 out of 9	same	164
9 out of 9	better	166
9 out of 9	better	167

Table 11: Results for the Experimental Group

n = 10 (Experimental Group only)

Overall, it seems that those students who did complete the quizzes tended to better in improving the quality of their writing, but unfortunately, due to the small sample size and varying results, it is difficult to come to any final conclusions. Clearly, there are some

benefits to teaching metadiscourse, but more research is needed to establish a solid relationship between metadiscourse instruction and writing quality.

Discussion of the Results and Methodology

Overall, the results reveal an interesting (though somewhat incomplete) picture of how metadiscourse instruction impacts student writing. As mentioned previously, the clearest indicator that metadiscourse instruction may have influenced students' writing was in their scores on academic tone. This supports the work of various scholars (Hyland, 2019; Aull, 2015; Lancaster, 2016b; Gee, 2008) who argue that metadiscourse helps students signal belonging in academic discourse communities, which may be the reason students who received metadiscourse instruction received higher scores for academic tone. However, the students' and instructors' perception of academic tone needs further exploration, as does the level of intentionality in the students' use of metadiscourse to create academic tone.

While the data on academic tone is promising, it is also important to note that much of the overall results reveal that adding metadiscourse instruction adds to the cognitive load of students and may affect their ability to argue and organize effectively. However, this does not mean that students are incapable of thinking about audience or that we should not teach them metadiscourse. Instead, it is important to find ways to break up the task of writing essays so that students have time to revise drafts with the audience in mind. In the case of the pre- and post-test essays, students were set up to write only one draft of each essay. In a first draft even the best writers can struggle, so it may simply be that students needed more time to fully incorporate all of the different writing skills (including metadiscourse) that they had learned.

Anne Lamott (1994) has suggested that we think of writing in two stages: the down draft and the up draft. In the first draft, Lamott recommends that writers just try to just get things down (i.e. the down draft) and then once that is done, the writer can focus on fixing things up (i.e. the up draft) (pp. 25-26). When teaching metadiscourse, the data from the pre- and post-test suggest that writing instructors would be wise encourage students to get a "down draft" done, and then going back and think about how to achieve more of what Kellogg (2008) calls "knowledge crafting." They could check for specific choices with metadiscourse such as stance (i.e. When should I hedge? When should I boost?), organization (i.e. Where do I need a transition?), and clarity (i.e. Should I add a reformulation marker to signal that I'm going to explain something in simpler terms, give an example, or give more explanation?), and these questions could help them think about the more global issues of argument and organization.

Conclusion

Overall the results of this study were that the online instruction on metadiscourse provided in quizzes throughout a single semester seems to have improved their ability to capture academic tone, but there was only a limited impact on students' ability to argue, organize, and improve in overall quality. These results suggest that there may have been ways that the online instruction could have been improved (more on this can be found in Chapter Four), and it seems very likely that more time to revise their essays would have helped students manage the cognitive load of their task and demonstrate more improvement in their writing.

In summary, there is much that indicates that instruction on metadiscourse can be useful in helping students write for an academic audience, and more research on

metadiscourse instruction is urgently needed. More insights on metadiscourse instruction are offered in Chapters Four and Five of this dissertation, and Chapter Six focuses specifically on designing more effective metadiscourse pedagogy. Future studies might compare instruction through Graff and Birkenstein's *They Say, I Say* text versus Laura Aull's metadiscourse markers, students' performance after face-to-face (rather than online) instruction on metadiscourse, and longitudinal studies that show the impact of metadiscourse instruction throughout a student's college experience. Though there are many other possible research opportunities involving students' writing, it is my hope that increased focus on students' use of language will help us identify even more effective ways to build confident writers in both academic settings and beyond.

Chapter Four

Discourse Analysis of Students'

Response to Quiz Questions on Metadiscourse

Like writing, teaching is rarely perfect in its first iteration. Anne Lamott (1994) has famously encouraged students to start with "shitty first drafts" and then revise until the writing improves, and this same advice applies to teaching. In my efforts to teach students metadiscourse I created several quizzes delivered through Moodle, ISU's online learning management system. Though I would not describe my first attempt at the quizzes as "shitty," I noticed that many students who took my composition course in the Spring were not learning metadiscourse as well as I had hoped, and so I decided to apply Lamott's advice and revise them for the students in my Summer composition class. Using discourse analysis, I look at quiz data from both semesters of students and offer insights on the revisions that were most helpful in increasing students' understanding and use of metadiscourse.

Before describing my revision in teaching metadiscourse it is important to establish the need for more explicit instruction in metadiscourse in the first place. Over the past three decades, various linguistic studies have shown that metadiscourse varies across academic genres and that awareness of metadiscourse can help writers understand how genres work and how to effectively write within genre conventions (Swales, 1990; Aull, 2015; Hyland, 2019). Successful writers pick up a lot of metadiscourse as they read widely in a discipline and become more and more familiar with its expectations. Many first-year college students, however, have not been able to read widely in any discipline and would benefit from more explicit instruction on specific genre conventions like

metadiscourse. In their book *Writing Across Contexts: Transfer, Composition, and Sites of Writing*, Kathleen Blake Yancey, Liane Robertson, and Kara Taczak (2014) explain their approach to helping students transfer the rhetorical knowledge they gain in their writing classes to upper division courses and beyond. They support concrete instruction on writing, and tell teachers to:

Be explicit. Writing is a social practice; it's governed by conventions, so it changes over time. Writing requires both practice and knowledge, which is what a FYC course provides. These are very explicit lessons, and as the research on learning demonstrates, if we want students to learn them, we do better to be straightforward in our teaching. (Yancey et al., 2014, p. 138)

Though Yancey et al. specifically argue for explicit teaching of "threshold concepts" in rhetoric and composition, much of their argument also applies to metadiscourse. In fact, research has shown that when students are taught to use metadiscourse, most are able to add it to their essays effectively (Cheng and Steffensen, 1996; Uccelli et al., 2013).

After reflecting on the research about metadiscourse, genre, and explicit instruction, I felt compelled to begin including more explicit metadiscourse instruction in my composition classes, and in the spring of 2017, I implemented a set of metadiscourse quizzes into a semester-long composition course. In order to find out if the quizzes were effective, I did a discourse analysis of the students' responses, paying close to attention to not just the metadiscourse they used but also the impact of the forms and functions of their overall sentences. All written texts can be analyzed for what Gee (2014) describes as "recipient design" (i.e. the ways one's writing choices reflect audience awareness) and "position design" (i.e. the ways one designs language so that it persuades a reader to

think, feel, and act in a certain way) (p. 21). Discourse analysis was particularly useful to this study because it not only allowed me to assess students' ability to use metadiscourse, but also to assess the effectiveness of the quiz design in both recipient design (e.g. my awareness of students' needs in understanding metadiscourse) and position design (e.g. my ability to persuade students to think about and use metadiscourse effectively).

After analyzing the initial responses from the spring section, I revised the quizzes and implemented them into a summer section of the same composition course. As I have compared the analyses from the two courses, I have developed new insights into how students acquire metadiscourse, and I have also learned important lessons about what teachers should (and should not) do when teaching metadiscourse. Overall, I have found that metadiscourse should be taught with three things in mind. First, it is essential to create quizzes that have a clear rhetorical context so that students can use metadiscourse in ways that reflect both recipient and position design (Gee, 2014). For example, it is difficult for a student to use a hedge or booster to signal stance if they are not sure what the overall argument is and/or have no investment in the argument.

The other two essential parts of metadiscourse instruction are form and function. Second language acquisition theory divides language understanding into form (i.e. the grammatical and lexical structure) and function (i.e. the correct usage and application of the form) (Ellis, 2003). In most cases, it is best to introduce form first, and Focus on Form (FonF) has become a strong component of language instruction in SLA (second language acquisition). Godfroid et al. (2010) describe FonF intervention as "moments in a sequence of meaningful communicative activities where the students' attention is drawn to linguistic form" (p. 169). For example, while a teacher is leading students through a

reading exercise, she might pause to point out the transitions at the beginning of each paragraph and encourage students to notice other transitions as they read and think about how they help one paragraph connect to the next. However, in order to fully assess a student's understanding of language, it is important to consider function as well. In fact, according to Doughty (2001), FonF is most effective when it "involves learners' briefly and perhaps simultaneously attending to form, meaning and use during one cognitive event" (p. 211). Thus, FonF is not simply noticing form but also the recognition that while learning language, form should not be separated from meaning or use. This is especially important in teaching metadiscourse because a student may use a transition like "on the other hand" without making any grammatical errors, but if they do not use it to signal a contrast between two ideas, then they clearly do not understand the function of this type of metadiscourse.

Metadiscourse Quizzes

In order to help students to demonstrate understanding of both the form and function of metadiscourse, I designed nine quizzes for students to take throughout the semester (see Table 12). I purposefully had the students start with two quizzes on identifying and practicing transitions because transitions are commonly taught in other writing classes, and learning tends to be easier if one begins with something familiar (Lang, 2016). The two quizzes on transitions were followed by three quizzes on identifying and using reformulation markers. These quizzes were followed by a quiz on identifying hedges, a quiz on identifying boosters, and a quiz on identifying scope. Since hedges, boosters, and scope are related, these quizzes were then followed by a quiz where they practiced using hedges, boosters, and scope. The last quiz was titled "Putting it All

Together: Hedges, Boosters, Scope, Transitions, and Reformulation Markers" (hereafter

PAT) and was intended to serve as a review of all the metadiscourse students learned

throughout the semester.

Quiz Title	Purpose
1. Identifying Transitions	Help students notice key transition phrases
2. Practice with Transition Phrases	Give students practice with selecting appropriate transitions phrases for different situations
3. Identifying & Using Reformulation	Teach students the function of reformulation phrases like
Markers	"in other words" or "meaning that"
4. Reformulation Markers Part 2	Teach students the difference between i.e. and e.g. for
	reformulation
5. Identifying Boosters	Help students notice boosters and be aware of students'
	tendency to overuse them
6. Identifying Hedges	Help students notice hedges and be aware of students'
	tendency to underuse them
7. Identifying Scope	Help students notice how specifying scope changes claims
8. Practice with Hedges, Boosters, and	Give students practice choosing appropriate hedges,
Scope	boosters, and scope to revise a paragraph
9. Putting it all together: Hedges,	Give students practice choosing appropriate metadiscourse
Boosters, Scope, Transitions, and	to revise various sentences
Reformulation Markers	

Spring and Summer Students

Data was gathered from two different groups of students, the first group of participants enrolled in a fifteen-week spring semester section of English 1102, and the second group enrolled in an accelerated eight-week summer section of English 1102 (see Table 13). Though there were 24 students in spring, only 15 actually participated in the study, and in the summer, only 3 students participated. Unfortunately, due to the small sample size, this means that the results are somewhat limited, but there are still some tentative conclusions that can be drawn, especially in preparing to present metadiscourse instruction.

	Spring Semester 2017	Summer Semester 2017	
Total number of students	24	6	
Number of domestic students	20	3	
Number of international students	4	3	
(all non-native English speakers)			
Days of class meetings	Mon., Wed., Fri.	Mon., Tues., Wed., Thurs.	
Length of each class period	50 min.	75 min.	
Length of semester	15 weeks	8 weeks	
Course delivery method	Face-to-face with quizzes and assignments on Moodle (the		
	online course management system at ISU)		

Table 13: Demographics for Spring and Summer 2017

Both groups of students received face-to-face instruction on metadiscourse along with online instruction through the quizzes, but some revisions were made to the quizzes after the spring semester. Some of these revisions were merely design improvements (breaking up some of the content and adding pictures to make the quizzes more engaging), but some of the revisions were fairly extensive, including significant changes to the wording of questions, changes to the content students had to read/analyze, and changes to the example sentences students had to revise. I found it useful to compare the data from spring with the summer class, especially since I had noticed some gaps in understanding while I assessed the spring students. The data from the summer class was also useful in helping me to understand how further revision to the instruction and quizzes might benefit students.

Quiz design

In the first eight quizzes on metadiscourse, the focus was on helping students learn various forms and functions of metadiscourse. Students would generally see one or two screens with text (and sometimes pictures) that described a type of metadiscourse and/or gave examples of that kind of metadiscourse. For example, in the quiz on hedges, students were given the following explanation and examples:

A hedge is a word (or group of words) that signals a lesser feeling of certainty.

Some examples of common hedges are <u>underlined</u> in the sentences below.

- It often rains in September, but it is less likely to rain in June.
- My mom <u>may be</u> trying to ruin my social life.
- It is <u>unlikely</u> that you will find someone who likes both Batman and Superman.
- There <u>could be</u> a reason we <u>might not</u> go to the party.
- We <u>may</u> start paying teachers a higher salary.
- It is probable that I will not go on a date with your brother.
- The football team <u>could potentially</u> win the game tomorrow.
- There is some doubt that the beaches in Hawaii are the most beautiful in the world.
- The movie's plot was <u>rather</u> obvious.
- There is a <u>somewhat</u> large bug on my arm.

In most quizzes, this explanation was followed by questions where students would select

the answer from a series of multiple-choice options. For example, just after the

information on hedges, students were given the following question:

Can you identify the hedge in this academic sentence?:

The results may suggest that Stage 3 sleep is essential for humans, because it was stable among subjects with different sleep durations.

Select one: a. may suggest b. different c. essential

Because students had unlimited time to take each quiz (until the due date) and multiple attempts on each quiz, the results of the first eight quizzes do not give much data on student mastery of the concepts. They merely reflect whether or not (and how often) students practiced the material.

There was one quiz, however, that did give some interesting data on how much students actually knew about metadiscourse and whether or not they could produce it effectively. This data came from the ninth quiz, titled "Putting it All Together: Hedges, Boosters, Scope, Transitions, and Reformulation Markers" (hereafter PAT). The PAT quiz was intended to serve as a review of all the metadiscourse students learned

throughout the semester, and since all the questions were short-answer, each question provided data on students' ability to produce different kinds of metadiscourse. The first five questions gave students a sentence or group of sentences and asked them to revise the sentences by using a particular kind of metadiscourse (hedges, boosters, reformulation markers, transitions, or scope markers). The final question asked students to write about how they would use these different kinds of metadiscourse in their final essay for the class (an argumentative research paper). The final question in the PAT quiz will not be addressed in this chapter because it is related closely to data from the students' final papers, but it will be analyzed as part of Chapter Five. This chapter will give an analysis of the students' responses to the first five questions in this quiz, including a comparison between the answers students gave in a spring semester section of the course and a summer semester section of the course.

Questions, Results, & Analysis

The rest of this chapter will focus on the first five questions of the PAT quiz. Each of the five quiz questions focused on a different kind of metadiscourse: hedges, boosters, scope markers, transitions, and reformulation markers. As I present the data, I will briefly describe each of the five questions, give an overview of students' responses in a results section, analyze the results, and then describe revisions to the questions between Spring and Summer.

Pat question 1 & 2: hedges & boosters. The first two questions in the PAT quizzes required students to read a sentence and use either hedges or boosters to improve the quality of the claim being made in the sentence. For example, in the spring class quizzes, the first question asked students to revise a sentence by adding hedges:

Q1: Where could you add hedges to improve this claim? Please copy and paste the sentence below and add hedges to it to show you know where and how to use them.

High school students use cell phones in class because they don't care about really learning the material; they only care about passing the class.

The second question was similar, but asked students to revise the sentence using boosters.

Q2: Where could you add boosters to improve this claim? Please copy and paste the sentence below and add boosters to it to show you know where and how to use them.

Learning another language is good.

Results for PAT questions 1 & 2 (spring). The students' responses show that

they were all able to insert hedges and boosters into the sentences, but in terms of

recipient and position design, there was some variety in the quantity and quality of their

revisions. First, I will discuss the quantity of hedges and boosters the students used.

When students revised with hedges, they used between 1 - 3 hedges, with the majority of

students using at least 2 hedges to qualify how often students use phones and how much

they care about passing a class.

	One hedge (3 students)	Two hedges (8 students)	Three hedges (4 students)
Samples	Some high school students	High school students usually	High school students
of	use cell phones in class	use cell phones in class because	often use cell phones in
student	because they don't really care	they don't might care about	class because they don't
responses	about learning the material;	really learning the material;	seem to care about really
(see appendix	they only care about passing	they only care about passing the	learning the material; they
for complete list of	the class.	class.	only seem to care about
responses)			passing the class.
	High school students use cell	High school students probably	Some high school students
	phones in class because there	use cell phones in class because	use cell phones in class.
	is reason to believe they don't	they tend to not really care	This may be because they
	care about really learning the	about learning the material;	do not care about learning
	material; they only care about	only passing the class.	the material, and <u>usually</u>
	passing the class.		only care about passing the
			class.

Table	14:	Spring	Students	Responses	to PAT	Question 1

When students revised a sentence with a booster, the majority used just 1, and all except one student used the booster to emphasize the value of learning a language (e.g. Learning

another language is very beneficial.). The student who used a booster differently chose to

emphasize the scope of the claim (e.g. All people should learn another language...).

Number	Student(s) Response (Boosters have a <u>double-underline</u>)
of	
students	
10	Learning another language is <u>always</u> good.
1	Learning another language is <u>always</u> something that is good.
1	Learning another language is <u>definitely</u> good.
1	Learning another language is very beneficial.
1	All people should learn another language because it is beneficial.
1	Learning another language is <u>definitely</u> useful, especially as the world in fact continues to expand in technology and travel.

Table 15: Spring Students Responses to PAT Question 2

Analysis for PAT questions 1 & 2 (Spring). Though most students were able to successfully add hedges and boosters to the sentences in their revision, I quickly discovered that it was difficult to evaluate whether or not their revisions were truly effective in recipient or position design because there was no context for the sentences. In authentic writing situations, authors can design a sentence as they hedge or boost based on the information available and/or the circumstance they are addressing. For example, it is possible that data gathered from a school study might find that 100% of students use cell phones in class, but they only use them occasionally and just for a few seconds. If this were the case, it would not be appropriate to change the beginning of this sentence to "Some high school students..." or to write "students usually use cell phones in class." Similarly, while it's difficult to argue against the value of learning another language, it would be more accurate to say "Learning another language is very beneficial" rather than "Learning another language is always good." Since I wanted students to demonstrate both

recipient design and position design in their use of metadiscourse, I needed to adjust my own design so that students had enough context to make choices with an audience and purpose in mind.

In the case of PAT Question 2, most of the students' choices for using hedges and boosters seem to be made based on simply fulfilling the exercise so that they could get points from the instructor. Though this is certainly part of the purpose of a quiz, it does not serve the students in other writing situations where they need to persuade audiences "to be, think, feel, and behave" in certain ways (Gee, 2014, p. 21). To sum up, I wanted students to use hedges and boosters based on their understanding of audience and evidence (or lack thereof), and not just show that they could put them in a sentence when a teacher required it, so it was essential to add more context to the quiz questions.

In addition to highlighting the issue of context, the students' answers also helped me recognize the need to spend more time helping students to become aware of the grammatical structures required to use hedges and boosters. Many of them struggled to adjust the grammar after including a hedge or booster so that the sentence still made sense. For example, the one student response in Table 14 has the awkward phrase "don't might care," which shows they are not sure of where or how to include hedges with other verbs. In this case, using a hedge would require fairly significant revision, changing "don't care" to "might not care." In an effort to improve both context and students' ability to use hedges and boosters in grammatically correct ways, I made several changes to Question 1 and 2 and gathered new data from my summer students to see if these changes would give both the students and me a better understanding of their use of metadiscourse.

Summer revisions for PAT questions 1 & 2. In the summer course, the first

question of the PAT Quiz was adjusted to that students read a short excerpt from an

Atlantic article about cell phone use in class. Students were then given a prompt with a

sample sentence that they were asked to revise and improve by adding hedges.

Q1: "Do Cell Phones Belong in the Classroom?" By Robert Earl

[W]hatever a school's approach to technology, cell phones seem to be nearly ubiquitous. An April 2010 study by the Pew Internet and American Life Project and the University of Michigan found that in schools that permitted students to have cell phones, 71 percent of students sent or received text messages on their cell phones in class. In the majority of schools -- those that allow students to have phones in school but not use them in the classroom - the percentage was almost as high: 65%. Even in schools that ban cell phones entirely, the percentage was still a shocking 58%.

Many teachers have given in and allowed their students to listen to music through their earbuds while they're doing individual class work (reading or writing or conducting research). "I concentrate better on my schoolwork when I'm listening to music," is the rationalization from many students. Many teachers seem to accept this reasoning, little knowing about the data on multitasking and its deleterious effects on concentration and the ability to think clearly. Two years ago, for example, Peter Bregman wrote in the Harvard Business Review Blog Network that multitasking can reduce productivity by as much as 40%, increase stress, and cause a 10-point fall in IQ.

Source: https://www.theatlantic.com/national/archive/2012/05/do-cell-phones-belong-in-the-classroom/257325/

After reading the excerpt above, a student wrote the sentences below. Where could you add hedges to improve their claims? Please copy and paste the sentence below and make any changes that you feel would improve these sentences.

High school students always use cell phones in class. Their teachers let them do this because they don't know that multitasking totally destroys students' ability to think.

Though the addition of more text is the most obvious change to the question, it was not

the only important change. As I considered "recipient" and "position design" for this

question, I realized that the students needed more than just more context to revise with

both audience and purpose in mind (Gee, 2014). Therefore, the summer semester quiz not

only included context from the Atlantic article, but it also put students in the position of

revising a peer's work rather than an anonymous piece of writing. I purposely asked the

student to revise a fictional peer's work because I hoped that students would remember

instruction from in-class peer reviews as well as past quizzes where students learned that

many novice writers tend to overuse boosters and under use hedges. I also wanted to leave the revision fairly open. Students were prompted to add hedges, but they were also told to "make any changes" they felt would "improve these sentences."

For the second question in the quiz, I relied on the same context that had been set up in Question 1. The sentences still talked about cell phones in high school classrooms, and the sentences also included an overabundance of hedging. Thus, the directions were not just to add boosters but also remove some of the hedges that might be weakening the overall claim and making it less effective.

Q2: Where could you <u>remove hedges</u> and <u>add boosters</u> to improve this claim? Please adjust the sentences below to make the claims stronger and clearer.

Teachers could consider maybe asking students not to use cell phones. Perhaps they could tell students about the research on multitasking and the way it might sometimes affect their concentration.

Unfortunately, there were far fewer responses from the summer students (only three participated), but their responses still suggest some interesting things about what they know about revising hedges and boosters with an academic audience in mind.

Results for PAT questions 1 & 2 (summer). First and foremost, as with the

Spring semester students, the Summer semester students' responses illustrate that they

know what hedges and boosters are and can generally (though not perfectly) incorporate

them into sentences (see Table 16).

	Two hedges (1 student)	Three hedges (2 students)
Student responses (Hedges are underlined, boosters have a	Student 2: High school students <u>seem to</u> <u>almost always</u> use cell phones in class. Their teachers let them do this because they don't know that multitasking <u>can</u> <u>totally</u> destroys a students' ability to think.	Student 1: Most high school students use cell phones in class. Their teachers let them do this perhaps because they do not know that multitasking may negatively affect students' ability to think.
double underline.)		Student 3: <u>Some</u> high school students use their cell phones in class. <u>Some of</u> the student's teachers allow them to not knowing multitasking <u>can harm</u> a student's ability to think.

Table 16: Summer Student Responses for PAT Question 1

One of the biggest differences between the spring and summer results is that all of the summer students used more than one hedge. Two students also removed the boosters (i.e. always, totally) and though the other student left the boosters in the sentences, they still added hedges before the boosters (i.e. almost always, can totally). This may not have been as effective as taking out the boosters, but it does indicate that the student recognized the need to at least soften the boosters in order to achieve better recipient and position design.

Another interesting thing about these responses is that the students who removed the booster in the second sentence (i.e. totally) also softened the verb "destroys" by changing it to "negatively affect" or "can harm." This response seems to indicate the students' awareness that the word "destroy" is also working like a booster and making the claim sound less objective (and perhaps more informal) than it should.

As can be seen in the results in Table 17, the students all took out quite a few hedges, but their final result is still a fairly soft call to action. Two students changed could to should, but they also left in the word "consider" rather than moving straight to the main verb "ask."

Student	Student Response (Boosters have a <u>double-underline</u>)
1	Teachers <u>should</u> consider asking students not to use cell phones. They can tell students about the research on multitasking and the way it can affect their concentration.
2	Teachers could ask students not to use cell phones. They could tell students about the research on multitasking and the way it affects their concentration.
3	Teachers <u>should</u> consider asking students to not use their cell phones. They <u>should</u> tell their students about the research multitasking and the way it sometimes affects their concentration.

Table 17: Summer Students Responses to PAT Question 2

These revisions suggest that the revised questions helped students with recipient and position design. In these answers, Students 1 - 3 seem to be thinking about the potential audience (teachers) because the words "should consider" or "could" avoid a forceful tone but are still stronger (and clearer) than the overly hedged phrase "could consider maybe." Since there is a power difference in student-teacher relationships, this slightly hedged stance makes sense, especially given that these students knew they were revising the work of a student writer whose audience would be a teacher.

Analysis for PAT questions 1 & 2 (summer). Overall, adding more rhetorical context and simplifying the example sentences seemed to have improved the quiz. I felt much more confident in assessing the quality of the Summer students' revised sentences because the original excerpt from the Atlantic article gives clear context for the number of students who use cell phones, how often they use cell phones, and how teachers often respond. For example, if I were rating the Summer students' revisions with hedges, I would give them all points for hedging the first sentence to show that not all students use cell phones, but I would point out that the phrase "can totally destroys" has both grammatical and rhetorical problems and needs further revision.

Despite the improvement in the question and responses, these results seem to indicate that the prompt could still be revised. As mentioned earlier, one student wrote

"can totally destroys" instead of "can totally destroy." This may be because they did not know they needed to adjust the verb "destroy" after adding "can" in front of it, but it also seems likely that the directions to "copy and paste" the original sentence led the student to simply plug in hedges rather than really thinking through their place in the sentence. Thus, it might be more effective in the future to encourage students to rewrite rather than copy and paste the sentences for revision. In addition, it could also be effective to encourage students to come up with their own sentence (rather than only revising a few words in a fictional student's sentence).

PAT question 3: scope. In the third question, students were asked to adjust the scope of a claim.

Q3: How could you improve the scope of this claim? Please copy and paste the sentence below and adjust the scope of the claim to make it more credible.

The media cannot be trusted.

Unlike the previous questions, students didn't have a specific set of scope markers to work from as they had seen with hedges (e.g. likely, probably, could be) and boosters (e.g. never, always, absolutely, etc.). In my instruction on scope, I told students to be wary of overgeneralizing about certain groups (e.g. "Women love shopping" or "Asians are good at math") and instead try to be specific about who, what, where, and when. In other words, I wanted them to recognize the importance of improving recipient and position design (Gee, 2014) by framing their claims with accurate representations of people, places, and things.

Results for PAT question 3 (spring). Students from the spring course gave a variety of answers that reveal some interesting things about their understanding of scope (and some interesting misconceptions they have about evaluating media credibility, but

that is a separate conversation). Most were able to revise the sentence so that the term "media" was more specific, but students also revised scope in other ways. Overall I found that the students' responses fell into four major categories: (a) answers specifying the kind of media (e.g. Wikipedia), (b) answers specifying the type of media along with a hedge, (c) answers that identified circumstances (e.g. in today's world), (d) answers that offered explanation or more hedging rather than clarifying the scope (see Table 18). These responses suggest that most students (11 out of 16) recognized the need to be more specific about what kind of media when making claims about its credibility.

Specified the type of media:	Specified the type of media + hedge:	Identified circumstance:	No change in scope:
Articles published in The New York Times cannot be trusted.	The majority of click bait media cannot be trusted.	In todays world you simply can't trust the media.	Hedge: The media may not be a good trusted source to some extent.
Wikipedia cannot be trusted.	Some media, especially the media outlets that Grandma shares on Facebook, cannot be trusted.	The media cannot be trusted in the hands of irresponsible people. It is something so delicate, that if misused, could create havoc in our society.	Explanation: The media cannot be trusted because it's being misled by clickbait headlines.
Media such as Fox news and CNN cannot be trusted in the United States.	The majority of click bait media throughout the U.S. cannot be trusted.		
Unauthorized social media cannot be trusted.			
News articles on social media cannot be trusted.			
The information the internet and the television provides cannot be trusted.			
Media around political issues cannot be trusted.			
The media who gains an audience through click-bait cannot be trusted.			

n=15

Analysis for PAT question 3 (spring). Despite the fact that the majority of the

spring students were able to adjust the scope in their revision, it is important to note that

some students did a far better job of narrowing scope than others. For example, the

student who wrote "Some media, especially the media outlets that Grandma shares on Facebook, cannot be trusted" shows a more nuanced understanding of media and credibility than the student who wrote "The information the internet and the television provides cannot be trusted." If a student is working on recipient and position design for an academic audience, just specifying what kind of media is not enough; all of the "information the internet and the television provides" is still far too broad for a reasonable claim. Perhaps in future quizzes, students would benefit most from seeing a list of revised claims (like the student samples in Table 18) and then be given the challenge of rating the claims from least effective to most effective. This approach might help them think more critically about what it means to narrow the scope and which strategies are more or less effective.

It was also interesting that despite a lack of any mention of "hedges" in the prompt, four students still chose to include hedges in their revised sentences. Indeed, there is a grey area between the qualifiers that Laura Aull (2015) labels as hedges and scope markers that specify who, what, where, and when. For example, if a student changes a sentence to say "some ideas" rather than simply "ideas" they are narrowing the scope and qualifying "ideas" at the same time. Thus, it is likely that students would be even more aware of their choices in recipient and position design if there were some general discussion of qualifiers and why both hedges and scope markers can play an important role in qualifying claims.

Summer revisions for PAT question 3. As with previous questions, I changed the summer version of question 3 to reflect the context already established in questions 1

and 2. Therefore, instead of revising the sentence about media used in the spring

semester, I revised the prompt as follows:

Q3. How could you improve the scope of this claim? Please adjust the sentence below to make it more specific and more reasonable.

Technology is ruining education.

Results for PAT question 3 (summer). The responses from the summer students were similar to the responses from the spring students (see Table 19). The three students who responded all changed "technology" to a more specific noun (i.e. cellphones) and also added more specifics about where (i.e. "secondary education," "in the classroom" and "classroom education.").

Table 19: Summer Student Responses to PAT Question 3

Specified the type of technology and education:	Specified the type of technology and location:
Student 1: Cell phones are ruining secondary education.	Student 2: Using technology like cell phone
	in the class room is ruining education.
Student 3: Cellphones is impairing classroom education.	

Analysis for PAT question 3 (Summer). It is difficult to accurately compare a larger sample with such a small sample, and the grammatical mistakes are somewhat distracting, but it seems likely that the additional context helped these students to make better recipient and position design choices overall and narrow the scope of the claim "Technology is ruining education." With the context of the Atlantic article in mind, all of the summer students seem to recognize that the evidence didn't support an argument that condemned all technology or involved all types of education. Of course it would be necessary for students to clarify what "ruining" means and offer more evidence in order to fully support this claim in a longer paper, but at least their revised claims are leading them to a more specific argument. Once again, as with the results from questions 1 and 2, it seems clear that adding rhetorical context is essential to helping students use

metadiscourse effectively (and allowing instructors to evaluate students' use of

metadiscourse). Additionally, given the grammatical errors of the summer students, it

seems clear that more attention to form (through additional practice and adjustment of the

instructions to "copy and paste" the original sentence), could help students write more

accurate sentences.

PAT question 4: transitions. The next question in the quiz shifted away from

specific claims and focused on connecting ideas. This question was intended to give students the opportunity to demonstrate their ability to create coherent recipient and position design by connecting the content of sentences with clear transitions. In addition to the prompt, students were also given a list of transitions categorized by the function they typically have in a sentence (e.g. contrast two different ideas):

Q4. What transitions could be used to improve the sentences below? Please rewrite the sentences with one or more transitions and paste your revision into the box below.

Examples of transition phrases:

- Addition: furthermore, in addition, moreover
- Cause and Effect: because, since, as a result, consequently, due to, therefore
- **Clarification:** in other words, that is, this means that (*Note: these also work as reformulation markers*)
- Contrast: in contrast, however, on the other hand, conversely, unlike
- Illustration: for example, for instance
- Adversativity: although, even though, despite the fact, in spite of, however, nevertheless

Sentences:

Some people assume that boys should play with trucks and build things with blocks. Girls should play with dolls and pretend to cook in the kitchen. These gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.

Results for PAT question 4 (spring). The students' responses reveal some mixed

results. All students used at least one of the transition options presented in the quiz

question (i.e. addition, cause and effect, clarification, contrast, illustration, or

adversativity), but they came up with ten different combinations of transitions in their

responses (see Table 20). One third of the students in the spring course used a transition that contrasted the first and second sentence and then added a transition that indicated cause and effect for the last sentence, two students used two transition phrases to emphasize contrast, and the rest of the students used some other combination of transitions.

Choice of	Samples of Spring Responses (transitions are in bold <i>italics</i>)		
Transitions			
Contrast + Cause/Effect (5 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks. <i>However</i> , girls should play with dolls and pretend to cook in the kitchen. <i>As a result</i> , these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Contrast + Contrast (2 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks. <i>In contrast</i> , these people believe that girls should play with dolls and pretend to cook in the kitchen. <i>However</i> , these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Contrast + Addition + Cause/Effect (1 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks. <i>Conversely,</i> these people <i>also</i> believe that girls should play with dolls and pretend to cook in the kitchen. <i>Consequently,</i> these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Addition (1 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks, <i>in addition</i> girls should play with dolls and pretend to cook in the kitchen. These gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Contrast + Adversativity (1 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks. <i>On the other hand</i> , girls should play with dolls and pretend to cook in the kitchen. <i>Although</i> these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Illustration + Clarification (1 out of 15 students)	Gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies. <i>Some examples</i> of how this might happen from a very young age. <i>In other words</i> , some people assume that boys should play with trucks and build things with blocks and girls should play with dolls and pretend to cook in the kitchen.		
Illustration + Cause /Effect + Clarification + Contrast (1 out of 15 students)	<i>For example, as a result</i> of some people's assumption, stereotypes are shown. <i>In other words,</i> some people assume that boys should play with trucks and build things with blocks. <i>In contrast,</i> girls should play with dolls and pretend to cook in the kitchen.		
Addition + Cause/Effect (1 out of 15 students)	Some people assume that boys should play with trucks and build things with blocks. <i>In addition</i> , girls should play with dolls and pretend to cook in the kitchen. <i>As a result</i> , these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Example + Contrast (1 out of 15 students)	Some people assume that boys, <i>for example</i> , should play with trucks and build things with blocks. Girls should play with dolls and pretend to cook in the kitchen. These gender norms, <i>however</i> , can prevent some people from fully expressing their individual preferences for future careers and hobbies.		
Adversativity + Contrast + Example + Cause/Effect (1 out of 15 students)	<i>Although</i> some people assume that boys should be playing with trucks and building things with blocks, <i>on the other hand</i> , they say girls should be playing with dolls and pretending to cook; <i>this can be an example</i> of gender norms which <i>due to</i> people can prevent some people from fully expressing their individual preferences for future careers and hobbies.		

Table 20: Spring Student Responses for PAT Question 4

Analysis for PAT question 4 (spring). As mentioned previously, most of the Spring students chose to use a combination of transitions that contrasted the first two sentences and signaled cause and effect in the last sentence. While cause and effect was certainly appropriate for the final sentence (e.g. As a result, these gender norms can prevent some people from fully expressing their individual preferences for future careers and hobbies), the contrasting transition was less effective for most students. For example, in the first sample response in figure 4.2, the student wrote, "Some people assume that boys should play with trucks and build things with blocks. However, girls should play with dolls and pretend to cook in the kitchen." Even though the stereotypes in the sentences involve different genders, it is ineffective to use the contrasting transition "However" here because it makes it seem like the second sentence is a new claim (e.g. "girls should play with dolls") rather than another assumption about gender and toys. This use of transitions seems to suggest that students are not fully aware of the function of transition phrases, and need more instruction to help them see how transitions influence good recipient and position design, especially given the fact that most academic audiences feel strongly about gender stereotypes and would respond negatively to the sentences "Some people assume that boys should play with trucks and build things with blocks. However, girls should play with dolls and pretend to cook in the kitchen."

Other students' responses seem to suggest that they mostly saw their task as inserting transition phrases, and unfortunately, many of their responses also show that they are not aware of how these transitions impact the overall meaning and structure of the sentence. For example, most students who used "although" ended up creating fragments because they did not recognize that this subordinating conjunction made their

sentence a dependent clause that no longer made sense on its own. Thus, it seems that students need more time (perhaps in a class discussion) to evaluate the impact of transitions. Students might also benefit from seeing various student attempts, like the ones in Table 20, so that they can learn from others' mistakes and avoid similar pitfalls. Perhaps students could rate a list of student examples from most effective to least effective and justify their answers. In any case, it is evident that merely looking at a list of transitions and plugging them into sentences does not lead to better recipient and position design.

Revision for PAT question 4 (summer). As with previous questions, in the

summer course question 4 was adjusted to fit the context of high school students' cell phone use. The sentences were also shortened in hopes that it would be easier for students to think about how chunks of information might relate to each other and incorporate transitions accordingly.

Q4. What <u>transitions</u> could be used to improve the sentences below? Please rewrite (or combine!) the sentences with one or more transitions.

Examples of transition phrases:

- Addition: furthermore, in addition, moreover
- Cause and Effect: because, since, as a result, consequently, due to, therefore
- **Clarification:** in other words, that is, this means that (*Note: these also work as reformulation markers*)
- Contrast: in contrast, however, on the other hand, conversely, unlike
- Illustration: for example, for instance
- Adversativity: although, even though, despite the fact, in spite of, however, nevertheless

Sentences:

Cell phones can distract students from learning. Some teachers argue that cell phones can actually help students learn. They use them to enhance regular instruction. Students can use their phones to do mini-quizzes in class, collaborate with other students, and record audio files about their learning.

Results for PAT question 4 (summer). Despite these changes, responses from

the summer students were still fairly mixed (see Table 21). All three students used

different combinations of transitions in their sentences. Most students were able to create

sentences with clearer meaning and correct grammar, but Student 2 seemed to have a

harder time incorporating transitions with attention to both form and function.

Type of	Summer Responses (transitions are in bold <i>italics</i>)		
Transition			
Contrast +	Student 1: Cell phones can distract students from learning. However, some		
Illustration	teachers argue that cell phones can actually help students learn. They use them to		
	enhance regular instruction. For instance, students can use their phones to do mini-		
	quizzes in class, collaborate with other students, and record audio files about their		
	learning.		
Adversativity +	Student 2: Cell phones can distract students from learning. Although, some		
Illustration +	teachers argue that cell phones can actually help students learn. For instance, they		
Illustration	use them to enhance regular instruction. For example, students can use their phones		
	to do mini-quizzes in class, collaborate with other students, and record audio files		
	about their learning.		
Contrast +	Student 3: Cellphones can distract students from learning, but some teachers argue		
Addition	that cellphones can actually help students learn. They use them to enhance regular		
	instruction and students can <i>also</i> use their phones to do mini-quizzes in class,		
	collaborate with other students, and record audio files about their learning.		

 Table 21: Summer Student Responses for PAT Question 4

Analysis for PAT question 4 (summer). It is difficult to derive many

conclusions from a small sample size, but the summer students' responses suggest that more context and simpler sentences seem to have improved their ability to use transitions effectively. One student (Student 3) made significant revisions and combined sentences to connect ideas and improve the flow of ideas. Instead of relying on the list of transition phrases, they used simpler transition words like "but" and "and." In contrast, Student 2 used three of the transition phrases listed in Question 4, but none of them are very effective. Like the spring students, this student struggled to use "although" correctly and seemed to be unaware that it set up a dependent clause. Student 1 did a better job incorporating transitions, and their sentences are also grammatically correct, but Student 1 may not be aware that transition phrases do not have to come at the very beginning of a sentence. In order to help students to recognize all the choices they have for recipient and

position design with transitions, it may be helpful to show them multiple sentences and have students analyze and evaluate which ones use transitions most effectively.

Overall, despite the smaller sample size, it is clear that context is very beneficial, but many students would benefit from additional instruction and practice to improve their use of transitions. Many would benefit from practice using transitions in various ways, particularly when transitions are subordinating conjunctions (e.g. although), and also when transitions can be used in between two sentences. Most students in both spring and summer seem to assume that all transitions function as a signal phrase at the beginning of a sentence, and this misconception should be corrected through more explicit instruction and practice.

PAT question 5: reformulation markers. The purpose of question 5 was to help students demonstrate their ability to avoid what Graff and Birkenstein call a "hit and run" quote, or in other words, a quote that is dropped in the middle of a paragraph without any explanation. For the spring semester, I picked two quotes that I thought were fairly accessible, but once I began examining students' responses, it became clear that reformulation markers (like other forms of metadiscourse) require a more sophisticated understanding of language than I had originally assumed.

Q5. Choose **one** of the quotes below and use a reformulation marker to restate/explain it. ...which means... ...meaning that... ...to be precise... ...put another way... ...put differently... ...in other words... ...i.e....

Quotes:

- Actor and director Woody Allen once said, "Eighty percent of success is showing up."
- Oscar Wilde once suggested that the ultimate way to win a conflict is to "always forgive your enemies" because "nothing annoys them so much."

Results for PAT question 5 (spring). The encouraging thing about students'

responses is that more than half were able to use a reformulation marker and restate the original author's words effectively. Many of these students also remembered to refer to the author by last name when restating their thoughts, showing that they are familiar with appropriate recipient and position design for quoting in academic writing. Overall, thirteen out of fifteen students were able to use a reformulation marker and paraphrase the quote to clarify its meaning, and only two were unable to use the reformulation marker to set up a restatement or clarification of the quote (see Table 22).

Reformulation with clear paraphrase	Reformulation marker with	Reformulation Marker
(8 out of 15 students)	fuzzy paraphrase	with no paraphrase
	(5 out of 15 students)	(2 out of 15 students)
Oscar Wilde once suggested that the ultimate way to win a conflict is to "always forgive your enemies" because "nothing annoys them so much." In other words Wilde is suggesting that forgiving your enemies is a win-win, because not only are you resolving the conflict, but you also get the last word through annoyance.	Actor and director Woody Allen once said, "Eighty percent of success is showing up." Which means that much of the success and hard work is behind a closed door that not many can see.	Actor and director Woody Allen once said, to be precise , "Eighty percent of success is showing up."
Actor and director Woody Allen once said, "Eighty percent of success is showing up." Which means if you don't show up, you can't be successful.	"Eighty percent of success is showing up." In other words , to achieve something in life, the first thing that we should do is to try and work for it.	Oscar Wilde once suggested that the ultimate way to win a conflict is to "always forgive your enemies" put another way "nothing annoys them so much."

Table 22: Samples of Spring Students' Responses to PAT Ouestion 5

n =15

Analysis for PAT question 5 (spring). Though more than half of the students were able to use reformulation markers effectively, and about a third were mostly effective, it is useful to examine the areas where students struggled. Students' main struggle seemed to be in restating the author's original words. For example, one student said that Woody Allen's statement "Eighty percent of success is showing up" meant that

"much of the success and hard work is behind a closed door that not many can see." For me, it was difficult to figure out how success and "showing up" was connected to the idea of success being hidden "behind a closed door." This student either needed to add more explanation to clarify the connection or perhaps they simply did not understand Allen's original quote.

Students may have also struggled to reformulate the quotes because they were not familiar with Woody Allen or Oscar Wilde, and therefore had no context for interpreting what their quotes might mean. When I looked back at the five students who struggled to restate the author's original words, three out of five were international students (see sample responses highlighted in grey in Table 22), and their lack of cultural context for the quotes may explain why their explanations of the original quote were a little fuzzy. The student who used the "closed door" analogy in their restatement was a native speaker, but they were absent for more than half of the semester, so their response may simply reflect a lack of instruction and in-class practice before attempting this quiz.

The last two students who struggled with using reformulation markers and did not paraphrase the quote were also outliers to some degree. One was an international student (highlighted in grey) and the other student consistently struggled with reading and writing throughout the semester and eventually failed the course. Given the circumstances, it seems likely that international students in any composition course will need more instruction and support to create good recipient and position design through metadiscourse and, not surprisingly, native-English speaking students will also struggle, especially when required to not only use reformulation markers but also restate an unfamiliar author's words. Overall, almost every FYC student would benefit from more

practice incorporating sources, but if quizzes on reformulation markers are given earlier in the semester, it may be possible to identify and help those who struggle to not only include but also interpret quotes from outside sources.

Revision for PAT question 5 (summer). In the summer course, the students also had to add reformulation markers after quotes, but these quotes were selected from the same Atlantic article that students had read a portion of at the beginning of the quiz, so the context for the quotes was much clearer. Additionally, students were also given a list of possible reformulation markers to choose from, but I removed the option for "meaning that" because the spring students' sentences tended to sound either incomplete or overly informal when they used this reformulation marker.

Q5. Choose **one** of the quotes below and use a reformulation marker to restate/explain it. ...which means... ...to be precise... ...put another way... ...put differently... ...in other words... ...i.e....

Quotes:

Paul Thomas, a former teacher and an associate professor of education at Furman University believes that, "Teaching is a human experience. Technology is a distraction when we need literacy, numeracy, and critical thinking."

In his *Atlantic* article on cell phones in the classroom, Robert Earl argues that, "School policies outlawing cell phones are clearly not enough -- the effective teacher must connect with his or her students in order to hold their attention."

Results for PAT question 5 (summer). The summer students' responses suggest

that the quiz changes truly improved their ability to use recipient and position design for

this question. Two out of three students demonstrated a much clearer understanding of

the original quotes and were able to use a reformulation marker and paraphrase the quote

in their own words while still reflecting the original ideas of the author. Unfortunately,

despite having more context, Student 2 seems to be struggling with the entire concept of

reformulation, and instead of putting the reformulation marker after the quote, they have

inserted it within the quote and not included any interpretation of what the quote means

(see Table 23).

Reformulation marker with clear paraphrase (2 out	Reformulation Marker with no paraphrase	
of 3 students)	(1 out of 3 students)	
Student 1: In his <i>Atlantic</i> article on cell phones in the classroom, Robert Earl argues that, "School policies outlawing cell phones are clearly not enough the effective teacher must connect with his or her students in order to hold their attention." In other words , students will always find a way to use cell phones and the key is for the teacher to be more interesting and engaging to students than their cell phones.	Student 2: In his <i>Atlantic</i> article on cell phones in the classroom, Robert Earl argues that, "School policies outlawing cell phones are clearly not enough. To be precise the effective teacher must connect with his or her students in order to hold their attention."	
Student 3: In other words, banning cellphones within the classroom isn't enough to keep students off them. Teachers can keep students attentions away from cellphones if they have them engaged in the classroom.		

Table 23: Summer Student Responses to Question 5

Analysis for PAT question 5 (summer). These results indicate that rhetorical

context is valuable, but as with the spring section, at least one student also needed specific practice with where to use reformulation markers and how to interpret a quote in their own words. In future quizzes it may be useful for students to see some examples of what not to do (e.g. Student 2's sentences), and it is likely that students would benefit from revising reformulation markers in longer essays because they have a more authentic purpose for incorporating quotes into their writing. More research is needed, however, to see if students make the same kinds of errors when they are writing longer essays or if the errors students are making with reformulation markers are the result of the quiz format.

Discussion

Overall, the student responses point to three major ideas for teaching metadiscourse and helping students to improve in both recipient and position design. Based on the quiz data I have collected and analyzed, it seems that metadiscourse is most

likely to be effectively taught with (a) attention to rhetorical context, (b) attention to function, and (c) attention to form. In light of this discovery, I have developed pedagogical recommendations for metadiscourse under the headings of rhetorical context, form, and function.

Rhetorical context. As the quiz results in the Spring and Summer sections demonstrate, rhetorical context is essential for writing exercises, especially those requiring students to use metadiscourse. Therefore, practice with metadiscourse should be accompanied by instruction on critical reading. Students who practice reading context clues carefully will be much more likely to know when to hedge or boost their claims, how to specify the scope of their claims, how to transition between ideas, and how to restate another author's claims. In order to improve in recipient and position design, students need not just "access to" conventions, but also "control" of them, and this control only comes if they understand the rhetorical context of the forms they are learning (Devitt, 2014, p. 147).

Additionally, it is important to recognize that it is nearly impossible for an instructor to assess student writing for recipient and position design unless they are clear about the rhetorical situation students are responding to. If the only context for the exercise is the quiz instructions, then teachers are likely to see students trying to use metadiscourse in a way that will earn them points (e.g. using as many metadiscourse features as possible) rather than trying to use metadiscourse to fit the needs of an audience and persuade them to think or act.

To make shorter quizzes an effective learning tool, teachers should develop a larger context for each question, including real world articles or videos that present

arguments students can quickly understand, analyze, and respond to. With a larger argument in place, like the one about cell phones in the classroom from the Atlantic, teachers can better assess whether students can consider recipient and position design as they write. In other words, teachers can tell whether or not students are able to use metadiscourse in the same ways that expert writers use it: to frame a perspective and guide readers through a text.

Function. Even with rhetorical context, it is important for students to have various opportunities to examine the function of metadiscourse features. This could be accomplished in many ways. For example, teachers may:

- Provide multiple examples of possible choices and have students divide them into categories like "effective" and "less effective." This is especially useful when teaching scope because there is not necessarily a list of common phrases or templates to work from.
- Require students to use hedges, boosters, and scope in the same lesson to help students understand what it means to qualify claims and why that is important.

Form. Though rhetorical context and function are the most important factors in using (and assessing) metadiscourse effectively, it is also important for students to use metadiscourse with attention to form, or in other words, with an understanding of how different kinds of metadiscourse fit into sentence structure. This could be also accomplished in many ways. For example, teachers may:

• Show students examples of metadiscourse in various places in a sentence. Based on the student responses in the quizzes, it seems that some students mostly believed that transitions and reformulation markers only come at the beginning of

a sentence (e.g. However, I think that...OR Meaning that....). It is important for students to see that metadiscourse can also show up between combined clauses, and students could use a tool like *Ludwig.guru* to see multiple options for using transitions and reformulation markers (this tool is described in more detail in Chapter 6).

- Help students notice that quoting and paraphrasing with reformulation markers involves knowing punctuation (e.g. commas after a phrase like "In other words") and conventions like using the author's last name.
- Demonstrate and discuss times when transitions can set up a dependent clause (e.g. Although X makes a good point, X may not have considered Y).

In conclusion, this chapter has argued for the value of more explicit teaching of metadiscourse. Based on an analysis of students' quiz responses, however, it is also clear that not all instruction is equally effective. In order to facilitate both recipient and position design (Gee, 2014), explicit instruction on metadiscourse should be delivered with rhetorical context, attention to function, and multiple examples of form (i.e. metadiscourse within the structure of a sentence). Though the data in this chapter was limited to a fairly small sample of students, it seems to support previous research that shows that teaching metadiscourse is valuable. When students had more context and support, they were able to use metadiscourse more effectively.

Based on the data I have gathered and analyzed, I hope teachers are able to see the importance of not only making their own attempts to teach metadiscourse but also taking the time to analyze student responses and assess whether or not their teaching helps students to master recipient design and position design. In other words, does the

assignment or quiz encourage students to do more than simply earn points? Are there ways this assignment could give more context or more support to students in understanding and producing quality written texts? Though it is not practical to do a detailed analysis of all of student writing, taking time to analyze short quiz responses can give teachers a good idea of whether or not their instruction is making the impact it should. If it is not, then teachers can begin to do exactly what we tell our students to do: revise. Though the revision process may be messy and time consuming, writing teachers know it is the best way to improve, and hopefully, more and more instructors will apply this process to both researching and teaching metadiscourse.

Chapter Five

Analysis of Students' Response to Quiz Questions on Metadiscourse

Like many composition teachers, I assign a final paper to my students that acts somewhat like a comprehensive final exam. The paper is supposed to give students the opportunity to show how much they have learned throughout the semester, including skills such as researching, organizing, arguing, citing, and formatting. One often overlooked skill, however, is how well students use language to meet academic expectations. Though metadiscourse is rarely included on any composition teacher's grading rubric, past research suggests that students who use metadiscourse (particularly hedges) in argumentative essays tend to get better grades (Uccelli et al. 2013). This research (along with more recent research from Aull, Lancaster, and others) motivated me to find more ways to incorporate explicit instruction on metadiscourse in my composition classes, and I was especially interested in finding out whether or not students would incorporate what they had learned about metadiscourse in their final papers.

This chapter describes my methods of identifying and tracking metadiscourse in ten students' writing (7 students in a spring semester class, and 3 in a summer semester class). These students received instruction on metadiscourse throughout the semester through face-to-face lessons and a series of online quizzes that were posted on Moodle (the university's course management system). Near the end of the semester, before the final paper was due, I asked students to write about how they intended to use metadiscourse in their papers. I hoped to find out whether or not students could clearly identify the function of metadiscourse and actually use it in the ways they had described in their final essays. In second language acquisition research, it has been well established

that there is often a gap between what a language learner comprehends and what they can actually produce (Clark and Hecht, 1983). Faerch and Kasper (1986) shed further light on this gap by describing two types of knowing: declarative and procedural. According to Faerch and Kasper (1986), declarative knowledge is knowing "what," and procedural knowledge is knowing "how." Both kinds of knowing are common in composition classes; for example, writing teachers often encounter students who can recite grammar rules (i.e. declarative knowledge of grammar) but still struggle to produce grammatically correct sentences in their papers (i.e. procedural knowledge of grammar).

To help students learn metadiscourse, I knew it would be essential to begin by building up their declarative knowledge about various types of metadiscourse (e.g. hedges, boosters, transitions, and reformulation markers). Though most of my students seemed to have an implicit understanding of how to use some metadiscourse, many students had never heard the names of various types of metadiscourse, and ever fewer students had ever thought deeply about how metadiscourse might influence their writing. In order to build students' declarative knowledge of metadiscourse, I developed a series of quizzes and in-class instruction that not only taught them the names types of metadiscourse, but also gave a variety of examples of each type of metadiscourse, as well opportunities to practice identifying and producing metadiscourse in sentences and short paragraphs.

However, while gains in declarative knowledge about metadiscourse were evident in their quiz scores and in class discussion, not all students gained the same level of understanding of metadiscourse. After the semester was over, I looked at students' metadiscourse use in their first essay of the semester and compared it with their

metadiscourse use in their final paper. I gathered data on how frequently students used four types of metadiscourse (hedges, boosters, transition markers, and reformulation markers), but since frequent use of metadiscourse does not always mean effective use of metadiscourse (Hyland, 2018), I also looked closely at how much variety there was in the words and phrases they were using, and whether or not they were using them in rhetorically effective ways. As the data in this chapter demonstrates, students' declarative knowledge of metadiscourse varied widely and, not surprisingly, their ability to actually use metadiscourse (i.e. procedural knowledge) also varied widely. Though my analysis of students' declarative and procedural knowledge of metadiscourse, I offer some tentative conclusions about why there was so much variety in the results and also offer insights into how composition instructors might teach metadiscourse in ways that promote both knowing "what" metadiscourse is and knowing "how" to use it effectively.

Methods

Because I wanted to understand students' declarative and procedural knowledge for metadiscourse, I had to find ways to gather data on each way of knowing. In order to find out how much declarative knowledge students had, I asked students to write a few sentences about using various kinds of metadiscourse and reflect on how it might impact their final paper about a week before the final paper was due. The prompt students were given was as follows:

Write 3-5 sentences about how you think you might use hedges, boosters, transitions, reformulation markers, and appropriate scope in your final paper for this class. For example, how might these words/phrases help you make stronger arguments? How might they help you writer clearer essays?

After collecting the students' responses to this question, I read each response and looked for any specific mention of hedges, boosters, scope, transitions, and reformulation markers. I used identifying markers to tag each type of metadiscourse (see Table 24). Once I had identified the types of metadiscourse students mentioned, I analyzed the ways that students described the function for each type of metadiscourse. For example, some students wrote about metadiscourse only in very general terms (e.g. I will used hedges to make my writing better), while other students were very specific about how each type of metadiscourse would help them improve various aspects of their final papers (e.g. I will use hedges to qualify claims in my argument about X).

Metadiscourse	Identifying Marker
Hedges	single underline
Boosters	double underline.
Scope	dotted underline
Transitions	bold and italics
Reformulation Markers	bold

 Table 24: Metadiscourse Identifying Marker

After marking and analyzing students' responses to the prompt to find out about their level of declarative knowledge, I began looking for evidence of procedural knowledge. I chose to compare the first essay the students wrote in the semester (a summary of a scientific experiment) with the final essay (an argumentative synthesis). Though these assignments had different purposes, they both required students to write for an academic audience and cite sources. In other words, both essays gave students the opportunity to use a variety of metadiscourse common in academic writing. Additionally, since the summary was only 2 - 3 pages and the argumentative synthesis was 8 -10 pages, I calculated frequency based on the total number of words in each essay (e.g. # of hedges

in the essay/ # of words in the essay) and looked at the way students' used metadiscourse in each essay, evaluating students on whether or not they used it appropriately and effectively. Overall, as I compared the students' use of metadiscourse in first essay and the final essay, I wanted to get a better sense of (a) how much the students' actual use of metadiscourse changed throughout the semester, and (b) whether or not those with stronger declarative knowledge at the end of the semester were also stronger in procedural knowledge.

In order to answer these questions about students' understanding of metadiscourse, I started by focusing on a concrete measure of students' metadiscourse use: frequency. To determine the frequency of each student's use of metadiscourse, I first read each student's first and final essays and marked and counted hedges, boosters, scope markers, transitions, and reformulation markers. After going through each essay once, I then used the "find" tool in Microsoft Word and typed in a set list of metadiscourse terms in to the search bar one at a time (see Table 25).

Type of Metadiscourse	Examples of Metadiscourse
Hedges	could, likely (unlikely), may, might, perhaps, possib*, probab*, tend
Boosters	all (especially), always, clearly, certainly, must, never, none, truly, very
Transitions	conversely, due to, however, likewise, similarly
Reformulation	in other words, in fact, meaning that, particularly, this means
Scope	in this essay, in this world

Table 25: Specific Examples of Metadiscourse Searched for in Student Essays

Note: Words like possib were searched without completing the word so that the computer would find various versions of the word (e.g. possible, possibly, possibility, etc.).

Each of these metadiscourse terms came from the quiz definitions students would

have seen as they completed the course work for the class (see Appendix C). I also

included the examples Laura Aull (2015) uses in her definitions for metadiscourse because they seemed representative of common types of metadiscourse one might find in an academic paper (see Appendix C). The one exception is the word "could"; though it was not included in either my quiz definition for hedges or Aull's definition for hedges, I still chose to include it in my search because "could" is such a common hedge that it is very easy to overlook in a sentence.

After completing this two-step process for each paper, I felt confident that I was able to obtain a fairly accurate sample for students' frequency in using hedges, boosters, transitions, and reformulation markers. However, when I looked closer at the definition I had given for scope, I realized that my definition was so broad (e.g. "words or phrases that tell exactly who, what, where, and when") that it was almost impossible to narrow my search down to a specific type of word and phrase. I should have made the definition closer to Aull's (2015), and given students examples of text internal markers (e.g. in this essay) and text external markers (e.g. in society), but unfortunately, I did not give any examples of what scope markers might look like in my definition. This weak definition made it almost impossible to accurately determine what counted as scope markers in each student's paper, so though I attempted to count scope markers in each essay, I have not included that data in this chapter.

After identifying hedges, boosters, reformulation markers, and transitions in the student essays, I then counted each type of metadiscourse for each student and divided it by the amount of words in the essay to find their percent of usage. For example, if a student wrote an essay of 1,000 words and used 10 transitions, then transitions would

make up 1% of their paper. This data helped me to see if a student's use of metadiscourse

increased from their first paper to their final paper.

In addition to measuring the students' frequency in using metadiscourse, I also

examined the strength of students' metadiscourse use based on Likert scales for variety

and effective use (see Fig. 4).

Figure 4: Likert Scales for Variety & Effectiveness of Metadiscourse Use **Variety (of words and functions):**

Does the student use a variety of options or do they simply rely on one or two words/phrases over and over again? For example, does the student use a variety of transition words (e.g. in addition, similarly, etc.) or do they repeatedly use simpler words (e.g. also)?

Additionally, does the student use transition that have a variety of functions (countering, contrast, causation, addition, chronology, etc.) or do they only use transitions in one or two ways (e.g. countering)?

0 = no variety	3 = very little variety	5 = some variety	7 = variety	10 = wide variety
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Effective Use:

Is the metadiscourse used effectively? For example, does the student overuse hedges (e.g. This could *possibly* be a good option some of the time) or boosters (e.g. This is absolutely the best option in every situation), or does the student use a "just right" amount of hedges and boosters (e.g. There are some cases where killing another human is necessary, but murder should be avoided as much as possible)?

Does the student use transitions to make the paper cohesive and coherent?

Does the student use reformulation markers to help the reader understand their claims, quotes from outside material, technical terms, etc.?

0 = never	3 = seldom	5 = sometimes	7 = often	10 = always
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In Aull's (2015) research comparing First-Year Composition (FYC) students'

writing and expert writers, she found that there were measurable differences in the variety

of metadiscourse use and the rhetorical effectiveness of metadiscourse use. For example,

in terms of variety, FYC students tend to mainly use transitions that show causation and

countering, but expert writers tend to use a much wider variety of transitions (Aull, 2015,

p. 164). And in terms of rhetorical effectiveness, there were also key differences. For

example, FYC writers tend to use more boosters and make much more generalized claims, whereas academic writers tend to use more hedges and make much more "honed and tempered claims" (Aull, 2015, p. 160). Given these differences, Aull (2015) argues that we should teach students to use metadiscourse so that they can begin to use these words and phrases with the same variety and effectiveness that expert writers use.

In response to Aull's argument, I attempted to incorporate metadiscourse instruction into my composition courses, and the next portion of this chapter will give an overview of the results for students' use of metadiscourse in their first and final essays. Overall, I examined the writing of ten students (7 students in a Spring semester class and 3 in a Summer semester class). To help organize the data, I first give an overview of the data on declarative knowledge and then give a more detailed look at both declarative and procedural knowledge based on the results for each type of metadiscourse (i.e. hedges, boosters, transitions, and reformulation markers). After presenting the data and analysis, I then offer some conclusions about what this research might mean for writing pedagogy and future research on metadiscourse.

Data Analysis

About a week before the final paper was due, students were assigned a quiz called "Putting It All Together" which included questions about five types of metadiscourse (hedges, boosters, scope markers, transitions, and reformulation markers). For the last question of the quiz, students were given a comment box that allowed them up to 40 lines of response space. Their prompt was:

Write 3-5 sentences about how you think you might use hedges, boosters, transitions, reformulation markers, and appropriate scope in your final paper for this class. For example, how

might these words/phrases help you make stronger arguments? How might they help you writer clearer essays?

This question was important because students could describe how much they knew about using metadiscourse in their own words, thus giving some indication of their declarative knowledge about what metadiscourse is and why it matters in academic writing.

Overall students' responses to this question fell into two categories: specific and general. Some students were very specific about what each kind of metadiscourse was and how it impacted writing (e.g. Boosters will "help me emphasize important points" and transitions will "make my paper more fluid") while other students only gave a vague overview of how metadiscourse might make their paper better (e.g. "by appropriate use of these i [sic] will be able to make appropriate sentences for each points [sic]"). Out of the ten students, only one (Student Z) mentioned every kind of metadiscourse and described specifically how they would use each type of metadiscourse in their paper. Based on these results, it may be that most students are still building declarative knowledge of metadiscourse and that they need more instruction and practice.

On the other hand, this may just be a bad question. Since my goal was to find out how much declarative knowledge students had for each type of metadiscourse, it probably would have been more effective to create a separate quiz with questions about each type of metadiscourse (e.g. "In your own words, describe what 'boosters' are" and "How could you use boosters in your final paper?"). If I had asked more specific questions, I would have been more likely to get specific answers, and that would have led to a better picture of students' declarative knowledge.

However, despite some potential issues with students' quiz responses as a measure of their declarative knowledge of metadiscourse, the data from the students' first and final essays is much richer and gives a fuller picture of what students know about using metadiscourse. In order to get a better sense of how much students knew about each type of metadiscourse, I have put the declarative data and procedural data side by side in tables so that it is easier to see whether or not students' expression of what they know (declarative) matches what they can actually produce (procedural). As mentioned previously, I have left out the data on scope markers because of flaws in the way the definition for scope was presented. The seven students in the spring section are labeled Students A - G. The three students in the summer section are labeled students X, Y, and Z.

Declarative/procedural data: Hedges.

Table 26: Declarative and Procedural Data for Students' Use of Hedges

Procedural Data Key: No color = stayed the same Light grey = increase Dark grey = decrease

	Declarative Data (Hedges)	Procedural Data (Hedges)		
		Comparison between first essay and final essay metadiscourse		
Participant	Quiz Response	Frequency	Variety	Effective Use
Student A	For my research paper I believe I will have to use a fair amount of hedges to make my argument stronger and qualify my claims.	0.08% increase	Some variety (increase)	Sometimes effective
Student B	G	0.28% decrease	Some variety	Sometimes effective
Student C	N	1.10% increase	Wide variety (increase)	Almost always effective (increase)
Student D	I will utilize hedges to suggest an argument or topic.	0.41% increase	Variety	Almost always effective
Student E	G	0.40% decrease	Variety	Often effective (decrease)
Student F	G	0.25% decrease	Some variety	Often effective
Student G	G	0.10% increase	Variety (increase)	Almost always effective

Student X	I will need to focus on some hedging to dissipate some of my own bias from some arguments	0.59% increase	Variety	Almost always effective
Student Y	Ill [sic] temper the scope by using proper hedges to avoid demonizing all educational institutions of higher learning	0.25% increase	Some variety (increase)	Almost always effective
Student Z	Hedges could be used to show that their [sic] isn't a define black and white view.	1.02% increase	Some variety	Often effective

G = general mention of this type of metadiscourse but no specific description of what it is or how to use it

N = no mention of this type of metadiscourse

Overall, most students were able to increase the frequency of their use of hedges in their final argumentative essay, but their variety and effectiveness was much less consistent. Those students who did not increase in frequency (i.e. Students B, E, and F) also did not increase their variety and effectiveness in using hedges, and this may be due to the fact that these students tended to have some extra barriers to language learning; Students E and F were both English Language Learners (ELLs) and Student B had struggles with sentence structure and grammar. These results suggest that students who lack language fluency may need extra support in incorporating hedges effectively in their writing.

This data on students' use of hedges also seems to support a link between declarative and procedural knowledge. Three out of four students who only mentioned hedges in general terms used them less frequently and less effectively than those students who wrote about hedges and specifically described how they would use hedges in their final paper. It's also important to note that there is a fairly large range of answers in the declarative section, showing that students are at various places in understanding exactly what hedges are and how they work. For example, the students in the Summer section (Students X, Y, Z) specifically link hedges to avoiding sounding overly biased, but students in the Spring section (Students A and D) link hedges to claims and setting up arguments. Since there were some adjustments made to the quiz instruction for the Summer section, it seems likely that the new instruction gave students in the Summer

group a more focused definition for hedges, though this definition may be a bit too narrow. These results suggest that more examples and practice with hedges may be needed so that students are able to see hedges influence on bias as well as the way they make specific claims.

One way to help students gain stronger declarative knowledge sooner in the semester would be to increase the amount of formative assessment on metadiscourse. There is already a large body of research on formative assessment that shows the value of checking for understanding and having students reflect on their level of expertise (Sadler, 1989). Formative assessment often works best if it gives students opportunities for lowstakes practice, and activities like anonymous in-class surveys or quizzes (via programs like Kahoot or PollEverywhere), could help students refine their understanding of metadiscourse all throughout the semester.

Boosters.

Table 27: Declarative and Procedural Data for Students' Use of Boosters

Procedural Data Key: No color = stayed the same Light grey = increase Dark grey = decrease

	Declarative Data (Boosters)	Procedural Data (Boosters)		
		Comparison betwee metadiscourse	en first essay and final	essay
Participant	Quiz Response	Frequency	Variety	Effective Use
Student A	Sometimes if you use too many booster your argument will come across as weak. In my paper I will use fewer booster so it shows how important those claims are.	0.20% increase	Variety	Often effective (increase)
Student B	G	0.40% increase	Variety (increase)	Sometimes effective (increase)
Student C	Boosters will help me emphasize important arguments in my paper	0.04% increase	Wide variety	Often effective (increase)
Student D	Boosters will be used to strengthen my arguments in which the topic is a definite.	0.34% increase	Wide variety	Almost always

				effective (increase)
Student E	G	0.31% decrease	Some variety	Often effective
Student F	G	0.55% increase	Variety (large increase)	Almost always effective (increase)
Student G	G	0.20% increase	Wide variety (increase)	Almost always effective
Student X	[I will] make use of boosters to drive home the importance of my main ideas.	.58% increase	Wide variety (large increase)	Often effective (increase)
Student Y	[I will use] boosters to highlight through contrast specifically important points through out [sic] the assignment	1.34% increase	Wide variety (increase)	Often effective
Student Z	Boosters can be used to emphasize an important part in my paper.	1.04% increase	Variety (increase)	Sometimes effective (decrease)

G = general mention of this type of metadiscourse but no specific description of what it is or how to use it

N = no mention of this type of metadiscourse

Boosters were the only type of metadiscourse that every student mentioned when they wrote their quiz responses about how they would use metadiscourse in their final papers. Almost all of the students wrote about using boosters to emphasize important points, but Student A was unique in writing about the importance of avoiding too many boosters. Since Student A's frequency of using boosters only increased 0.20% and their effectiveness also increased, it seems clear that they have both declarative and procedural knowledge for using boosters appropriately for academic audiences.

In addition to writing about boosters in their quiz response, almost all the students were able to use a variety of boosters effectively in their final essays. Interestingly, the students with the greatest increases in frequency also increased in variety, while the one student who decreased in frequency (Student E) also had lower variety and effectiveness overall. This may be partially due to the fact that Student E is an English language learner, and it may be easier for native speakers to come up with a larger variety of boosters that fit well into an academic argument (e.g. essential, crucial, key, significant, etc.).

It is also interesting that though Students Y and Z had the largest increase in using boosters, they did not improve in using them effectively. This is partially due to the fact that too many boosters can make any argument sound overly biased (Aull, 2015), and in Student Y's case, their passion for the topic of transgender rights seems to have led them to feel justified in using more boosters even though they were aware (as evidenced in their description of hedging; see Table 26, declarative data) that they might sound more extreme than they intended to. In Student Z's case, the decrease in effectiveness is probably due to the fact that their last essay was more of a rough draft that was not representative of the student's actual writing ability. Based on the overall data for boosters, it does not seem that students need more practice with this type of metadiscourse, but it does seem that they would benefit from reminders to watch for boosters as they revise their essays.

Transitions.

Table 28: Declarative and Procedural Data for Students' Use of Transitions

Procedural Data Key: No color = stayed the same Light grey = increase Dark grey = decrease

	Declarative Data (Transitions)	Procedural Data (Transitions)			
		Comparison between first essay and final essay metadiscourse			
Participant	Quiz Response	Frequency	Variety	Effective Use	
Student A	N	0% change	Some variety (increase)	Seldom effective	
Student B	Ν	1.38% decrease	Variety (increase)	Sometimes effective (increase)	
Student C	[T]ransitions will make my paper more fluid.	0.80% increase	Wide variety (increase)	Almost always effective (increase)	
Student D	Transitions will provide a flow in my paper that help sentences work together more smoothly.	0.20% increase	Variety	Almost always effective	
Student E	G	0.21% increase	Variety	Often effective (increase)	

Student F	As for transitions, I have always been taught to use them to give my paper a better flow. Transitions will help me give out the needed information on my topic.	0.16% increase	Wide variety	Often effective (increase)
Student G	G	0.14% increase	Wide variety (increase)	Often effective
Student X	N	0.05% decrease	Variety (increase)	Sometimes effective
Student Y	Ν	0.30% decrease	Variety (increase)	Often effective (increase)
Student Z	Transitions can be used to make the flow better and to keep like ideas together.	0.41% decrease	Very little (decrease)	Sometimes effective

G = general mention of this type of metadiscourse but no specific description of what it is or how to use it N = no mention of this type of metadiscourse

Of all of the types of metadiscourse, I expected transitions to be most familiar to students. Therefore, I was surprised when so many students neglected to mention transitions in the quiz response and only about half of the students improved in either using more variety or using transitions more effectively. On the one hand, I may have simply overestimated students' understanding of transitions and thus neglected to give them enough practice with identifying and using them in essays.

On the other hand, it is important to note that three out of four of the students who decreased in their frequency of using transitions actually increased the variety of transitions they used. As mentioned previously, Student Z's decrease in both frequency and variety is probably due to lack of revision on their final paper, but the other students may actually be demonstrating deeper thinking about transitions. Since transitions have so many functions (e.g. contrast, addition, sequence, etc.), these students may have actually been more concerned about using the right transition in the right place, and this may have caused them to decrease in frequency even as they began using a wider variety of options. Perhaps given more time and practice, these students could perform similar to Student C (who was a fairly strong writer to begin with) and improve in frequency, variety, and effectiveness.

Reformulation markers.

Procedural Data Key: No color = stayed the same Light grey = increase Dark grey = decrease

Table 29: Declarative and Procedural Data for Students' Use of Reformulation Markers

	Declarative Data (Reformulation Markers)	Procedural Data (Reformulation Markers) Comparison between first essay and final essay metadiscourse			
Participant	Quiz Response	Frequency	Variety	Effective Use	
Student A	N	0.02% increase	Some variety	Often effective (increase)	
Student B	N	0.04% increase	Some variety (increase)	Seldom effective	
Student C	Ν	0.09% decrease	Wide variety (increase)	Almost always effective	
Student D	I can use reformulation markers to redefine statistics or quotes that may be difficult to understand.	0.59% increase	Wide variety (large increase)	Almost always effective (increase)	
Student E	G	0.25% increase	Variety (increase)	Often effective (increase)	
Student F	[R]eformulation markers will help me explain my thoughts better.	0.39% increase	Wide variety (increase)	Almost always effective (increase)	
Student G	G	0.30% decrease	Wide variety (increase)	Often effective (increase)	
Student X	I will be using some scholarly work and some technical jargon which will require some reformulation in explaining those ideas.	0.47% increase	Wide variety (large increase)	Often effective (increase)	
Student Y	N	0.29% increase	Variety (increase)	Often effective	
Student Z	Reformation markers will be used to restate a quote or idea to better understand it or explain it better.	0.14 % increase	Very little variety (increase)	Sometimes effective	

G = general mention of this type of metadiscourse but no specific description of what it is or how to use it N = no mention of this type of metadiscourse

improvement decline

As with hedges, the data on reformulation markers seems to support a link between declarative and procedural knowledge. Those students who wrote about reformulation markers and specifically described how they would use them in their final paper tended to improve a lot in using a variety of reformulation markers and all except one (Student Z) were able to use them more effectively.

Two students (Student C and Student G) decreased their use of reformulation

markers, but since they were already using a variety of reformulation markers effectively,

it seems unlikely that they simply forgot to use them. Instead, using less reformulation markers might actually be a sign that these students understand their function on a deeper level. Writers often choose to use reformulation markers depending on how complex their topic is and who their audience is, and Student C and Student G may have chosen to use fewer reformulation markers based on their perception of their rhetorical situation. Their final assignment was on a current debate (Student C wrote about "designer babies" and Student G wrote about requiring more P.E. time in schools), and perhaps they felt less need to explain quotes and clarify ideas than they did on the first assignment (a summary of a scientific article from the 1950s).

Conclusion

Overall, there are two main takeaways from the declarative and procedural data in this chapter. First, there is some evidence (particularly in students' knowledge of hedges and reformulation markers) that suggests that a solid demonstration of declarative knowledge (i.e. being able to write about what metadiscourse is and how it can be used effectively in writing) affects students' procedural knowledge (i.e. being able to actually use a variety of metadiscourse in effective ways in writing assignments). As mentioned previously, there would probably be more conclusive evidence for declarative knowledge if I had created a better question for students to respond to, and in future studies of metadiscourse, it would be beneficial to ask students separate questions about each kind of metadiscourse to find out how much declarative knowledge they have for hedges, boosters, transitions, and reformulation markers. However, even with a broad question in place, most students who were able to demonstrate declarative knowledge of metadiscourse were also able to show improvement in their use of metadiscourse.

The second major takeaway from this data is that instruction on metadiscourse often increases students' use of metadiscourse but does not always increase the variety or effectiveness of the metadiscourse. This may be due to the fact that using metadiscourse is actually quite cognitively demanding, especially for traditional college students who have only recently graduated from high school. Evidence for high cognitive demand is clearly shown in Ronald Kellogg's (2008) description of the three stages of writing development. According to Kellogg, it takes at least twenty years of practice to reach the third stage, "knowledge-crafting," where writers are capable of thinking about not just what they want to say but also who they are saying it to (p. 4). Therefore, writers who are not yet at the "knowledge-crafting" stage (i.e. not able to think about their audience as they plan and write) are much less likely to be able to effectively use language features like metadiscourse to signal organization and stance in their writing.

The fact that many college students are not yet at the "knowledge-crafting" stage does not mean, however, that they should not be taught about metadiscourse. As mentioned in Chapter Three, Kellogg and Whiteford (2009) argue that students can learn to write beyond their current stage of development if they are given "deliberate practice" with advanced strategies, and the research I conducted with these ten students seems to suggest that some deliberate practice via in class instruction and quizzes can help students use metadiscourse more frequently and sometimes also use more variety and more effectiveness in using metadiscourse. This deliberate practice may be a key component in helping students move from declarative to procedural knowledge, and given the results of my research, it seems clear that more attention should be given to this type of teaching in FYC classes.

Last, but not least, it is important to point out that due to the cognitive load required in advanced writing, the results of metadiscourse instruction are more likely to show up in students' revised writing than in unrevised writing. In Chapter Three of this dissertation, I gave results from a pre- and post-test that involved students writing a short essay. As discussed previously, outside of demonstrating "academic tone", the students did not show much improvement and some even did worse on the post-test. The results of this chapter, however, showed data from papers that students worked on over the period of a few weeks. This additional time to revise and reflect on their writing seems to have allowed them to not only "notice" metadiscourse, but also "notice the gap" (Ellis, 2003, p. 57) between what they know about metadiscourse (i.e. declarative knowledge) and how they are actually performing (i.e. procedural knowledge). For example, a student may know that it is important to have clear organization in an essay, but they may not recognize how their use transitions and reformulation markers are influencing the flow of their ideas. Time to revise can give students time to this "notice the gap," especially if students are given feedback their use metadiscourse in peer reviews and/or grading rubrics (more specific guidance is given on this in Chapter Six).

Overall, my research suggests that students who receive metadiscourse instruction and are able to revise their work over time are able to improve their writing. Though the results of including metadiscourse instruction are promising, however, more research needs to be done with a larger sample of students in order to get more conclusive results. If other teachers undertake this research, they would also be wise to include more formative assessment to help reinforce students' declarative knowledge. It may also be helpful to enlist students' help in collecting data on what kind of metadiscourse they are

using and how much they are using. Having students identify and count metadiscourse would not only save the teacher several hours of reading and coding essays but perhaps also serve as another form of deliberate practice. There is still much to learn about metadiscourse and its impact in FYC, and since it has such a great potential to increase students' declarative and procedural knowledge of academic writing, it is definitely worthy of more study.

Chapter Six

Applications to FYC Pedagogy

Two of the fundamental challenges of teaching are determining the objectives of a course and finding ways to reach them. This is particularly challenging in FYC (first-year composition) because of the long debate over college writing objectives (Bartholomae and Elbow, 1995), the wide range of student preparedness for college writing (National Assessment of Educational Progress, 2011), and the simple fact that it is impossible to cover everything one would like to teach about writing in just one or two semesters.

One solution to these challenges is to create a hybrid or blended curriculum where students do readings and assignments online before coming to class and then apply and extend what they have started to learn in class with support from a teacher and their peers (Garrison and Vaughan, 2008). Many composition teachers already have students do online practice with grammar through programs like Norton's *InQuizitive* or McGraw-Hill's *Connect*. These online programs allow students to practice at their own pace, get immediate feedback, and with the support of writing faculty in face-to-face classes, transfer what they learn from the online quizzes into their writing assignments. After studying Aull's (2015) research on teaching metadiscourse in FYC, I wondered if online quizzes could also be beneficial in helping professors teach this important part of writing without having to make significant changes to their current curriculum.

In the introduction of this dissertation, it was established that metadiscourse is: (a) an important part of academic discourse, and (b) that the current instruction on metadiscourse, based mostly on Graff and Birkenstein's *They Say, I Say* textbook, is inadequate. But despite Aull (2015), Lancaster (2016a), and other scholars' call for more

explicit instruction on metadiscourse, some might argue that since we, as college instructors, picked up much of what we know about metadiscourse through extensive reading and experience, that we should allow our students to do the same. This is an understandable perspective, but it is worth challenging for at least three reasons.

The first reason relates to how we acquire metadiscourse. Hyland (2009) explains that we tend to pick up metadiscourse in spoken conversation much more easily than we do in writing because it is easier to recognize and respond to an audience's needs when we are speaking face to face. For example, if we say something and notice a confused look on our conversation partner's face, we know we need to restate or clarify what we've said. In contrast, in order to use metadiscourse effectively in writing, we have to be able to correctly assess "readers' resources for interpreting a text" (p. 175) and also "anticipate the reactions" of that reader as we write (p. 176).

Assessing and anticipating readers' needs is no small task, and without some guidance, many student writers tend to misapply the metadiscourse they use in speech or over/underestimate the expectations of their imagined audience. As a result, students often approach their imagined readers either too informally or too formally, too aggressively or too passively, too obliquely or too obviously. Worse still, many students simply leave out metadiscourse all together, making it much more difficult for a reader to follow their ideas in an essay (Aull, 2015). Since we know it is difficult for students to notice metadiscourse without explicit instruction (Ellis, 2003), it makes sense to include more instruction on metadiscourse in our classes. Though some students may be able to eventually pick up metadiscourse on their own, all students would benefit from extra help noticing metadiscourse, understanding why it matters, and getting feedback on their use,

misuse, or lack of use of metadiscourse in academic essays. For example, a teacher might help students to start "noticing" metadiscourse by having them highlight all the places where a writer uses hedges in a letter to the editor of a local newspaper. Students could then compare that local writer's use of metadiscourse with an academic writer's use of hedges in an article. Aull (2015) suggests that this kind of contrastive analysis of metadiscourse can help students not only notice metadiscourse but also use it more effectively in their own writing.

The second reason to teach metadiscourse explicitly is that many college students are second-language learners. These students typically need even more scaffolding than native English speakers to notice metadiscourse and effectively use it in their writing (Myers, 2003; Shapiro et al., 2014). In fact, in his book on metadiscourse, Hyland (2005) argues not only that there is "considerable value" in giving students explicit instruction on metadiscourse, but he also suggests that teachers help all students (both native and non-native speakers of English) to "view learning to write" as "learning to use language" (p. 183). In reality, academic discourse in no one's native language, so it makes sense that all students would benefit from clearer guidance, especially concrete examples of language features like metadiscourse that signal language fluency to academic audiences.

The third, and most important reason to teach metadiscourse is that research has demonstrated that instruction on metadiscourse impacts students' writing. For example, Uccelli et al. (2013) found that students who use hedges in persuasive writing get higher scores on their essays. Other studies have also shown that when students include metadiscourse, their writing is judged to be higher quality than student writing that does not include metadiscourse (Lancaster, 2016b; Intaraprawat & Steffensen, 1995; Cheng &

Steffensen, 1996; Shaw & Liu, 1998). My own research also suggests that students benefit from instruction on metadiscourse, and in particular, that their ability to capture academic tone in writing improves after they learn more about using metadiscourse in academic writing (see Chapter Five).

Now that I have established why teachers should include metadiscourse in their teaching, I would now like to turn to how they can fit it into a course syllabus. Based on my own experience of teaching metadiscourse as part of a FYC (first year composition) course, I would suggest that teachers incorporate at least three to four specific lessons on metadiscourse throughout the semester (see Appendix D). This does not mean, however, that teachers should teach metadiscourse only in isolated chunks. Hyland (2005) encourages teachers to teach metadiscourse "using models of argument...within the sociorhetorical framework of their target communities" (p. 178). In other words, teachers should not simply hand students a list of metadiscourse phrases or only give them worksheets where they fill in the blanks with different kinds of metadiscourse. Some lists and worksheets may be useful to introduce the concept of metadiscourse, but these resources should be combined with (a) instruction that helps students recognize the function of metadiscourse and practice incorporating into their own writing in low stakes in-class assignments, (b) critical reading exercises where students are encouraged to notice the metadiscourse features that typically show up around expert writers' claims, (c) peer review sessions where students specifically look for metadiscourse features in their own and other students' writing, and (d) specific teacher feedback in conferences or on student papers where instructors praise students use of metadiscourse and point out places where students could improve their use of metadiscourse. In this way,

metadiscourse can be woven into practices and tasks that are already standard parts of a composition course: enhancing students' awareness of language and its place in writing processes.

Another important aspect of teaching metadiscourse is considering what specific types of metadiscourse to teach and how they should be sequenced. Based on Laura Aull's (2015) research, there are four specific types of metadiscourse that are typically missing or misused in student writing: hedges and boosters (e.g. it is likely, it is possible that), transition markers (e.g. on the other hand, in addition), reformulation markers (e.g. in other words), and scope markers (e.g. in this author's study). In my own experience, students are generally most familiar with transition phrases, and since clear transitions are important across all types of writing (informative, persuasive, analytical, critical, etc.), I have found it beneficial to start teaching transition phrases at the beginning of a semester and then continue reinforcing their use throughout other assignments. Similarly, reformulation markers are useful in many types of academic writing because they help writers restate what others have said or clarify difficult concepts. Therefore, it may be especially useful to teach reformulation markers near lessons on paraphrasing or quoting because they give students specific language for interpreting and clarifying their sources (e.g. "in other words). Scope markers can also be taught and reinforced in many kinds of academic assignments, and I have found that instruction on narrowing scope is particularly helpful as students are structuring introductions and thesis statements. Last, but not least, hedges and boosters are usually used to signal stance in writing, so they are typically most useful in assignments that require students to critique or persuade their audience. The rest of this chapter provides specific ideas and examples for how to include

metadiscourse instruction in composition classes including mini-lessons, discussions, and peer review activities.

Teaching Transition Phrases

This is probably the most familiar metadiscourse feature to both teachers and students, and there are many online resources that offer worksheets and quizzes on transition phrases. While these worksheets and activities can be good for introducing the idea of transitions, using transitions in a longer writing project is difficult, and it's important to include authentic context, opportunities for practice and feedback, time for discussion, and time for reflection on how to use transitions in various writing situations. In my classes, I have found it effective to give students overall instruction on transitions in the context of creating coherence in their writing (Williams & Bizup, 2016), and then reinforce this lesson throughout the semester in revision activities, peer review, and feedback on their papers. Near the beginning of the semester, I teach a specific lesson in class on three ways to create coherence: repetition of keywords, transitions words and phrases, and moving from familiar ideas to new ideas in sentences and paragraphs (see Transitions & Coherence Lesson in the Appendix). This lesson allows students to practice these strategies in a low-stakes environment, and because I teach it early in the semester, it is easy to refer back to coherence and transition phrases in my feedback on student papers on in other class activities such as peer review or revision exercises.

Teaching Reformulation Markers

One of the most important moves in academic writing is to explain or interpret the sources used to support claims. The principles in most textbooks' overview on

paraphrasing, summarizing, and quoting are helpful, but students also benefit from specific instruction on reformulation markers.

Reformulation markers are words or phrases that signal that the author is restating what they or another source has just said. Some examples include: "in other words," "basically this means," "put another way," and "I do not mean X, but rather I mean Y." As others have pointed out in reviews of *They Say, I Say*, templates for reformulation markers can be helpful, but it is important to use them with some caution because language varies with discipline and audience (Lancaster, 2016a).

In my classes, I have found it helpful to practice reformulation markers by having students write paragraphs where they follow the TRIAC model for paragraphing: topic sentence, restatement or restriction, illustration, analysis, and conclusion. A quick Google search will turn up dozens of examples of the TRIAC model, and I have adapted examples from an English 101 course for my classes (see Reformulation Markers Lesson in appendix). This lesson is also taught early in the semester and works especially well with assignments where students must include outside sources to support their ideas.

Teaching Hedges, Boosters, & Scope

One key strategy taught in composition is how to develop and support argumentative claims. Many textbooks include a section on fallacies in units about rhetoric and argument, but some students see fallacies more as artillery to use against others' arguments rather than as guides for evaluating their own claims. In order to teach students to construct claims more effectively, it is important to give explicit instruction on how language can be adjusted to clarify claims and avoid fallacies like overgeneralization. In particular, I have found that instruction on hedges, boosters, and

scope markers are especially beneficial in helping students improve their claims. Other researchers have also found that students are judged as having higher critical thinking and better writing when they use hedges, boosters, and scope markers effectively (Cheng & Steffensen, 1996; Uccelli et al., 2013).

When teaching hedges, boosters, and scope it is important to start with a clear definition for each. Put simply, hedges are words that qualify and clarify ideas, boosters are words that emphasize ideas, and scope describes the who, what, where, when, and how in ideas. Students benefit from both definitions and examples, so I created handouts to help my students to identify hedges, boosters, and scope and think about how to use them in various writing situations (see appendix).

Once students have a general sense of what hedges, boosters, and scope mean, then I teach lessons that emphasize why and how they should use these three types of metadiscourse (see Hedges, Boosters, and Scope Lesson in appendix). There are many ways to do this, but one effective way to help students see the value and purpose of hedging is to use examples of bad science reporting. There are many examples in the news media of so-called studies that support new diet fads or relationship strategies. I use a YouTube video created by a student at Utah State University called "Can Men and Women Be Just Friends?" to help students think about whether or not the data gathered really supports the conclusion. In the case of this viral YouTube video, the conclusion is that: "It is impossible for men and women to be just friends and under no circumstances can it happen." After discussing this as a class, however, students quickly see that there are many important reasons this claim should be revised. The boosters (e.g. impossible, under no circumstances) are easy to challenge—What about LGBTQ relationships? What

about siblings?—and we also talk about the limited sample size and the possibility of confirmation bias in the video. In the context of our discussion, it is easy for students to see the value of revising the sentence with hedges (e.g. It can be difficult for some men and women to be just friends), so that they can present the information in a more accurate and objective way.

It is important to note, however, the impact of genre in this situation. Based on the success of this YouTube video, it is clear that hedging would not have been a good strategy to create a viral video. The fact that it portrays the frustration of single men and women in a funny and somewhat controversial way is part of what makes it so successful. Therefore, when making decisions about any kind of metadiscourse, it is essential to keep genre and the rhetorical situation in mind.

Conclusion

Based on current research from a variety of scholars in composition and linguistics, it is clear that metadiscourse is an important feature of academic writing and that instruction on metadiscourse can have a positive influence on students' writing. However, not all instruction is equally effective. Instruction on metadiscourse must do more than simply define it and provide examples of what it is. Instruction on metadiscourse must also do more than ask students to use phrases to fill in the blanks on worksheets or in quizzes. To use metadiscourse effectively, students need to think about what they are trying to communicate and who they are communicating to, therefore, practice with metadiscourse should include opportunities for students to write and revise as they learn about metadiscourse and the effects they can create with it. The lessons provided in this chapter were intended to serve as a guide for teachers who recognize the

value of metadiscourse and want to incorporate instruction on metadiscourse in their composition classes. It is my hope that teachers will adapt (and improve) the lessons, and that many more composition scholars will research the effect of instruction on metadiscourse and other language features so that we can teach the larger principles of rhetorical awareness and critical thinking more effectively.

Chapter Seven

Conclusion

And they all lived happily ever after...sort of.

Just as one would not start a dissertation with "Once upon a time," one cannot (honestly) end a dissertation with "And they all lived happily ever after." Though it would be lovely to be able to deliver tidy answers to all the questions that prompted my research, perfect endings are never the reality, and there are always more questions to answer. However, despite the fact that my overall contribution may just be one drop in the bucket of knowledge about metadiscourse, academic writing, and FYC, there are several important insights that can be gained from this project.

One of the most important things that this dissertation accomplishes is providing evidence that teaching metadiscourse is effective and important in FYC. Up until now, most research on teaching metadiscourse has been done with English language learners or high school students, but this dissertation reveals that instruction on metadiscourse is also beneficial for the wide range of students who are part of FYC classes, including both native and non-native speakers of English. FYC instructors have long taught larger patterns in writing through genre, but as Connors (2000) and MacDonald (2007) have argued, it is also essential to teach the structure of language and help students understand patterns at the sentence level, and that includes teaching metadiscourse.

Based on the research I have done on teaching metadiscourse, I have learned five important lessons about accepting the call to teach patterns of language in composition classes. These five lessons are as follows: (a) metadiscourse should be taught using authentic academic language that has been identified through corpus linguistic research

(Aull, 2015; Lancaster, 2016a), (b) metadiscourse should be taught in FYC because it helps students advance to the "knowledge crafting" stage of writing by considering how their language influences their readers (Kellogg, 2008) and create a tone that matches the expectations of academic discourse communities (Hyland, 2019), (c) metadiscourse should be taught with clear rhetorical context so that students can craft their use of metadiscourse with "recipient design" and "position design" (Gee, 2014) rather than simply filling in answers in exercises, (d) metadiscourse should be taught explicitly so that students notice both form and function (Doughty & Williams, 1998), and (e) metadiscourse should be taught throughout an entire semester so that students can have time to balance the cognitive load of moving from declarative (knowing what metadiscourse is) to procedural knowledge (knowing how to use metadiscourse effectively) (Faerch & Kasper, 1986). With these five guidelines in place, I have been able to improve my own instruction, and I hope other instructors will continue to test these guidelines through both research and practice.

In order to more fully explain the benefits of these five guidelines, I will discuss each one in turn. First and foremost, it is important that we teach metadiscourse that matches the language academic writers actually use. As explained in the introduction, there is a large body of research on formulaic writing, and while Swales' (1990) concept of "moves" was grounded in good research, unfortunately Graff and Birkenstein's attempt to capture the "moves" of academic writing in the *They Say, I Say* textbook falls short in delivering templates that match the language most academics actually use (Lancaster, 2016a). Fortunately, new corpus-based research from Aull (2015) on FYC students' writing gives composition teachers the opportunity to build on the best elements

of *They Say, I Say* (e.g. writing is dialogic, and there are several ways to interact in conversation with sources and readers) while giving a more accurate picture of what a "move" (i.e. type of metadiscourse) actually looks like in academic writing.

Second, it is vital for students to understand that communication is not merely about delivering content but also about presenting that content in ways that reveal stance and organization, a level of writing Kellogg (2008) calls "knowledge-crafting" (p. 4). Metadiscourse is key in helping writers become knowledge-crafters instead of just knowledge-tellers, so it is important for students to notice how other writers use metadiscourse and consider how they might deploy it in their own writing. Additionally, understanding and using metadiscourse can help students signal belonging in academic discourse communities (Hyland, 2005). The results from Chapter Three demonstrate that students who are taught to notice and use metadiscourse receive better scores for "academic tone" in their essays, and creating the right "tone" is an important part of writing for academic discourse communities.

However, it is also important to recognize that as students become more aware of crafting their writing with an academic audience in mind, they have fewer cognitive resources to devote to other aspects of writing. As shown in Chapter Three, though the students who learned about metadiscourse improved in academic tone, they did not always improve in argument, organization, or overall quality, and some even did a little worse on the post-test. These results seem to suggest that thinking about metadiscourse is hard work, and as Kellogg (2008) points out, many college students are still developing the full capacity to think about audience, purpose, and content (i.e. engage in "knowledge-crafting) as they write. This may be the reason that even the best writers can

struggle with using metadiscourse. In fact, Steven Pinker (2014) has critiqued expert academic writers' use of metadiscourse, complaining that it often amounted to "directions for a shortcut that take longer to figure out than the time the shortcut would save." If even expert writers can struggle, then it should be no surprise that students do, too. U-shaped learning should be expected in novices (Ellis, 2003), and to facilitate learning, it would be wise give students many opportunities to safely experiment with metadiscourse, get feedback, and revise.

The third guideline for teaching metadiscourse is also an important way to facilitate learning of metadiscourse over time: carefully designing exercises that give an appropriate amount of context. As explained in Chapter Four, good writers consider what Gee (2014) calls "recipient design" and "position design" as they write, but this kind of design is only possible if there is a clear sense of who the audience is and what the purpose is for a given writing task. Therefore, instead of merely giving students lists of sentences and having them identify and adjust the metadiscourse (as I first did in some of the online quizzes, see Chapter Four), it is much more effective to give more context to the metadiscourse exercises by introducing a larger debate (e.g. Should teachers allow cellphones in the classroom?). Once students have a sense of the rhetorical situation they are writing for, they can work on revising and analyzing metadiscourse with that context in mind. Though some simple identification exercises may be useful, in the end, it is impossible for students to correctly use metadiscourse unless they can think about it in terms of interacting with other people as part of a larger conversation.

In addition to creating writing assignments with a clear rhetorical context (i.e. audience and purpose), it is also important to remember the fourth and fifth guidelines:

helping students notice the form and function of metadiscourse and giving them enough time to practice and revise with metadiscourse in mind throughout the entire semester. All of my research showed that when students are taught to "notice" metadiscourse, they will use metadiscourse in their writing, but it is also important for writers to "notice the gap" between what they know about effective use of metadiscourse and what they are actually writing (Ellis, 2003, p. 57). This concept of "noticing the gap" may be particularly helpful in moving students from declarative knowledge (knowing that) to procedural knowledge (knowing how) as they strive to master academic writing (Faerch & Kasper, 1986). For example, a student may know that it is important to avoid broad generalizations or fallacious reasoning, but they may not recognize how their use of hedges and boosters is contributing to their ability to make credible claims. Therefore, it is essential to give students time to "notice the gap" in what they know they should do and what they are actually doing as writers. One of the best ways to do this is to give students time to analyze and revise their writing, including their use of metadiscourse, throughout the writing process.

In addition to highlighting some of the important insights that can be taken from this dissertation, it is also important to discuss areas of future research. Much of this dissertation focuses on how to help students "notice" and effectively use metadiscourse (Schmidt, 1990), and more specifically, move from "declarative" to "procedural knowledge" of metadiscourse (Faerch and Kasper, 1986). Though I tried to get a sense of students' declarative knowledge with a reflection question in the PAT quiz, it was difficult to gauge how much students really understood about each type of metadiscourse because all the types of metadiscourse were lumped together in a single question. Future

research on students' declarative knowledge of metadiscourse would be improved if there several formative assessments (in the form of short surveys) that asked about students' understanding of each type of metadiscourse (e.g. What is the purpose of hedging? How might you use hedges in a research paper? When or where would you avoid using hedges in a research paper?).

Another important area that deserves further research is how to incorporate metadiscourse into differentiated instruction. All writing classes require some level of differentiated instruction because each student has different needs, but it would be helpful to know more about how to support students who are already strong writers, students who are weak in writing, and students who are somewhere in between. Most of my data (and practical experience in the classroom) suggests that students who are already strong writers tend to notice and incorporate metadiscourse more effectively than other students who are not as strong in writing. This is not surprising, especially given Kellogg's (2008) research on cognitive load; anyone who has already mastered a skill or concept will have more cognitive resources to put towards improving in that area. However, more research could be done on ways to scaffold writing instruction so that students who struggle with writing have a better chance of managing the cognitive demands of academic writing, including using metadiscourse appropriately. Researchers might compare different revision strategies or look at the effects of regular peer feedback on metadiscourse in order to help struggling writers improve.

Related to differentiated instruction is instruction in various disciplines, sometimes called Writing Across the Curriculum (WAC) or Writing in the Disciplines (WID). Though students may receive excellent instruction on metadiscourse in FYC, that

does not necessarily mean they will be able to use metadiscourse well in every class. Each discipline has its own conventions and expectations, and students have to learn how writing works not just generally but also for their particular field of study. David Bartholomae (1985) gave one of the best explanations of this process in an article called "Inventing the University":

Every time a student sits down to write for us, he [or she] has to invent the university for the occasion—invent the university, that is, or a branch of it, like History or Economics, or Anthropology or English. He [or she] has to learn to speak our language, to speak as we do, to try on the particular ways of knowing, selecting, evaluating, reporting, concluding and arguing that define the discourse of our community. Or perhaps I should say the various discourses of our community, since...a student...must work within fields where the rules governing the presentation of examples or the development of an argument are both distinct, and even to the professional, mysterious. (p. 134)

Because "inventing the university" involves knowing how to use metadiscourse within a variety of different disciplines, it is important that all professors (and not just FYC instructors) be aware of the need to teach metadiscourse. Fortunately, Hyland (2005, 2019) has done extensive research on how metadiscourse is used in various disciplines. The next step, however, is to do more research on how to best incorporate metadiscourse instruction in various disciplines, especially when so many professors already find it difficult to incorporate writing instruction into their courses. In addition to studying how professors in all disciplines can teach metadiscourse, it would also be useful to conduct longitudinal studies that showed whether or not (and how much) students were able to

transfer what they had learned about metadiscourse in FYC to classes in other disciplines. Thus, professors across campus could become more united in reaching the (hopefully) shared goal of helping all students to become better writers.

Overall, my research supports Connors (2000), MacDonald (2007), Aull (2015), Lancaster (2016a), Hyland (2019) and a host of others that have seen a need for greater focus on language and called on writing scholars and teachers everywhere to focus more on teaching features like metadiscourse as part of FYC. Much can be learned from research in linguistics, second language acquisition, and English for Academic Purposes, including not just past studies in metadiscourse but also methodology for research, theories and frameworks for understanding language learning, and ideas for improving pedagogy. In this way we can build on good textbooks like *They Say, I Say*, make the "moves" of academic writing clearer than ever before, and make FYC classes even more effective at preparing every student to be successful in the university and beyond.

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Appendix A (Chapter Two)

Permission Form

Researcher name: Diantha Smith

Consent Form

As part of my PhD dissertation, I am studying students' written arguments. I would like your permission to evaluate the assignments and quizzes you do in ENGL 1102 this semester. For me to evaluate and use this data, your consent to be a part of this project is required. **Giving your consent is completely optional and whether or not you agree, your consent (or lack thereof) will NOT affect your grade in any way.** All identifying information will be removed from your written work if it is included in the research data, and I will only use your written work in ways that you agree to.

1. Your written work can be studied by myself and my dissertation committee for this project. Yes___ No____

2. Portions of your written work (without any identifying information) can be published in an academic journal. Yes___ No____

3. Portions of your written work (without any identifying information) may be shared as part of an academic presentation. Yes___ No____

I have read the above description and give my consent for the use of my written work as indicated above.

Date _____ Signature ______

Printed Name _____

Figure 5: Assessment for Short Essays (Pre-/Post-Tests)

1. How well does this student argue for a specific perspective on the issue?

1.	How well	does u	iis stude	nt argu	le for a s	specific	perspective on the issue?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	0	0	0	Very well
2.	How well	does th	e studer	nt deve	lop and	support	t their ideas with reasoning/examples?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	\bigcirc	0	\bigcirc	Very well
3.	How well	does th	e studer	nt orga	nize thei	ir ideas'	?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	0	\bigcirc	\bigcirc	Very well
4.	How well	does th	e studer	nt inclu	ide at lea	ast two	different perspectives on the issue?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	0	0	\bigcirc	Very well
5.	How well	does th	is stude	nt com	municat	te their	ideas in standard written English?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	0	\bigcirc	\bigcirc	Very well
6.	How well	does th	is stude	nt use	an acade	emic to	ne?
		1	2	3	4	5	
	Needs improvement	0	\bigcirc	0	0	\bigcirc	Very well
7.	Please rat	e the ov	verall qu	ality of	f this ess	say. (1	= poor, 5 = excellent)
	1		2	3	4	5	

Poor O O Excellent

Appendix B (Chapter Three)

Pre-test Essay Prompt

Page 1.

Instructions

- 1. Read the short articles from the New York Times (shown in the next section of this quiz).
- 2. Write a unified, coherent essay of at least 500 words based on the following question: Should every young athlete get a trophy?

Page 2.

Introduction

In the United States and many other parts of the world, extracurricular activities and sports teams for children are very popular. Most kids in the U.S. receive at least one trophy during their time as an athlete, but there is some debate about the value of these awards.

Some believe that participation trophies help all children feel they have contributed to their teams. However, others disagree and raise questions like the following: Have we become too obsessed with giving awards, especially participation awards, for youth sports? With trophies given out like candy, have they lost their meaning?

Page 3.

Article 1.

Forget Trophies, Let Kids Know It's O.K. to Lose

Ashley Merryman is the co-author of "Nurture Shock: New Thinking about Children" and "Top Dog: The Science of Winning and Losing."

October 6, 2016

If children always receive a trophy – regardless of effort or achievement – we're teaching kids that losing is so terrible that we can never let it happen. This is a destructive message, because how we react to kids' failure is just as crucial as celebrating their success. A recent study found if parents thought failure was debilitating, their kids adopted that perspective. If parents believed overcoming failure and mistakes made you stronger, then their children believed it, too.

Thus letting kids lose, or not take home the trophy, isn't about embarrassing children It's about teaching them it can take a long time to get good at something, and that's all right. Kids need to know they don't

have to win every time. It's O.K. to lose, to make a mistake. (In a study of Gold Medal Olympians, they said a previous loss was key to their championships.)

It's through failure and mistakes that we learn the most.

We must focus on process and progress, not results and rewards.

Some claim that constant awards improve children's self-esteem, and, once kids have high self-esteem, they'll achieve more. But scientists have tested these claims and found them to be false. Kids with already high self-esteem see the trophies as vindication they really are as wonderful as they see themselves. In a longitudinal study, when parents regularly overpraised their children's performances, their children were more likely to be narcissistic two years later.

And for kids with low self-esteem, undeserved praise doesn't help them, either. Research has found that kids with low self-esteem believe they can't live up to their own hype, so they withdraw even further.

Research has found that the best way to improve kids' self-image is to help them develop their abilities. Once they master a skill, they won't need manufactured praise to tell them they've done well. They'll know it. And they'll be thrilled. Like the child who just learned to tie her shoes. That sense of accomplishment is worth more than any trophy.

Therefore, instead of blowing a team's budget on participation trophies, spend that money on kids' and coaches' skill development. Or donate the money to kids who can't afford the basic equipment they need to develop their own skills.

Page 4.

Article 2.

There's Nothing Wrong with Encouraging Participation with an Award

Eric Priceman is the president of Victory, a manufacturing company based in Chicago that makes components for trophies and other awards.

Updated October 6, 2016, 4:51 PM

To properly debate the merits of participation awards, we need to distinguish between an award and a reward. An award is something earned for achievement, while a reward is given for accomplishment. Just syntax maybe, but anyone that has ever achieved at the highest level has had to endure multiple levels of accomplishment first.

Instead of focusing on everything wrong with a child receiving a participation award, let's think about what might happen if we never rewarded accomplishment. Rewarding accomplishment is part of the education process, but it needs to be refined properly so everyone understands it. The whole notion that we are creating a nation of wimps because we hand out participation trophies is only the case if we want it to be. These awards only detract from creating a competitive society if we let them do so.

As the father of three adult children and the president of a company that makes trophy components, I went through this with each of my children. They all received their fair share of participation awards, and they

were taught that these awards were placeholders in life. They were records of accomplishment. They appreciated receiving something for their participation, but I guarantee that their competitive spirits were juiced each time they saw someone else's achievements win a place award.

It is both odd and sad that in this age of social media, too many people choose to criticize participation awards. These awards are definitely not the end-all to get children to participate, but used properly they incentivize accomplishment. We need to worry that some of these critics are at least partially responsible for the numbers that show group participation declining across-the-board. Instead of concerning ourselves with what our kids get for participating, let's make it a goal to increase participation as a whole. If participation awards contribute even in a small way toward this goal, then we must realize that the problems are not with participation awards, but elsewhere.

Page 5.

Write a unified, coherent essay of at least 500 words based on the following question: *Should every young athlete get a trophy?*

In your essay, be sure to:

- **argue for a specific perspective on the issue** (your perspective may be in full agreement with any of those given, in partial agreement, or completely different)
- **develop and support your ideas with reasoning and examples** (including ideas from the articles you just read)
- organize your ideas clearly and logically
- analyze the relationship between at least two different perspectives on the issue
- communicate your ideas effectively in standard written English
- **use an academic tone** (your audience is a university professor

Post-Test Prompt

Page 1.

Instructions

- 1. Read the short articles from the New York Times (shown in the next section of this quiz).
- 2. Write a unified, coherent essay of at least 500 words based on the following question: Are medical websites, like WebMD, really helping people who need medical advice?

Page 2.

Introduction

The internet has democratized medical knowledge, allowing people to learn about their symptoms and conditions without leaving their couch. But have medical websites let people draw conclusions about their health without really understanding what they're

reading? Do they inform patients so they can have better expectations when they see a doctor, or do they do more harm than good?

Page 3.

Article 1.

Physicians Should Embrace Patients' Digital Inquisitiveness

<u>Martin R. Weiser</u> is the Stuart H.Q. Quan chair in colorectal surgery at Memorial Sloan Kettering Cancer Center and professor of surgery at Weill Cornell Medical College.

Updated August 29, 2016, 3:21 AM

Frequently patients will come for cancer surgery consultation after spending hours scouring the internet, viewing personal blogs or searching hospital, university and governmental websites. Many download and read scientific papers. The list of questions they bring with them can fill pages of legal pads. More than one patient has quoted my own studies to me in the office.

Physicians should embrace inquisitive patients. Online investigation of disease and treatment counters what many patients feel as a loss of autonomy. It may help them regain a sense of control during a scary and sometimes helpless time.

This is not without problems. Many sites are not vetted by true experts, and are anecdotal. Many are not updated or curated, which can lead to propagation of inaccurate information. Physician authors may not be true experts in the field, or may not reveal bias or conflicts of interest. Some sites provide irrelevant information and are created solely to sell products. Nevertheless, I applaud other medical advice websites, which can help frame the cancer treatment discussion, set expectations, inform patients about complex therapies and support their participation in what is sometimes a difficult decision-making process.

In the end, an important part of my job is to inform and educate patients about treatment of their disease. While some desire only minimal information and prefer that the physician take a more paternalistic approach, many others need to play a more active role. I spend time reviewing downloaded information, discussing the nuances of trials and studies, and explaining how it relates to their specific disease. Such a dialogue encourages their engagement.

We know that patients who are well-informed, and participate in the decision-making process about their own care, are generally more satisfied with the results. Along with physical examination, evaluation of performance status, and review of the individual's desires and wishes, this can lead to formulation and implementation of an optimal treatment plan.

Page 4.

Article 2.

With Medical Websites, a Cough Is No Longer Just a Cough

Kevin Noble Maillard is a law professor at Syracuse University and a contributing editor to Room for Debate.

Updated August 29, 2016, 3:21 AM

Medical websites are like Magic 8 Balls: several clicks or shakes eventually provide a desirable answer. There are enough sites out there that investigation will deliver at least one preferred diagnosis. Who needs medical school and residencies when Google can tell us exactly what we want to hear?

The internet, among other things, is perfect for medical neuroses. But while self diagnosis may soothe, agitate or confirm, it doesn't treat.

But we need more than an internet connection to keep us well. The internet, among other things, is perfect for medical neuroses. It is a readily available doctor on call, ready to break the bad news. The white spot on your fingernails might not be from a French manicure, but a sign of congestive heart failure or liver disease. Are you moody, cranky or forgetful? It might be a symptom of a thyroid disorder. That itch? Could be syphilis.

I'm quite familiar with this. When I first had symptoms of what turned out to be colon cancer, I did plenty of internet research, terrifying myself in the process. I read blogs, message boards, and hospital sites. I listened to podcasts, watched YouTube videos, and even read academic medical journals. Cell phones made it more convenient.

After my initial diagnosis, I convinced myself — from an app — that I was also likely to have leukemia, multiple myeloma and possibly pancreatic and lung cancers. As a fellow survivor once told me, "a cough is no longer just a cough." Even though the odds were overwhelmingly in my favor — and my survival proved them right — I hunted for the worst in the name of "awareness" and "education."

"Be wary of medical websites and blogs," warned JoAnne Weiskopf, a surgical physician assistant at NYU Langone Medical Center, "the internet is not a crystal ball." The information may not be reliable, and it could be biased, I quickly learned. Most of all, it is not individualized for the patient.

Admittedly, medical websites like WebMD and Mayo Clinic initially led me to seek professional, human treatment. Every article usually ends with a tagline of "consult your doctor."

But the real danger in online self-diagnosis is the independent conclusion that symptoms mean nothing and treatment is unnecessary. Self diagnosis may soothe, agitate or confirm, but it doesn't treat.

Page 5.

Write a unified, coherent essay of at least 500 words based on the following question: Are medical websites, like WebMD, really helping people who need medical advice?

In your essay, be sure to:

- **argue for a specific perspective on the issue** (your perspective may be in full agreement with any of those given, in partial agreement, or completely different)
- **develop and support your ideas with reasoning and examples** (including ideas from the articles you just read)
- organize your ideas clearly and logically
- analyze the relationship between at least two different perspectives on the issue
- communicate your ideas effectively in standard written English
- **use an academic tone** (your audience is a university professor)

Quiz Instructions

1. **Quizzes are due at 11:59 p.m.** on the date listed below. (Dates are also listed in the syllabus.)

2. You may take each quiz as many times as you like until the due date, but your score will be the *average* of your attempts, so be sure to do your best each time. If you take a quiz once and get a 0, and you take it again and get 100, the average of your scores is still just 50. You could continue taking the quiz to improve that score, but the better you do the first time, the easier it is to get a good grade on each quiz.

3. It is a great idea to take quizzes early. The more time you give yourself to re-take or review a quiz, the more likely you are to remember the material (and get a good grade).4. If you ever have any questions about quizzes, please email Diantha (smitdia@isu.edu) and she'll do her best to help you sort out any Moodle issues.

Assessment

Figure 6: Assessment Rubric

D.S. Assessment

Please enter the information for each essay below. Thank you!

* Required

1. Grader Name *

2. Essay Code *

3. How well does this student argue for a specific perspective on the issue? * Mark only one oval.



4. How well does this student develop and support their ideas with reasoning/examples? * Mark only one oval.

	1	2	3	4	5	
Needs improvement	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	Very well

5. How well does this student organize their ideas? *

Mark only one oval.



 How well does this student include at least two different perspectives on the issue? * Mark only one oval.

	1	2	3	4	5	
Needs improvement	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	Very well

 How well does this student communicate their ideas in standard written English? * Mark only one oval.

		1	2	3	4	5	
	Needs improvement	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	Very well
8.	How well does this s Mark only one oval.	tudent	use an a	academ	ic tone	? *	
		1	2	3	4	5	
	Needs improvement	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	Very well

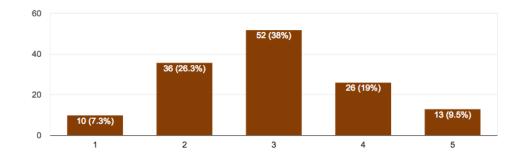
9. Please rate the overall quality of this essay. *
Mark only one oval.

1 2 3 4 5
Poor Excellent

Figure 7: Assessment Results **Question 3:**

How well does this student argue for a specific perspective on the issue?

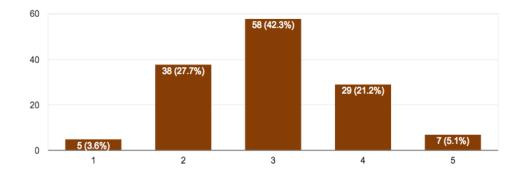
137 responses



Question 4:

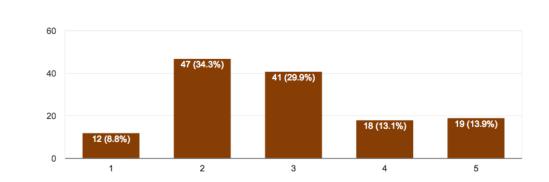
How well does this student develop and support their ideas with reasoning/examples?

137 responses



Question 5:

137 responses

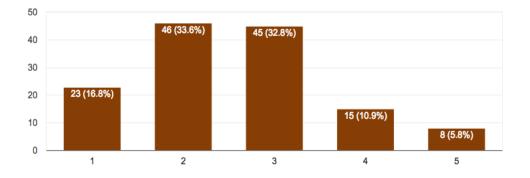


How well does this student organize their ideas?

Question 6:

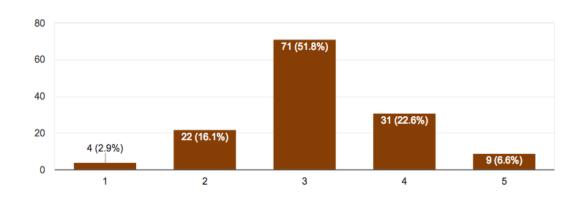
How well does this student include at least two different perspectives \Box on the issue?

137 responses



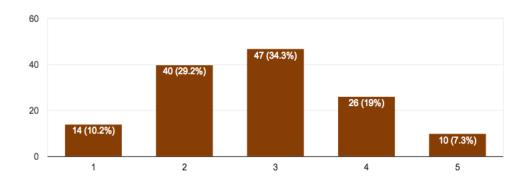
Question 7:

How well does this student communicate their ideas in standard written English?



Question 8:

How well does this student use an academic tone?



137 responses

Question 9:

 $\begin{array}{c} 60\\ 40\\ 20\\ 0\\ \end{array} \\ 6 (4.4\%)\\ 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ \end{array}$

 \Box

Please rate the overall quality of this essay.

Table 30: Individual Student Performance on Pre-/Post-Tests Results from the Pre-/Post-Test Assessment for Argument Scores on Likert scale: 1 = needs improvement, 5 = very well

Participant Code #	Group	Pre-test Argument Score	Post-test Argument Score
161	Experimental	4	3.5
162	Е	3.5	3.5
163	Е	4	3
164	Е	2	2
165	Е	3	4
166	Е	3.5	4
167	Е	3	3.5
181	Е	2.5	2
182	Е	3	2.5
183	Е	3	2
92	Control	1	1.5
93	С	4	3.5
94	С	2	2.5
95	С	2.5	2.5
96	С	2.5	2
97	С	3.5	1.5
252	С	2	3

Table 31: Results from the Pre-/Post-Test Assessment for Organization **Scores on Likert scale: 1 = needs improvement, 5 = very well**

Participant Code #	Group	Pre-test Organization Score	Post-test Organization Score
161	Experimental	3.5	2.5
162	Е	2.5	4
163	Е	4	2.5
164	Е	1.5	1.5
165	Е	2.5	3
166	Е	3	3
167	Е	2	2
181	Е	2	2
182	Е	3.5	3.5
183	Е	2	2.5
92	Control	2.5	2.5
93	С	4.5	3.5
94	С	2	1
95	С	3.5	3.5
96	С	2.5	2
97	С	5	2
252	С	2	2.5

Participant Code #	Group	Pre-test Academic Tone Score	Post-test Academic Tone Score
161	Experimental	3.5	2.5
162	Е	3.5	2.5
163	Е	3	5
164	Е	3.5	3
165	Е	2	2.5
166	Е	2.5	3
167	Е	2.5	3.5
181	Е	3	3
182	Е	2	2.5
183	Е	4	4
92	Control	2.5	1.5
93	C	4	3.5
94	С	2	2
95	С	4	2.5
96	С	3	3.5
97	С	4	3.5
252	С	2.5	2

Table 32: Results from the Pre-/Post-Test Assessment for Academic Tone Scores on Likert scale: 1 = needs improvement, 5 = very well

Participant Code #	Group	Pre-test Overall Quality Score	Post-test Overall Quality Score
161	Experimental	3.5	2.5
162	Е	3	4
163	Е	4	2.5
164	Е	2	2
165	Е	2.5	3
166	Е	3	3.5
167	Е	2.5	3
181	Е	2	1.5
182	Е	3	2.5
183	Е	2	2
92	Control	1.5	2.5
93	С	3.5	3.5
94	С	2	2
95	С	3	2.5
96	С	2.5	3
97	С	3.5	2.5
252	С	2.5	3

Table 33: Results from the Pre-/Post-Test Assessment for Overall Quality **Scores on Likert scale: 1 = poor, 5 = excellent**

Table 34: Results	~ ~	T	D	a	
Participant	Group	Pre-test	Post-test	Comparison of	Metadiscourse
Code #		Overall	Overall	pre-/post-test	Quizzes
		quality	quality score	score (better,	Completed
		1 1	1 1	worse, same)	(out of 9)
161	Experimental	3.5	2.5	worse	3
162	Е	3	4	better	7
163	Е	4	2.5	worse	8
164	Е	2	2	same	8
165	Е	2.5	3	better	4
166	E	3	3.5	better	9
167	Е	2.5	3	better	9
181	Е	2	1.5	worse	3
182	E	3	2.5	worse	1
183	Е	2	2	same	5
92	Control	1.5	2.5	better	0
93	С	3.5	3.5	same	0
94	С	2	2	same	0
95	С	3	2.5	worse	0
96	С	2.5	3	better	0
97	С	3.5	2.5	worse	0
252	С	2.5	3	better	0

Table 34: Results from Question 4

n =17

Table 35: Number of Students Who Completed Metadiscourse Quizzes

Participant Code #	Group	Metadiscourse Quizzes Completed
161	Experimental	3
162	Е	7
163	Е	8
164	Е	8
165	Е	4
166	Е	9
167	Е	9
181	Е	3
182	Е	1
183	E	5
92	Control	0
93	С	0
94	С	0
95	С	0
96	С	0
97	С	0
252	С	0

n =17

Appendix C (Chapter Five)

Definitions for Metadiscourse

Laura Aull's Definitions (from First-Year University Writing: A Corpus-based Study with Implications for Pedagogy)

p. 217

Boosters: words or phrases like clearly, certainty, must that show certainty and commitment to a claim; they allow little room for doubt or alternative views. Boosters are also called epistemic markers because they intensify epistemic commitment.

p. 218

Hedges: words or phrases like may, might, perhaps, possibly that express caution or qualification by implying the claims are not necessarily prove or true in every case. Hedges are also called epistemic markers because they tone down epistemic commitment.

Reformulation markers: markers that indicate a writer is restating information in their own words, to show elucidation (in other words), emphasis (particularly), or counter expectancy (in fact). Reformulation markers can help build a writer's credibility by drawing attention to their knowledge and presence in a text. Also called reformulation code glosses. <u>Scope markers</u>: the label in this study for words and phrases that signal the breadth and focus of arguments such as text external scope markers like in this world or text-internal scope markers like in this essay.

p. 219

Transition markers: words or phrases that show the logic and organization of writing by showing the relationship between sentences or ideas; e.g. textual relationships such as causation (due to), comparison (similarly, likewise), contrasting (conversely), or countering (however). Also called text connectives.

My Definitions (given in quiz instructions throughout the semester)

- Transitions: These words and phrases that help connect ideas; they are often connected to a specific function (e.g. addition, cause and effect, clarification, contrast, illustration, and adversativity).
- Reformulation Markers: These words or phrases signal that writers will explain, define, or restate ideas (e.g. in other words, this means that, meaning that, etc.).
- Hedges: These words or phrases signal a lesser feeling of certainty (e.g. might, likely to, unlikely to, tend to, probably, may, etc.).
- Boosters: These words or phrases signal a strong feeling of certainty (e.g. always, never, all, none, especially, very, truly, etc.).
- Scope Markers: These words or phrases that tell exactly who, what, where, and when; when defining scope it is important to be careful of phrases that are too broad or show an unfair racial/gender bias. (Note: This definition focuses only on text-external scope markers; no text-internal markers were shown in the quizzes.)

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Figure 8: Spring Students' Responses to PAT Question 6

Student A: For my research paper I believe I will have to use a fair amount of hedges to make my argument stronger and qualify my claims. Sometimes if you use too many booster your argument will come across as weak. In my paper I will use fewer booster so it shows how important those claims are.

Student B: in my final paper, I feel like using these hedges, booster etc. will improve my arguments because using them in a correct way and realy paying attention will really bring out a better side of my writing skills. these can help me write clearer essays because it helps me understand how to use them and just when to use them at the right time, it is a great benefit for writing

Student C: These words will help me to narrow my explanation of my topic down. I feel like these words will also improve my argument by making it more credible and concise. Boosters will help me emphasize important arguments in my paper and transitions will make my paper more fluid.

Student D: In my final paper I will utilize hedges to suggest an argument or topic. Boosters will be used to strengthen my arguments in which the topic is a definite. I can use reformulation markers to redefine statistics or quotes that may be difficult to understand. Transitions will provide a flow in my paper that help sentences work together more smoothly. Lastly, using the appropriate scope will help build my credibility as a writer and make my arguments stronger.

Student E: In my final paper using hedges, boosters, transitions, reformulation markers and appropriate scope would be my main aim. Using these different parameters i will be able to stay focused in a narrow topic and support the main thesis without sounding too confident with no data to support. thus by appropriate use of these i will be able to make appropriate sentences for each points. Thus, the essay will be more clear about the points i believe strongly and the point that i believe may have other explanations.

Student F: By using hedges and boosters, I will be able to explain in better detail my topic and sentences. As for transitions, I have always been taught to use them to give my paper a better flow. Transitions will help me give out the needed information on my topic. However, reformulation markers will help me explain my thoughts better. As for using an appropriate scope, I will be able to give a more specific topic.

Student G: I believe that my overall success on my final paper will be based off my usage of hedges, boosters, transitons, reformulation markers, and appropriate scope. The reason I believe this is because they not only make for stronger arguments, but they also provide a clearer essay. Therefor, it is crucial that I remember to use them throughout my final paper in this class, in order to receive the grade I desire.

Figure 9: Summer Students' Responses to PAT Question 6

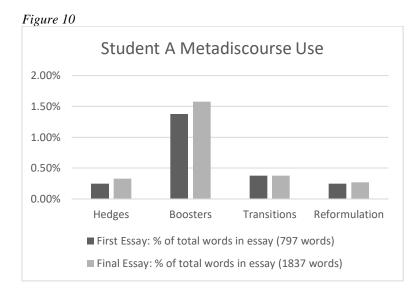
Student X: An appropriate scope is going to be paramount to my paper in that I cannot write about all technology affecting all people without it being too broad. However, if I am too narrow, I will have a difficult time finding enough discussion topic to fill the length of the paper. I will need to focus on some hedging to dissipate some of my own bias from some arguments, but also make use of <u>boosters</u> to drive home the importance of my main ideas. I will be using some scholarly work and some technical jargon which will require some **reformulation** in explaining those ideas.

Student Y: In final paper i intend to use appropriate scope: by applying it to colleges that specifically meet a set precedence of criteria so that I can avoid broad generalization. Ill temper the scope by using proper hedges to avoid demonizing all educational institutions of higher learning; while using boosters to highlight through contrast specifically important points through out the assignment.

Student Z: <u>Boosters</u> can be used to emphasize an important part in my paper. <u>Hedges</u> could be used to show that their isn't a define black and white view. *Transitions* can be used to make the flow better and

to keep like ideas together. Reformation markers will be used to restate a quote or idea to better
understand it or explain it better. Scope would be used to narrow and idea to a specific group so it isn't
to wide of an area to explain.

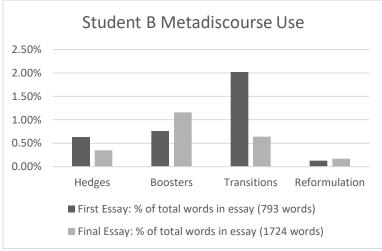
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Table 36: Student A						
Type of	First Essay	y	Final Paper			
metadiscourse	(797 words)		(1837 words))		
	# of	% of total	# of	% of total		
	markers	words in	markers	words in		
		essay		essay		
Hedges	2	0.25%	6	0.33%		
Boosters	11	1.38%	29	1.58%		
Scope	0	0%	13	0.71%		
Transitions	3	0.38%	7	0.38%		
Reformulation	2	0.25%	5	0.27%		



Type of	First Essay		Final Paper	
metadiscourse	(793 words)		(1724 words)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	5	0.63%	6	0.35%
Boosters	6	0.76%	20	1.16%
Scope	4	0.50%	22	1.28%
Transitions	16	2.02%	11	0.64%
Reformulation	1	0.13 %	3	0.17%

Table 37: Student B

Figure 11



Type of	First Essay		Final Paper	
metadiscourse	(987 words)		(1657 words)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	4	0.41%	25	1.51%
Boosters	11	1.11%	19	1.15%
Scope	5	0.51%	24	1.45%
Transitions	4	0.41%	20	1.21%
Reformulation	5	0.51%	7	0.42%

Table 38: Student C (LB)

Figure 12

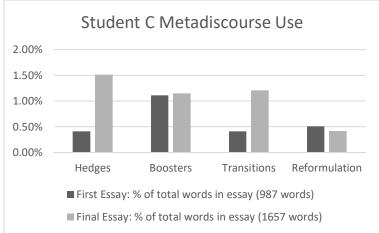


Table 39: Student D

Type of metadiscourse	First Essay (905 words)		Final Paper (2009 words)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	4	0.44%	17	0.85%
Boosters	10	1.10%	29	1.44%
Scope	1	0.11%	19	1.05%
Transitions	9	0.99%	24	1.19%
Reformulation	1	0.11%	14	0.70%

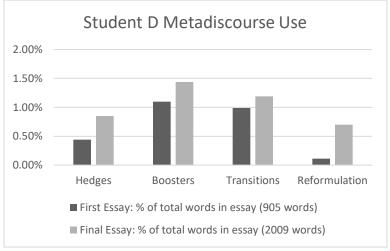
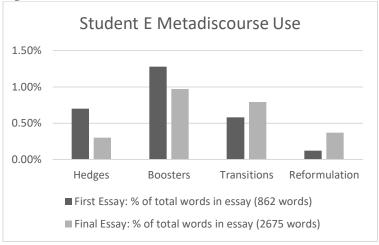


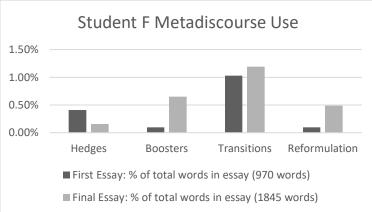
Table 40: Student E

Type of metadiscourse	First Essay (862 words)		Final Paper (2675 words)	
nieuaiseouise	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	6	0.70%	8	0.30%
Boosters	11	1.28%	26	0.97%
Scope	4	0.46%	19	0.71%
Transitions	5	0.58%	21	0.79%
Reformulation	1	0.12%	10	0.37%



Type of	First Essay		Final Paper	
metadiscourse	(970 words)		(1845 words)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	4	0.41%	3	0.16%
Boosters	1	0.10%	12	0.65%
Scope	4	0.41%	8	0.43%
Transitions	10	1.03%	22	1.19%
Reformulation	1	0.10%	9	0.49%

Table 41: Student F



Type of	First Essay		Final Paper	
metadiscourse	(751 words)		(1806 words)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	3	0.40%	9	0.50%
Boosters	8	1.07%	23	1.27%
Scope	5	0.67%	6	0.33%
Transitions	6	0.80%	17	0.94%
Reformulation	6	0.80%	9	0.50%

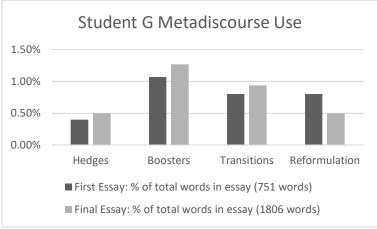
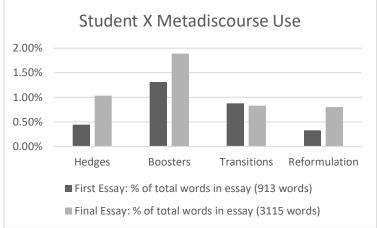


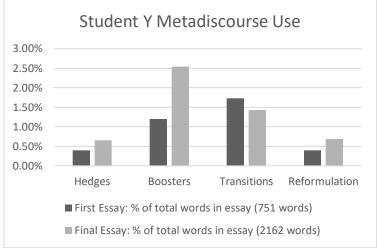
Table 43: Student X



Final Paper Type of First Essay metadiscourse (913 words) (3115 words) # of % of total # of % of total words in markers words in markers essay essay 4 0.44% 32 1.03% Hedges Boosters 13 1.31% 59 1.89%Scope 2 0.22% 25 0.80% Transitions 8 0.88% 26 0.83% 3 Reformulation 0.33% 25 0.80%

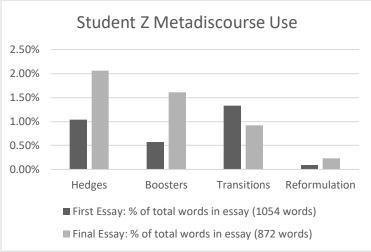
Type of	First Essay		Final Paper	
metadiscourse	(751 words)		(of 2162)	
	# of markers	% of total words in essay	# of markers	% of total words in essay
Hedges	3	0.40%	14	0.65%
Boosters	9	1.20%	55	2.54%
Scope	4	0.53%	29	1.34%
Transitions	13	1.73%	31	1.43%
Reformulation	3	0.40%	15	0.69%

Table 44: Student Y



Type of	First Essay		Final Paper	
metadiscourse	(1054 words)		(872 words)	
	# of	% of total	# of	% of total
	markers	words in	markers	words in
		essay		essay
Hedges	11	1.04%	18	2.06%
Boosters	6	0.57%	14	1.61%
Scope	2	0.19%	5	0.57%
Transitions	14	1.33%	8	0.92%
Reformulation	1	0.09%	2	0.23%

Table 45: Student Z



Appendix D (Chapter Six)

Lesson: Transitions & Coherence

Freewrite: (10 minutes). Start by asking students to do a quick freewrite on a short video or topic they have been researching. Great sample videos on a variety of topics can be found through TED-Ed (https://ed.ted.com/). In order to set up instruction on the function of transitions, the freewrite prompt should direct students to do one of the following:

- Compare/contrast two different perspectives on a topic
- Explore possible solutions to a problem
- Describe the history of a topic
- Explain a cause and effect relationship

Compare paragraphs: (5 minutes). Show students two sets of sample paragraphs and ask them to determine which is better. I wrote the following paragraphs to use in my classes: (See Figure 20)

Figure 20: Sample Paragraphs	
Sample 1	Sample 2
Islam is one of the world's major religions. There	Islam is one of the world's largest and most
are about 1.5 billion Muslims in the world, but	misunderstood religions. There are about 1.5
most of them are not Arab, nor do they live in the	billion Muslims in the world, but contrary to
Middle East. In fact, the largest population of	popular belief, most of them are not Arab, nor do
Muslims lives in Indonesia.	they live in the Middle East. In fact, the largest
Some people think Islam is completely	population of Muslims lives in Indonesia.
different than Christianity. This is not really true.	Another misconception some people have
Muslims base their beliefs about God and morality	about Islam is that it is completely different than
on teachings from ancient prophets such as	Christianity. In reality, there are many similarities
Abraham, Moses, and Joseph of Egypt. Muslims	between Muslims and Christians. Like Christians,
also pray regularly, fast, and give alms to the poor.	Muslims base their beliefs about God and morality
This is similar to what many Christians believe	on teachings from ancient prophets such as
and do.	Abraham, Moses, and Joseph of Egypt. Muslims
Muslims and Christians have important	also practice their religion in ways very familiar to
differences. Christians believe Jesus is the son of	most Christians: regular prayer, fasting, and giving
God. Muslims do not consider Jesus the son of	alms to the poor.
God, but they revere him as a prophet and believe	Despite their many similarities, however, there
he will return to earth someday to usher in an era	are some key differences between Islam and
of peace. This is both different and similar to what	Christianity. The biggest difference is that
Christians believe.	Christians consider Jesus to be the son of God, but
	Muslims do not. However, this does not mean that
	Muslims do not respect Jesus. Though Muslims do
	not worship Jesus, they revere him as a prophet
	and believe he will return to earth someday to
	usher in an era of peace.

Figure 20: Sample Paragraphs

Introduce the three ways to create coherence: (15 minutes). After students have

read each paragraph and decided which one is better, introduce the word "coherence" and give a brief definition (i.e. coherence in writing means ideas fit together in a way that makes them easy to read and understand). Then tell the students there are three key ways to create coherence:

- Repeating key words
- Transition words and phrases
- Moving from familiar to new

After introducing the three ways to create coherence, you can give a brief introduction for all three or you can explain one and then have students practice finding examples of it in the sample paragraphs before moving on to the next one. When I explain the three ways to create coherence, I tell students that repeating key words is important in creating coherence because it helps the reader focus on the main idea and connect new information back to it. For example, in this lesson plan I repeat the word "coherence" many times so it is clear how each part of the lesson relates to this skill. Transition words and phrases create coherence by helping readers see the relationship between ideas. There are many types of relationships, and it often helps to give students a list of examples:

- Addition: furthermore, in addition, moreover
- Cause and Effect: because, since, as a result, consequently, due to, therefore
- Clarification: in other words, that is, this means that (Note: these also work as reformulation markers)
- Contrast: in contrast, however, on the other hand, conversely, unlike
- Illustration: for example, for instance
- Adversativity: although, even though, despite the fact, in spite of, however, nevertheless

The last important strategy for creating coherence is moving from familiar to new. I usually explain this strategy to students by telling them a story about getting lost while trying to find a cabin. When I finally called a friend for directions, she told me something like the following:

Drive up Highway 20 until you see a large brown sign that says Cottonwood Heights. Take a right after the sign and then drive until you come to a fork in the road. When you get to the fork, take the right and drive until you see a big yellow house. Just after the yellow house is a road called Sandhill Lane. Turn left on Sandhill Lane and follow the road until you see three cabins. Our cabin is the last one on the left.

After telling this quick story, I point out that my friend constantly restated landmarks to help me keep track of what I should do next (e.g. drive until you see a big yellow house...just after the yellow house...). Just as when drive through back country roads, when we write, we are taking readers through uncharted territory (our thoughts and ideas) so it helps to remind them of what they just learned before moving on to a new idea. For example, in the sample paragraphs on Islam, Sample 1 jumps into a discussion of the differences between Islam and Christianity by saying, "Muslims and Christians have important differences. Christians believe Jesus is the son of God. Muslims do not..."; this is not horrible writing, but it is not as clear as Sample 2. Sample 2 connects the familiar idea of comparing Islam and Christianity the new idea of focusing on differences in the first sentence, "Despite their many similarities, however, there are some key differences between Islam and Christianity." Then, the very next sentence restates the now familiar idea of differences before moving on to the new information: "The biggest difference is that Christians consider Jesus to be the son of God, but Muslims do not." Not every sentence in Sample 2 follows the familiar to new pattern, but many of the sentences do, and this makes the writing more coherent than Sample 1.

Once the students understand the three ways to make writing coherent, have the students look for evidence of coherence in the sample paragraphs. Some examples of what students might find are underlined in the sample below.

Repeating key words	Transition words and phrases	Moving from familiar to new
Islam is one of the world's	Islam is one of the world's	Islam is one of the world's
largest and most misunderstood	largest and most misunderstood	largest and most misunderstood
religions. There are about 1.5	religions. There are about 1.5	religions. There are about 1.5
billion <u>Muslims_</u> in the world, but	billion Muslims in the world, but	billion Muslims in the world, but
contrary to popular belief, most	contrary to popular belief, most	contrary to popular belief, most
of them are not Arab, nor do	of them are not Arab, nor do	of them are not Arab, nor do
they live in the Middle East. In	they live in the Middle East. In	they live in the Middle East. In
fact, the largest population of	fact, the largest population of	fact, the largest population of
Muslims lives in Indonesia.	Muslims lives in Indonesia.	Muslims lives in Indonesia.
Another misconception some	Another misconception some	Another misconception some
people have about Islam is that it	people have about Islam is that it	people have about Islam is that it
is completely <u>different</u> than	is completely different than	is completely different than
Christianity. In reality, there are	Christianity. In reality, there are	Christianity. In reality, there are
many similarities between	many similarities between	many similarities between
Muslims and Christians. Like	Muslims and Christians. Like	Muslims and Christians. Like
Christians, Muslims base their	Christians, Muslims base their	Christians, Muslims base their
beliefs about God and morality	beliefs about God and morality	beliefs about God and morality
on teachings from ancient	on teachings from ancient	on teachings from ancient
prophets such as Abraham,	prophets such as Abraham,	prophets such as Abraham,
Moses, and Joseph of Egypt.	Moses, and Joseph of Egypt.	Moses, and Joseph of Egypt.
Muslims also practice their	Muslims also practice their	Muslims also practice their
religion in ways very familiar to	religion in ways very familiar to	religion in ways very familiar to
most Christians: regular prayer,	most Christians: regular prayer,	most Christians: regular prayer,
fasting, and giving alms to the	fasting, and giving alms to the	fasting, and giving alms to the
poor.	poor.	poor.
Despite their many	Despite their many	Despite their many
similarities, however, there are	similarities, however, there are	similarities, however, there are
some key differences between	some key differences between	some key differences between
Islam and Christianity. The	Islam and Christianity. The	Islam and Christianity. The
biggest difference is that	biggest difference is that	biggest difference is that
Christians consider Jesus to be	Christians consider Jesus to be	Christians consider Jesus to be
the son of God, but Muslims do	the son of God, but Muslims do	the son of God, but Muslims do
not. However, this does not	not. However, this does not	not. However, this does not
mean that Muslims do not	mean that Muslims do not	mean that Muslims do not
respect Jesus. Though Muslims	respect Jesus. Though Muslims	respect Jesus. Though Muslims
do not worship Jesus, they	do not worship Jesus, they	do not worship Jesus, they
revere him as a prophet and	revere him as a prophet and	revere him as a prophet and
believe he will return to earth	believe he will return to earth	believe he will return to earth
someday to usher in an era of	someday to usher in an era of	someday to usher in an era of
peace.	peace.	peace.

Figure 21: Sample Student Responses

Revision: (10 minutes). Have students analyze their freewrite. Do they repeat

key words, use transition phrases, and move from familiar to new ideas? After they find a

few areas to improve, they should rewrite their freewrite so that it has more coherence.

Assessment and reflection: (5 minutes). Once students are finished revising

their paragraph you may have them share with a partner, turn in their work to be graded,

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and/or have them quickly write down (a) what they learned, and (b) any questions they have about coherence in writing.

Lesson: Reformulation Markers

Freewrite: (5 minutes). Start by asking students to do a quick freewrite on a topic they have been researching. Their paragraph should answer one of the following questions about their topic:

- What is it?
- How does it work?
- What are its implications or effects?
- Why is it valuable?
- What should we do now that we know about it?

Evaluate example TRIAC paragraphs: (15 minutes). Using samples from Dr.

Cooper's English 101 site (see https://cooperseng101.wordpress.com/syllabus-part-2-

course-outline/worlds-shortest-research-paper/triac/), have students evaluate the TRIAC

model and answer questions about the paragraph.

Example Paragraph #1

In today's business world, it is increasingly difficult to keep the ethics of a neighborhood "mom and pop" type of store and develop a multi-unit business. **In fact**, it seems that as businesses grow, they become less and less able to keep small store ethics. **For example**, Ben and Jerry's ice cream company had such a problem that ... [This might go on relating Ben and Jerry's experiences.] **The significance of their experience is** that growth demands more than a simple person-to person handshake and cheerful, honest owner. An increase in employees, suppliers, and customers requires superior management and more farreaching and complex ethical techniques. (The conclusion would depend on what came next in the report.)

Can you identify the TRIAC elements in this paragraph?

T= Topic. This is the topic sentence of the paragraph. It announces the focus of the paragraph and acts as a "mini-thesis" statement for what follows.

R=Restriction. This is a sentence or two that narrows the scope of the paragraph. It restates the topic sentence in different—more specific—terms and sets the "direction" the paragraph is taking the reader. Key Terms: In fact, In other words,

I=Illustration. Here the writer gives evidence to support the topic. In this section, there would be facts, examples, statistics, quotes from authorities, and so forth. Key Terms: For example, For instance, As an illustration,

A=Analysis. In the analysis section of the paragraph, the writer explains to the reader why the evidence in the illustration supports the topic and restriction sentences. This is an extremely important part of the paragraph, but unfortunately, it is the one most students leave out. Thinking, perhaps, that the example will convince their readers, they fail to explain why the example is important. Key Terms: This is important because..., The significance of this is...

C=Conclusion. This last sentence is often part of the analysis section. It helps the reader understand that the focused topic has been sufficiently discussed and that the report will move on to a new topic. The possible key phrase, "in conclusion" would usually be too strong for the last sentence of a paragraph.

Example Paragraph #2

Although many books have already been published online, reading them is still very inconvenient. **That is,** you can't take your computer to the beach or read lying in bed very easily. But that will soon change. **For example,** according to David H. Rothman in his article for *U.S. News & World Report* (1998), technicians at Massachusetts Institute of Technology have developed a computer that is shaped like a book, with flipable pages. Within five years, we may have complete public libraries online on these MIT "book" computers. **This is important news because** these libraries may help raise the level of literacy in the country. They will also make proofreading your own writing easier on the page-like screen. Best of all, you'll be able to take your favorite novel, lie down on a blanket in the park, and read again with pleasure.

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Which paragraph sounds better to you? Why might you choose to include (or not include) the signal phrases that are bolded in the first and second paragraphs? **Discussion: (5 minutes).** Once students have written their answers for the TRIAC

examples and identified the parts of a TRIAC paragraph, take some time to talk about the

potential value (or problems) with using reformulation markers and other signal phrases.

It's important that students recognize that reformulation markers can be useful in

transitioning from one idea to the next, especially if they are writing about a complex subject. However, using reformulation markers isn't always necessary and sometimes it can even make writing sound clunky or wordy.

You may also want to mention that if they use a quote for the illustration part of TRIAC (as in Example 2), then they may also consider including a reformulation marker after the quote so that the ideas in the quote are clear and connected to their main idea.

Revision: (10 minutes). Have students revise the paragraph they wrote about their research topic. They should not only try to follow the TRIAC model but also carefully consider whether or not to use reformulation markers (and other signal phrases) to shift from one sentence to the next.

Assessment and Reflection: (5 minutes). Once students are finished revising their paragraph you may have them share with a partner, turn in their work to be graded, and/or have them quickly write down (a) what they learned, and (b) any questions they have about reformulation markers or paragraph construction.

Lesson: Hedges, Boosters, and Scope

Freewrite: (2 minutes). Start by asking students to do a quick freewrite on the question: Can men and women be "just friends"? Why or why not?

Video/discussion: (5 minutes). Show a short YouTube video created by students at Utah State called "Why Men and Women Can't Be Friends" (see https://www.youtube.com/watch?v=T_lh5fR4DMA). After watching the video have a brief discussion about students' reaction to the video. Do they agree with the overall conclusion that men and women can't be friends? Why or why not?

Evaluation: (7 minutes). Write (or project a slide) of the final claim made in the video: "As we can see, after interviewing everyone in the library, it is impossible for men and women to be just friends and under no circumstances can it happen." Then pass out the handout called "A Rough Guide to Spotting Bad Science" and challenge students to find at least three reasons they might distrust the conclusion in the video. After about 2 minutes, call on a few students to share specific reasons to distrust the results presented in the video. Some examples might include:

- Unrepresentative sample size: The video only shows white, college-aged women and men at one university. This can't be generalized as the experience of all women and men.
- Selective reporting of data: Because of the way the video has been edited, we don't get the full answer from every participant. It's also possible that some responses were not included because they did not fit the goal of the students doing the "research."

- <u>Conflicts of interest</u>: Since the interviewer is a male, he may have a conflict of interest in terms of the results he wants/expects.
- Non-peer reviewed material: This video was self-published; no other experts or researchers reviewed the material to make sure it was accurate.

Practice: (3 minutes). Introduce the concept of (or remind students about) hedges and boosters (I usually just give a short list of both), and as a whole class, work to identify the boosters in the video's conclusion: "As we can see, after interviewing everyone in the library, it is impossible for men and women to be just friends and under no circumstances can it happen." After students have identified the boosters, ask students to revise the sentence by exchanging some of the boosters (e.g. "impossible" and "under no circumstances") with hedges. Then introduce (or remind students about) the concept of scope, and help students narrow the scope by changing statements like "everyone in the library" to "about 30 young, white college students at USU's library." Because students' revisions can vary, I find it useful to call on at least three students to share their revised sentence with the class.

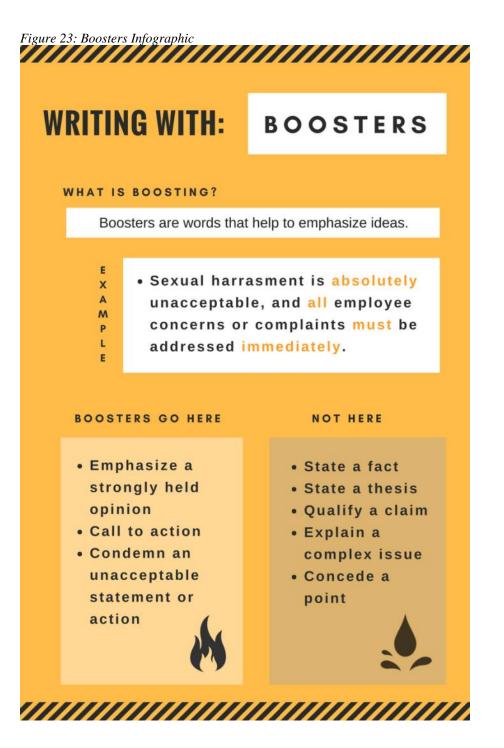
Application: (5 minutes). Once students have revised the major claim in the video, ask students to look at a sample of their own writing (either the freewrite they started with or some other paper they are working on) and look for places where they could improve the scope of their claims or add in hedges. I also find it useful to talk about times when boosters are appropriate (e.g. work policies: "Sexual harassment is never acceptable in the work place").

Assessment and reflection: (5 minutes). Once students are finished revising you may have them share with a partner, turn in their work to be graded, and/or have them

quickly write down (1) what they learned, and (2) any questions they have about hedges,

boosters, and scope.





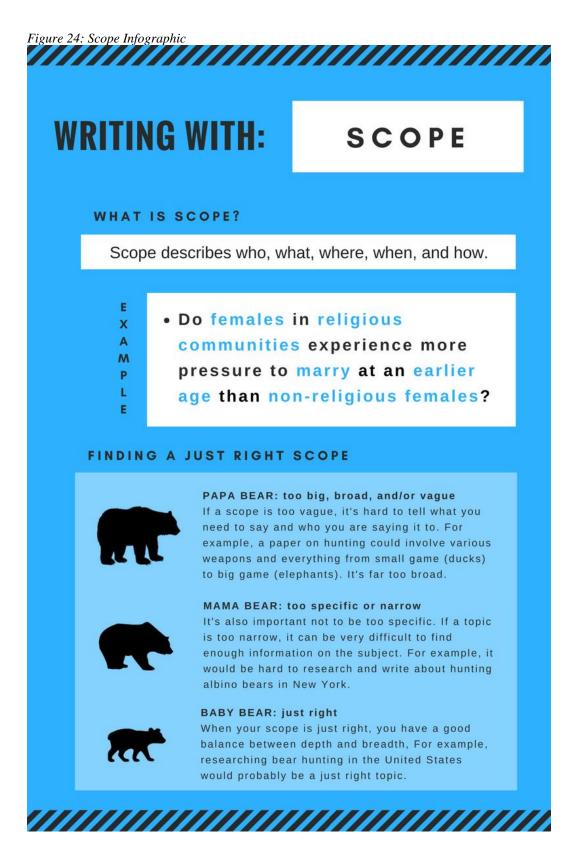
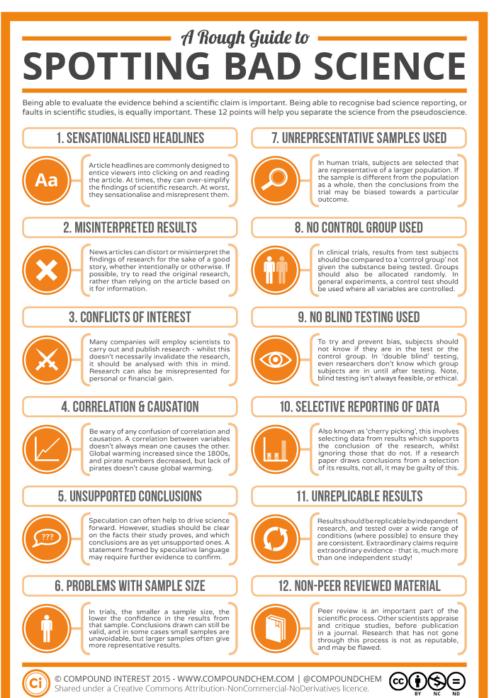


Figure 25: Spotting Bad Science Infographic



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